

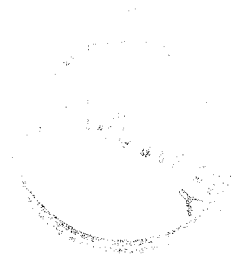
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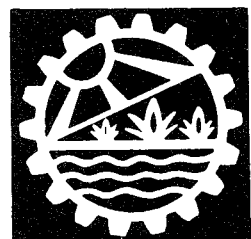
EXPORT MARKETING STRATEGIES FOR
THE NORTHERN IRELAND SEED POTATO INDUSTRY

M.Phil Thesis
Jeffrey T J Lamont BSc MSc
August 1989

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Silsoe College



SILSOE COLLEGE

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EXPORT MARKETING STRATEGIES FOR
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SUPERVISOR: Professor R W Hill

August 1989

This thesis is submitted in fulfilment of the requirements
for the degree of Master of Philosophy

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SUMMARY

This thesis is concerned primarily with the export marketing performance of the Northern Ireland seed potato industry. The Industry has shown a dramatic decline in exports over the past twenty years, and this thesis proposes strategies aimed at regaining, and maintaining, a competitive advantage for the industry in world markets.

A comparative analysis is conducted of the strategic and organisational export capabilities of the Northern Ireland industry and its main competitors. In addition, an analysis of the requirements of major world seed potato markets is undertaken.

Academically, the thesis aims to apply the principles of export marketing to a traditionally managed sector of agriculture. As such, it is hoped that the thesis makes a useful contribution to the literature on agricultural marketing and export marketing.

Major academic themes explored in the thesis include

- Globalisation versus 'customisation'
- New product development strategy and export success
- Product-life-cycle analysis and product-enhancement strategies
- Export promotional strategies
- The utility of horizontal and vertical integration in enhancing marketing performances
- 'Market spreading' versus 'key market concentration'
- Centrality or peripherality of the export function

The central hypothesis explored in the thesis is that in an agricultural industry, such as a seed potato one, where production is fragmented over a large number of small production units, then a necessary prerequisite to successful strategic exporting is the existence of an appropriate organisational structure to carry out the strategic tasks. This hypothesis is confirmed by the findings of the research. As the product and service requirements of world seed potato markets have changed over the years, and are becoming more sophisticated, the Northern Ireland industry has been unable to adopt an appropriate customisation strategy in response. This is due to the inhibiting effect of an inappropriate organisational structure within the industry. By way of contrast, industries which have developed considerably by responding to changing market requirements (such as the Netherlands, France and Scotland) are characterised by a strongly integrated organisational structure (both horizontal and vertical). In all these countries this has largely been achieved by the development of marketing co-operatives.

In seeking to propose export marketing strategies for the Northern Ireland industry therefore, a necessary prerequisite is to establish an appropriately integrated organisational system within the industry. As the seed potato marketing co-operative Expotato Limited has already begun to introduce a horizontally and vertically integrated discipline into the Northern Ireland industry, it is suggested that this co-operative should be further developed as a catalyst for positive organisational and strategic development of the industry.

The strategic development of Expotato as the flagship of a reorganised industry, should be based on six main elements:-

- (i) Maintaining centrality of the seed potato exporting function within the co-operative.
- (ii) Key market concentration.
- (iii) Customisation, rather than globalisation
- (iv) Utilisation of product life cycle analysis
- (v) Market-orientated export promotions
- (vi) Market-orientated new-product-development

It is argued that efforts should be made by government and non-statutory bodies within Northern Ireland, to provide financial resources for the development of Expotato's strategies as a 'pilot scheme', and also to increase the co-operatives membership.

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PREFACE

During the period 1985-1987, the Economic and Social Research Council sponsored a study of the Northern Ireland Seed Potato Industry. The study was carried out over this period at the Marketing and Management Department of Silsoe College, Cranfield Institute of Technology.

The aims of the study was to evaluate the export marketing performance of the Northern Ireland seed potato industry and to propose marketing management strategies which would enable the industry to remain competitive in important world markets.

During the period 1985-1987 the detailed results of the study were published in five interim research reports. These are listed in Appendix 3.

This thesis summarises the results of the research and details the export marketing strategies proposed.

CHAPTER 1

INTRODUCTION

Farming and allied industries in Northern Ireland employ over 13% of the total workforce, either directly (owners and employees) or indirectly in the processing of meat, bacon, milk and eggs, and in the provision of farm inputs, mainly the manufacture of feedstuffs and fertilisers. This figure represents nearly four times the UK average, and with unemployment in Northern Ireland at twice the average level for the UK, the maintenance and development of the agricultural and food industries in the Province is vital to the economy.

Agriculture itself provides about 5% of the total gross domestic product of Northern Ireland, with a total value per annum of over £600 million. (This is the net value of Northern Ireland farm output, excluding inter-farm sales). This total is broken down in Table 1.

TABLE 1: A BREAKDOWN OF THE TOTAL NET VALUE OF NORTHERN IRELAND FARM OUTPUT (1986)

	£m	%
Cattle	221	36
Milk	180	30
Sheep	20	3
TOTAL GRAZING LIVESTOCK	421	69
Pigs	72	12
Poultry	37	6
Eggs	32	5
TOTAL INTENSIVE LIVESTOCK	141	23
Potatoes (seed and Ware)	19	3
Cereals	9	2
Horticultural Produce	14	3
TOTAL CROPS AND HORTICULTURE	42	8
TOTAL	604m	100%

Source: Department of Agriculture for Northern Ireland Statistical Review of Northern Ireland Agriculture.

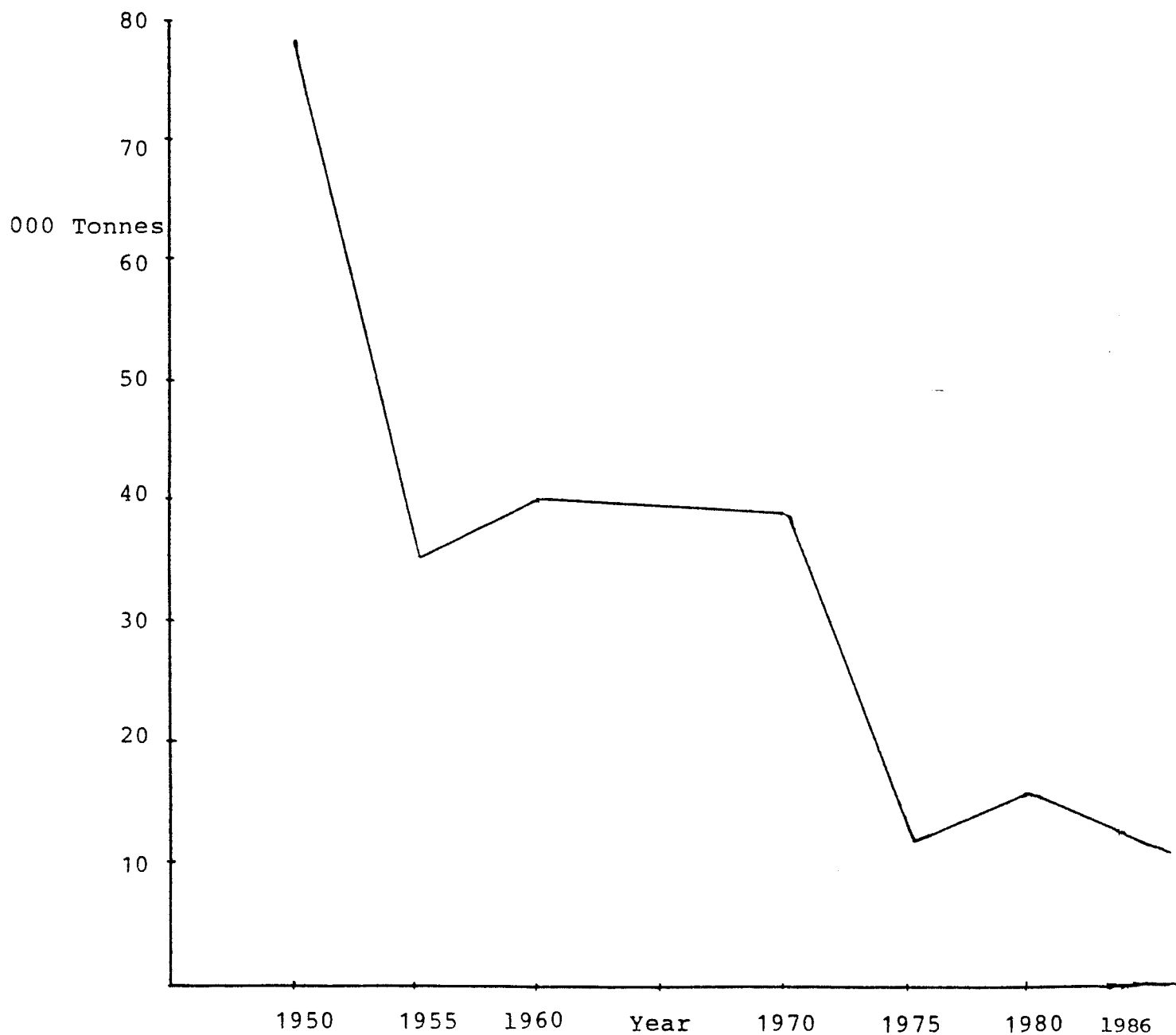
Northern Ireland agriculture is dependent on exports in the widest sense of the word (ie: to the Republic of Ireland and Great Britain as well as overseas), since the home market consumes only 30% of its total production.

In overseas markets Northern Ireland contributes a large share of UK agricultural exports, and nowhere has this been more marked in the past than in seed potatoes. Up to the early 1970's Northern Ireland was the most important seed potato exporter from the UK and in 1973, for example, accounted for over 60% of total UK seed potato exports. During the 1950s the Northern Ireland industry was also the main supplier to the English and Welsh seed potato markets.

Over the past three decades, however, the marketing performance of the Northern Ireland seed potato industry, in terms of tonnages supplied to international markets, has declined rapidly.

Over the past 30 years, seed supplies to England and Wales from Northern Ireland have declined by 84%. Out of the present total Great Britain seed requirement of about 310,000 tonnes per annum, Northern Ireland supplies only 12,000 tonnes (3.8%). This nominal share is being slowly eroded still further by strong Scottish and Dutch competition. Figure 1 illustrates the rapid decline in shipments of Northern Ireland's seed potatoes to Great Britain from 1950 to the mid 80s.

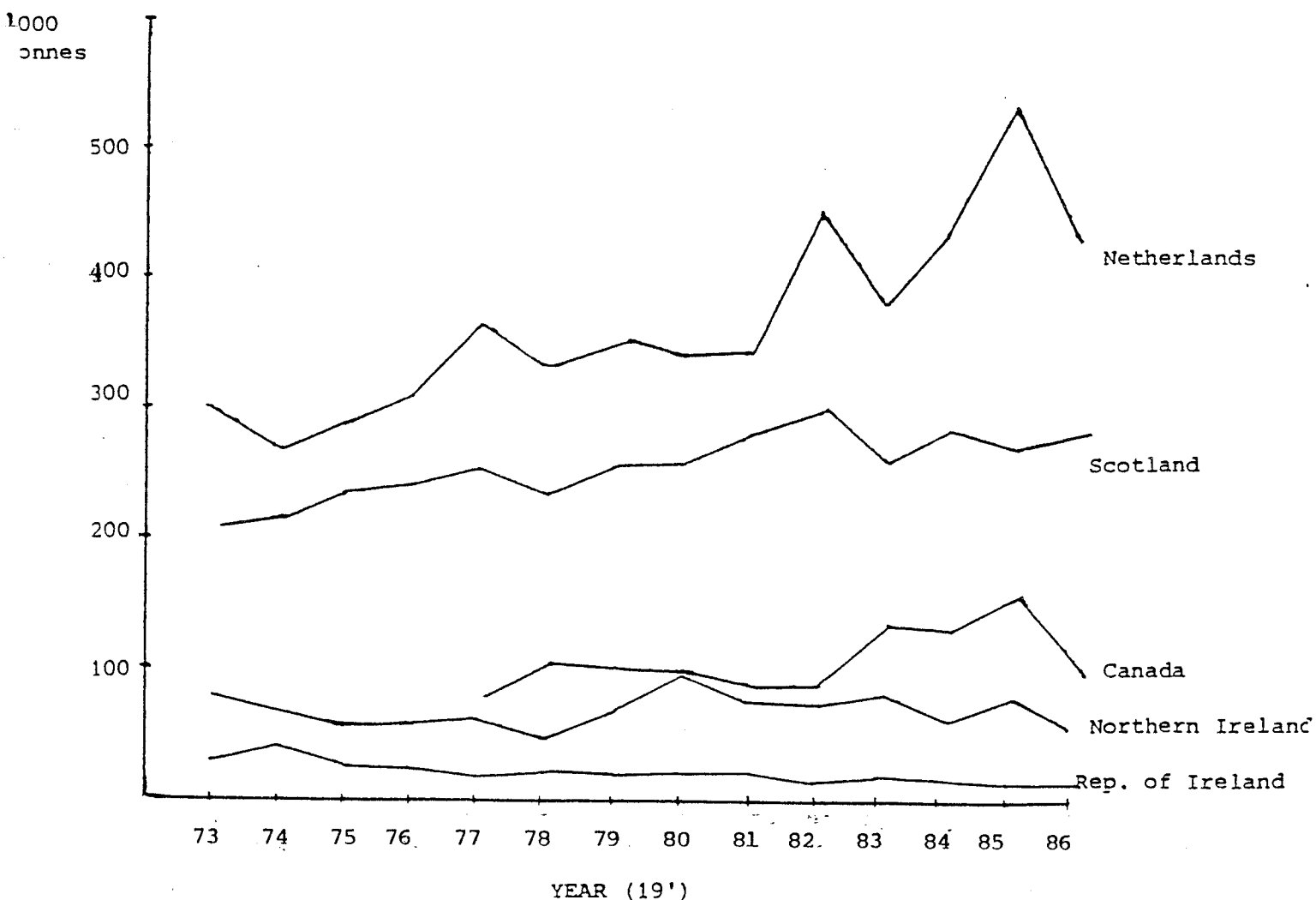
FIGURE 1: SHIPMENTS OF NORTHERN IRELAND SEED POTATOES TO GREAT BRITAIN
1950-1986



SOURCE: Department of Agriculture for Northern Ireland:-
Economics and Statistics Division

Against the background of an expanding world market for seed potatoes, in which the Dutch and Scottish industries have shown growth and market development, the Northern Ireland industry has generally declined and stagnated. Figure 2 illustrates the relative decline of the Northern Ireland seed potato exporting activity, compared to the steady growth of the Dutch and Scottish export totals throughout the 1970s and 1980s.

FIGURE 2: EXPORT TONNAGE OF SEED POTATOES FROM THE WORLD'S MAIN EXPORTING COUNTRIES 1973-1986



SOURCE:- Statistics and Market Intelligence Library, London
 Department of Agriculture, Northern Ireland
 East of Scotland College of Agriculture
 Scottish Seed Potato Development Council
 Great Britain Potato Marketing Board (Edinburgh)

Over the period shown in Figure 1, the total tonnages exported by each major exporter have changed as follows:-

COUNTRY	% CHANGE IN EXPORT VOLUME
Netherlands	+ 43%
Scotland	+ 20%
Canada	+ 20%
Northern Ireland	- 21%
Republic of Ireland	- 42%

It is clear that the export marketing activities of the Northern Ireland industry have been much less successful than those of most other industries (the Dutch in particular).

In the field of export marketing, the importance of both a strategic focus and the organisational back-up to carry out the strategic tasks, has been widely suggested in the marketing and general business literature.

Cravens (1986) and Gluck, Kaufman and Walleck (1980), suggest that a strategic emphasis linking the rigour of formal planning to vigorous and efficient operational execution, is the key to export success.

In attempting to ascertain the factors underlying the phenomenal success of the Dutch seed potato industry in particular and the lack of success of the Northern Ireland industry, this study has concerned itself with a comparative analysis of two areas of marketing activity as practiced by the major seed potato exporters:-

- (i) Planning for marketing (strategy)
- (ii) Organisation for marketing (structure)

Descriptive marketing models of each of the six major national seed potato exporting systems have been constructed, incorporating the following elements:-

Strategy Elements

Marketing research activities
 Segmentation and selection of target markets
 Positioning strategies (product, distribution, price and promotion)
 New product development

Organisational Elements

Quality control
 R and D and agronomic extension work
 Channel functioning
 Production control and planning

Analysis of the strengths and weaknesses of the strategic and organisational elements of each national system, provides indicators for improvement of the present Northern Ireland marketing system.

In export marketing, as in domestic marketing, ultimate success rests in a proper appreciation of, and appropriate strategic and organisational reaction to, the requirements of customers. The second major concern of this study has therefore been to analyse the product and service requirements of the major world markets for seed potatoes.

Much has been written in the international marketing literature about the rival concepts of 'globalisation' and 'customisation' Levitt (1983), the main proponent of the globalisation concept states:-

"If the price is low enough, customers will take highly standardised world products even if these are not exactly suitable."

Proponents of a customisation approach such as W J Keegan (1969), on the other hand, would consider the above statement to be a total negation of the idea of "customer sovereignty", and would argue for the customisation of marketing mix elements to suit a range of market segments.

An analysis of the requirements of major world markets for seed potatoes, therefore provides guidelines as to the validity of either a globalisation or a customisation approach for the Northern Ireland industry. Indeed, the study shows that a rigorous segmentation of seed potato markets needs to be conducted on the basis of varietal, product-specific and service factors, and that being a globaliser (offering the same undifferentiated products worldwide, and competing on the basis of price) is one of the major weaknesses inherent in the Northern Ireland industry's export strategy. The success of the Dutch industry largely rests on its ability to segment and customise its market offerings.

Within the seed potato sector, product life cycles are now of the order of five to ten years, and with ever increasing varietal breeding activity worldwide, life cycles are becoming even shorter. Within the sphere of a seed potato exporter's strategic activities therefore, new product development is of prime importance. Indeed, the literature on exporting and new product development, has provided evidence of strong export success determinants in the new product development process. While it is difficult to generalise across studies, several factors do emerge as dominant and recurring success components of new product development:-

- (i) Having a product differential advantage: includes product superiority, value, features, cost-benefit and design (Cooper (1982), Cooper (1980), Cooper (1979) and Maidique and Zirger (1983))

- (ii) Having a strong market orientation: includes close customer contact and interfaces, market derived areas, market assessment, market research and market tests (Booz-Allen and Hamilton (1982), Cooper (1982), Cooper (1980), Cooper (1979), Rothwell (1972) and Rothwell (1974)).
- (iii) Selecting attractive markets: large, growing, high-need markets (References as at (ii) above)
- (iv) Undertaking certain activities of the new product process particularly well: screening, project evaluation, market studies, and launch for example (Cooper (1984), Cooper and Kleinshmidt (1986), Hopkins (1980) and Peters and Waterman (1982)).

The work of Kleinschmidt and Cooper (1988) points to the need to build an international focus into the product design and market activities of the new product process. Such "internationally-developed" products have a higher rate of success internationally than "domestic-orientated" products.

It was argued earlier that the manner in which an exporter is organised in terms of, first, its ability to implement strategic tasks, and, secondly, its ability to integrate different functions of organisation, such as production and channel functioning, is critical to its export marketing success. Lorsch (1965) states:- "In no other setting do the problems of obtaining effective integration seem more acute than around the development of new products". Little (1984) also highlights the difficulties inherent to the organisation of new product development:-

"Inputs to the new product development process are not the monopoly of any one function or specialism: rather in order to be effective, many different activities - design, marketing, R and D, and manufacturing - must work together harmoniously from the project's inception to its commercialisation and beyond".

This view is further enhanced by the work of Baker, Black and Hart (1988).

For these reasons, a major part of the comparative analysis of the Dutch industry (a renowned successful new product developer) and the Northern Ireland industry (a poor new product developer), focuses on the organisation and marketing - orientation of the two industries' new product development processes.

The globalisation theory as propounded by Levitt, and outlined earlier, specifies low price as the main determinant of effective export competition, and as a potent method of increasing sales. However, the work of Lee (1981) suggests that market demand responses to promotional activities are more significant, and that promotion is a superior method of increasing sales, compared to price reduction. Lee's findings are of particular interest in the context of this study, for two reasons:-

- (i) They are derived from an agricultural product marketing study.

- (ii) Anecdotal evidence suggests that the Dutch industry in particular is vigorous in overseas promotional activities, whilst the promotional function in the Northern Ireland industry is of low priority.

It is instructive therefore, within this study, to compare and contrast the promotional strategies and techniques of the major seed potato exporters, and those of the Netherlands and Northern Ireland in particular.

Most of the studies in exporting previously cited have been concerned with manufacturing industry, and therefore with companies in which production and marketing functions are integrated within an overall corporate plan. In such cases it is arguably much easier to plan and control strategic and organisational exporting components, than is the case in many sectors of agriculture. Often in agriculture, (and this is certainly the case with the Northern Ireland seed potato industry), marketing academics have to deal with a production sector which is fragmented, which lacks a corporate planned approach to marketing, and which indeed is often more or less detached from the marketing function. In trying to develop coherent strategic and organisational plans for such sectors of the agro-economy, agrimarketing professionals often seek to develop a greater degree of both horizontal and vertical integration within the sector. Horizontal and vertical integration, as practiced by marketing co-operatives, allows for more centralised, coherent, marketing-management practices, and for a single-minded corporate-planned approach.

The case for horizontal and vertical integration, (through the formation of marketing co-operatives), in improving marketing performances in the agro-economy, is well made in the agricultural marketing and co-operative literature (Foxall G R (1978) (1981) (1982) and (1984); C C A H C (1979); Baron (1978); Morley (1975); Dickson (1978); Bailey (1985); Gibbons (1970); Butterwick (1969)).

Foxall (1984) states that while agricultural co-operation has usually arisen because of farmers' abilities through collective action, to reduce costs by bulk buying, to exploit economies of scale in production and distribution, and to integrate production and/or marketing vertically, co-operative organisations "may make their greatest contribution to farmers by providing market information which would not otherwise be collected by the individual farmer". If the production unit has no knowledge of the market environment, it cannot very well formulate strategies and organisations to deal effectively with the market place.

Foxall (1984) further points to a positive relationship between high market shares for co-operatives, and the ability of co-operative organisations to plan, and moreover, implement plans, and to have export responsibility and production - marketing integration.

Bailey (1985), in his analysis of the increasing market shares of UK agricultural co-operatives over the past decade (a three-fold increase over 10 years), illustrates clearly how co-operatives are giving a lead to the agri-food industry in the improvement of both domestic and export marketing.

C C A H C (1979), in its study of the benefits of agricultural co-operation, found the following:-

Benefits to members:-

- Improved production
- Better market-preparation facilities
- New market outlets, including exports
- Higher profits

Benefits to consumers:-

- Improved quality
- Longer availability of product
- Wider choice of products

It is the contention of the author, therefore, that the formation of co-operatives, and the operation of horizontal and vertical integration within the agricultural marketing channel, represents a progressive and potent tool in the improvement of marketing performances. A further major concern of this study, in comparing the organisational aspects of export marketing exhibited by the major seed potato industries, will be to ascertain to what extent horizontal and vertical integration occurs, and to what extent it enhances marketing performances.

Within the conceptual framework outlined above, the following sections of the thesis are organised as follows.

Section 2, outlines the aims, objectives and methodology of the research.

Section 3: describes the size and structure of the world market within which the major industries compete.

Section 4; presents descriptive models of the six major national seed potato marketing systems, and provides indicators for improvement of the present Northern Ireland system with regard to:-

- (i) Export marketing strategies
- (ii) Export marketing organisation

Section 5; provides an analysis of the demand levels and product/service requirements of major world seed potato markets.

Section 6; provides an analysis of the product and service requirements of growers and merchants in the GB market.

Section 7; (a) highlights the export marketing challenges facing the Northern Ireland industry.

- (b) Proposes an export marketing plan for the industry, with supporting aims and objectives.
- (c) Proposes a series of export marketing strategies for the industry, making particular reference to improvements in the industry's strategic and organisational activities.
- (d) Suggests ways in which the strategies could be implemented by the present Northern Ireland industry (and policy makers).

CHAPTER 2

AIM, OBJECTIVES AND METHODOLOGY OF THE RESEARCH

2.1 The Overall Aim

"To define the (export) marketing problems facing the Northern Ireland seed potato industry, in terms of the specific needs of world customers for seed potatoes, and to formulate export marketing strategies which will enable the industry to regain, and maintain, a competitive advantage in world markets".

2.2 Specific Objectives

In order to fulfill the overall aim, the following specific research objectives were pursued:-

2.2.1

To establish the size and structure of the work market for seed potatoes, in terms of national markets, volumes imported, and the relative market shares of the major suppliers.

2.2.2

To construct descriptive models of the seed potato production and marketing systems of the Netherlands, Northern Ireland, Scotland, the Republic of Ireland, France and Canada, with particular reference to

(i) Strategies for export marketing

(ii) Organisation for export marketing

2.2.3

To establish demand levels and product/service requirements for key world seed potato markets, excluding GB.

2.2.4

To establish demand levels and product/service requirements of GB ware potato growers and GB seed potato merchants.

2.3 Methodology

Objective 2.2.1 (Size and structure of world market)

Desk research only was used to achieve this objective.

A comprehensive study of current overseas-trade statistical records, held at the DTI statistics and Market Intelligence Library, London, was undertaken.

From a preliminary study of these records, it was revealed that the world market for seed potatoes is currently served (and has been for the past three decades), by six main countries, viz:- (in descending order of importance)

- The Netherlands
- Scotland
- Canada
- Northern Ireland
- France
- The Republic of Ireland

From the seed potato export records of these six countries it was ascertained to exactly which national markets they exported, how frequently, and in what quantities.

The size and structure of the world market could therefore be constructed, and the relative market shares of each major exporter calculated.

Objective 2.2.2 (National Industry models)

Northern Ireland

Two methods were used in constructing a descriptive model of the Northern Ireland industry:-

- Desk research of secondary information sources
- Semi-structured interviews with key individuals

Desk Research

Various publications were consulted in order to obtain an in-depth understanding of the history, development and functioning of the Northern Ireland industry. The publications are listed in Appendix 1 and can be classified into four types;

- Department of Agriculture for Northern Ireland Journals
- The Northern Ireland Agricultural Press
- The GB Agricultural Press
- UK Journals

Semi-Structured interviews with key individuals

The Northern Ireland seed potato marketing system consists of the set of significant institutions which either link the seed potato producer to the end user of his product, or which influence this linkage. These institutions include producers, buyers, marketing intermediaries, facilitating or controlling agencies, R and D and new product development agencies.

From preliminary desk research, it was clear that the central participants in the Northern Ireland system are the producers and their merchants. However, many other agencies have a direct bearing on the strategic and organisational capabilities of the industry, and therefore it was important to interview representatives of all the significant linkage organisations in the marketing channel.

Interviews were structured so as to ascertain the role played by each significant sector of the industry in contributing to the strategic and organisational capabilities of the industry.

The key individuals (and organisations) interviewed are listed below, and are detailed in Appendix 2

- The Breen (Pre-Basic- Seed) Advisory Committee
- The VTSC Growers Association
- The Plant Pathology Research Division, Department of Agriculture
- The Northern Ireland Plant Breeding Station
- The Potato Husbandry Advice Unit

- The Potato Inspection Service
- Northern Ireland Seed Potato Promotions Limited
- Expotato (Co Operative) Limited
- Potatoes, Plant Health and Marketing Division, Department of Agriculture
- The Industrial Development Board for Northern Ireland
- Fifteen seed potato marchants, representing over 80% of total export tonnage per annum
- Twenty seed potato growers, representative of the main seed growing regions
- Officials of the Ulster Farmers Union

The main strategic and organisational issues covered in the interviews were as follows:-

- Marketing research activities
- Segmentation practices
- Selection of target markets
- Distribution strategies
- Pricing strategies
- Promotional activities
- New product developemt strategies
- Quality control strategies
- R and D and agronomic extension work
- Channel functioning
- Producer - Merchant relationships
- Production control and planning

With regard to the two central sectors of the industry (producers and merchants), it was felt that an 80% coverage of merchant exporters was certainly sufficiently representative. Whilst the coverage of seed potato growers was considerably less than that of the merchants, the decision to interview only 20 growers was taken in the knowledge of two factors;

- (i) Much recent work had already been done on the production and marketing activities of Northern Ireland seed potato growers (Cook (a) (1973), Cook (b) (1981), Cook (c) (1981), Cook (d) (1983), Davis (1981), McBurney (a) (1984), Northern Ireland Assembly (1985), Produce Studies Limited (1979)), Saunders (a) (1979), Saunders (b) (1979), Saunders (c) (1979), Saunders (d) (1979), Saunders (e) (1984), Saunders (f) (1984), Saunders (j) (1984), Saunders (k) (1984))).
- (ii) Growers representatives, in the form of the Ulster Farmers Union, were able to provide much detailed information on grower's production and marketing practices.

The Netherlands

Two methods were used in constructing a descriptive model of the Dutch industry:-

- Desk research of secondary information sources
- Semi-structured interviews with key individuals

Desk Research

Due to the phenomenal success of the Dutch seed potato industry, much has been written about specific aspects of the industry's production and marketing strategies and organisation. (Hijma (1985), PMB (c) (1981), PMB (e) (no 1) (1976), PMB (e) (No 4) (1977), PMB (e) (No 15) (1984), Scottish Seed Potato Association (a) (1981), Tollens and Reid (1979)). Such literature provided useful information on the history, development and functioning of the Dutch Industry.

Semi-Structured Interviews with Key Individuals

As with the fieldwork conducted in Northern Ireland, interviews were held in the Netherlands with key individuals representing all the significant linkage organisations in the marketing channel. A comprehensive listing is provided in Appendix 2.

Again interviews were structured so as to ascertain the role played by each significant sector of the industry in contributing to the strategic and organisational capabilities of the industry.

Scotland

Three methods were used in constructing a descriptive model of the Scottish industry:-

- Desk research of Secondary information sources
- Interviews with academic experts
- Semi Structured interviews with key individuals in the industry

Desk Research

Reference has been made over the past decade to the Scottish seed potato industry in many UK agricultural publications. In addition, much has been written by academics on the development of the Scottish industry (Graff (1982), Hay (1969), Mundy (1973), Scottish Agricultural Colleges (1984), Scottish Seed Potato Association (a) and (b) (1981), Scottish Seed Potato Development Council (1984), Young (c) (1982)). Thus, much useful background information was available on the history, development and functioning of the Scottish industry.

Interviews with Academic Experts

Two of the main researchers in the field of Scottish seed potato marketing provided much useful information on the structure and functioning of the Scottish system:- N A Young, of the Centre for European Agricultural Studies, Wye College, Ashford, Kent and J L Anderson of the East of Scotland College of Agriculture, Edinburgh (Young N A and J L Anderson (1982)).

Semi-Structured Interviews with Key Individuals in the Industry

As in Northern Ireland and the Netherlands, interviews were held with representatives of the key sectors of the industry in order to ascertain the role played by each sector in contributing to the strategic and organisational capabilities of the industry.

The main linkage institutions interviewed were as follows:-

- The Scottish Seed Potato Development Council
- The five existing seed potato marketing co-operatives
- Three major merchants

Republic of Ireland

The following methods were used in constructing a descriptive model of the Irish Industry:-

- Desk research of secondary information sources
- Interviews with key individuals in the industry

Desk Research

Back issues of various Irish agricultural publications were useful in constructing the history, development and functioning of the Irish industry. In addition, academic and industry publications were utilised (ACOT (1982), An Foras Taluntais (1982) and (1983), Kehoe (1985), PMB (e) (no 12) (1982), Burke K (1977)).

Interviews with Key Individuals in the Industry

On the same format as the interviews held in the Netherlands. Scotland and Northern Ireland, the key individuals indicated in Appendix 2 were interviewed in the Republic.

France

A descriptive model of the French industry was obtained by two methods.

- Desk research of secondary information sources
- Personal correspondence with the Director of GOPEX (the major regional, producer-controlled, seed potato marketing organisation in France)

Due to language difficulties and the constraints of time and money, no actual fieldwork was conducted in France. However, the information sources used were sufficient to develop a model of the strategic and organisational components of the French industry.

Desk Research

Academic and trade reports were useful in developing an understanding of the history, development and functioning of the French system (BOTB (1983), PMB (c) (1981), Young (b) (1978)).

G O P E X

Monsieur T Gex, the Director of GOPEX, provided much useful information on the strategic and organisational components of the French marketing system.

Canada

As with the French industry, the author was constrained, by time and

money, from conducting fieldwork visits to Canada. Again, however, the secondary information sources outlined below were useful in providing some information on the strategic and organisational aspects of the Canadian system. (The Canadian information is, nevertheless, more limited than that for the other industries.)

The main secondary-information gathering techniques were:-

- Desk research of secondary information sources
- Personal correspondence with knowledgeable experts in the Canadian industry

Desk Research

Academic and trade publications were utilised to develop an understanding of the history, development and functioning of the Canadian system (Agriculture Canada (1984), Atlantic Provinces Agricultural Services Co-ordinating Committee (1984), Black (1985), National Farm Products Marketing Council, Canada (1981), New Brunswick Department of Agriculture and Rural Development (1985), Potatoes Canada (1985)).

Correspondence with Experts

The individuals and organisations listed in Appendix 1 provided useful information on the strategic and organisational components of the Canadian industry.

Objective 2.2.3 (Requirements of key World Markets)

Desk research only was used to achieve this objective. Major information sources were as follows:-

- British Overseas Trade Board reports on the product and service requirements and buying behaviours of the seed potato sectors of various countries
- British Agricultural Export Council reports on the seed potato import requirements and regulations of foreign countries
- Circulars from the International Potato Centre, Lima, Peru, regarding the seed potato import requirements of various countries
- Export Intelligence Service Bulletins, produced by the British Export Council, containing details of the supply of seed potatoes to export markets.
- Export tender documents, provided either by the British Agricultural Export Council, or by individual seed potato exporters in the UK.

Objective 2.2.4 (Requirements of GB Market)

Four methods were used to achieve this objective:-

- Desk research of secondary information sources
- Focus group discussions
- Structured mail questionnaire
- Semi-structured telephone interviews

Desk Research

Secondary information was sourced in the following publications:-

- "Potato Statistics in GB", published annually by the GB Potato Marketing Board
- The GB farming press, including:- Grower; Farmers Weekly; Crops Weekly; Arable Farming; Farm Business; Farming News; Fruit Trades Journal; Food Processing; What's New in Farming.

Focus Group

A focus group discussion was held at Silsoe College, with a group of twelve early and maincrop potato growers from Bedfordshire and Cambridgeshire. The participants were recruited by telephone from a PMB list of growers. Recruitment was confined to Bedfordshire and Cambridgeshire in order that the participants would not have a round trip of more than 40 miles to travel in order to attend.

The focus group discussion was used to concept-test the questionnaire which was subsequently mailed to a sample of GB potato growers.

Structured Mail Questionnaire

The questionnaire illustrated in Appendix 8 was mailed to a stratified, random sample of 1000 GB potato growers. The sample was obtained from a PMB list of all GB potato growers.

Attached to the questionnaire in Appendix 8 is a graph showing the response rate between the date of first return (20th April 1987) and the date of last return (29th April 1987). Over these twelve days a total response rate of 20% was obtained.

The questionnaire examined the product and service requirements, and perceptions, of GB potato growers in relation to Dutch, Northern Irish and Scottish seed potato suppliers.

The 200 useable returns were analysed using a survey analysis (SNAP) computer package.

Telephone Interviews

The product and service requirements of GB seed potato merchants, and their perceptions of the current main sources of supply, were investigated through a series of telephone interviews with regional representatives of the GB merchant trade.

CHAPTER 3

THE WORLD MARKET FOR SEED POTATOES:- SIZE AND STRUCTURE

Agricultural crops can be propagated from one of two types of 'seed':-

- (i) From **true botanical seed** (ie Seed produced in the flower of a plant by a sexual process)
- or
- (ii) By vegetative means, in which case a **tuber** (referred to as a seed potato) is planted and produces daughter tubers asexually.

Worldwide the propagation of potatoes from seed potatoes (vegetatively) is almost universal, only a small proportion being established from true botanical seed.

As the progeny obtained by planting tubers are, genetically speaking, identical to the original seed potato which was planted, it is vital that the input of seed tubers is of the highest genetic quality. In addition, several agents of bacterial, fungal and viral diseases, can be transmitted to the next tuber generation by way of the seed. The production of healthy potatoes for consumption means, therefore, that the seed source used must be of superior genetic quality and free from disease.

Countries, or regions within countries, which for climatic and entomological reasons, are unable to economically produce such genetically pure and disease-free seed tubers, thus represent potential seed potato markets for those countries (such as Northern Ireland) which are able to produce superior, disease-free seed. On this basis, potential seed potato markets are located in the following regions:-

- The Tropics
- The Sub-Tropics
- Southern Temperate lands, where virus - transmitting aphids are too numerous

This is reflected in the list of current major seed potato markets shown in Figure 3.

As most countries produce potatoes for home consumption, a second major factor determining the internal seed potato market size is the consumption of ware potatoes per capita. An analysis of world potato production and consumption figures reveals that ware potato production is increasing rapidly in the tropics and sub tropics, and is declining gradually in the temperate zone. Consumption per capita is more or less stable in Western Europe and North America, but is increasing in Africa and Asia. (IPC-International Potato Centre - 1978) and (Van Der Zaag DE 1983).

On average, energy and protein from potatoes cost the developing country consumer at least three times as much as from wheat or rice. With the promotion of European seed potatoes in these countries, there is a growing awareness that the better application of existing technologies, primarily healthy seed tubers, can reduce costs per unit of output to levels much lower than wheat or rice, mainly by increasing yield. (Van Der Zaag DE 1983).

Again these facts are reflected in the large existing seed potato markets in South America, the Mediterranean Basin, the Middle East and Africa. These markets have grown rapidly over the past two decades.

Figure 3: Major Seed Potato Markets Overseas

Country	Seed Imports (Tonnes)
Belgium	32,000
Denmark	100
France	118,000
Italy	85,000
W Germany	32,000
Austria	4,000
Canary Islands	15,000
Cyprus	8,200
Finland	1,000
Greece	15,000
Hungary	10,000
Madeira and Azores	1,300
Malta	3,000
Norway	100
Portugal	45,000
Spain and Balearics	25,000
Sweden	100
Yugoslavia	2,000
ALL OF EUROPE	400,000
OF WHICH SUB TROPICAL S EUROPE	224,000
Argentina	16,000
Brazil	16,500
Cuba	19,000
Uruguay	13,000
Venezuela	26,000
West Indies	3,500
SOUTH AMERICA	100,000
Angola	7,700
Egypt	32,000
Ghana	100
Kenya	100
Libya	3,700
Morocco	22,000
Senegal	1,300
S Africa	500
Tunisia	11,000
Zambia	1,500
Iraq	15,000
Israel	7,000
Pakistan	1,400
Sri Lanka	4,000
Syria	6,900
MED BASIN, MIDDLE	
EAST AND AFRICA	200,000
TOTAL	700,000

Source: Potato Marketing Board (1986)

The 1986 GB market for seed potatoes was 310,000 tonnes. Adding this to the total in figure 3, gives a total world market of about 1,010,000 tonnes. PMB statistics show the world market in 1970 as being about 800,000 tonnes. The 1986 figure of 1,010,000 tonnes therefore represents an overall growth of 26% in 16 years.

Over the period 1970-1986 the supply statistics show that the six major suppliers have fared quite differently within this expanding world market. The % increase in export tonnages of each of the major suppliers from 1970-1986 are illustrated in Figure 4 below.

Figure 4: % Increase in Export Tonnages of the Major Seed Potato Exporters, 1970-1986

The Netherlands	+43%
Scotland	+20%
Canada	+21%
<hr/>	
Northern Ireland	-21%
Republic of Ireland	-61%
France	-42%

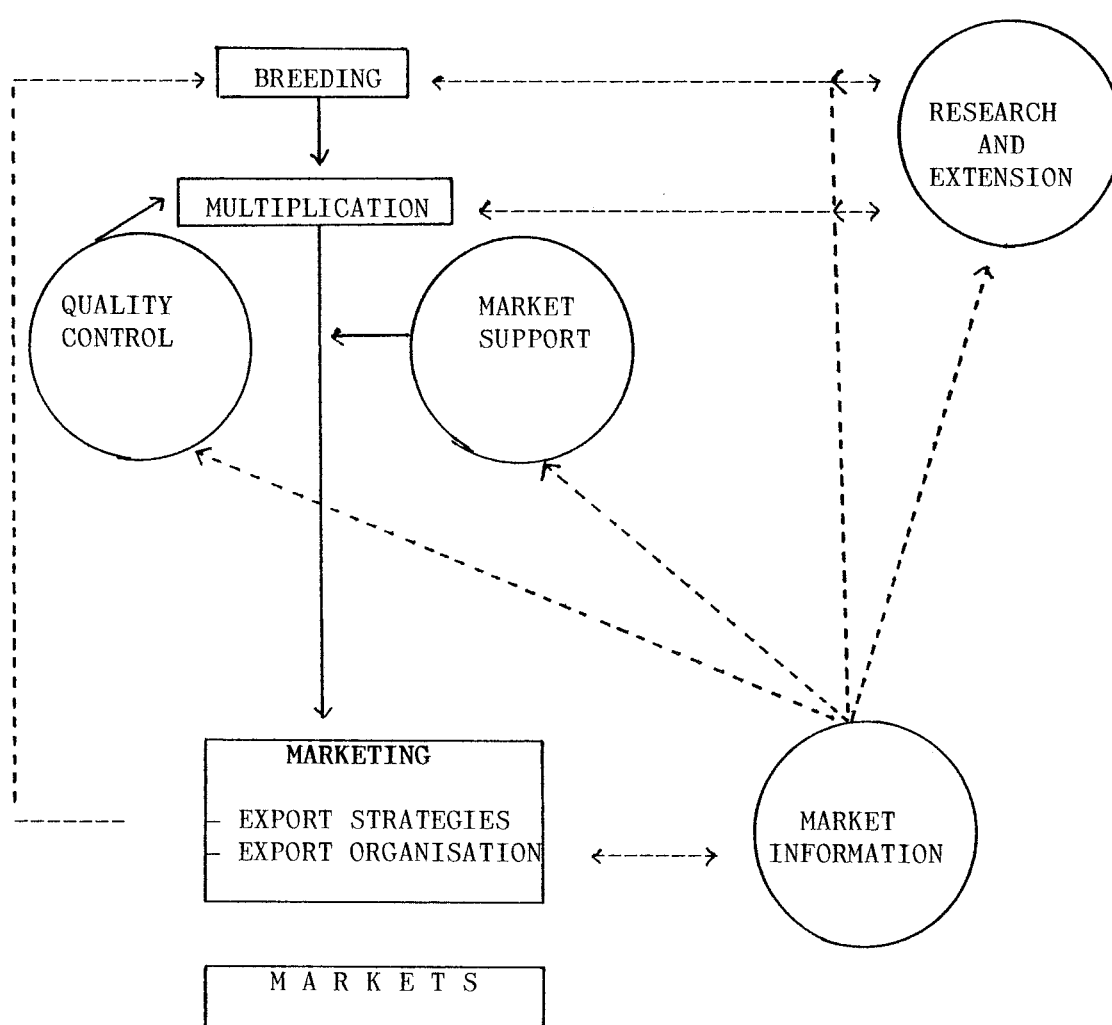
Within a rapidly growing total world market, therefore, it is clear that the Dutch are world market leaders. Their annual export tonnage of about 500,000 tonnes represents almost 50% of the world market. The Scottish industry, with exports of over 300,000 tonnes (including nearest-neighbour exports to England and Wales) accounts for a further 30% of the world market. The Northern Ireland industry, by contrast has a 6% share of the world market.

A closer analysis of export destinations reveals that while the Northern Irish, and to some extent the Scottish, industries are exporting to a few traditional markets (Northern Ireland exports over 80% of its seed potatoes to five markets), the Dutch are making rapid, and sustained inroads into the newly-emerging growth markets in the Tropics and Sub-Tropics. The Netherlands now regularly exports to over 70 markets worldwide. In Northern Ireland's traditional markets in the Mediterranean Basin, the Dutch are slowly, but steadily eroding Ulster's position as market leader in such vital markets as Portugal, Spain, Egypt and Cyprus. This represents the most immediate threat to the Northern Ireland industry.

CHAPTER 4 NATIONAL INDUSTRY MODELS

As detailed in the introduction, this section of the thesis presents descriptive models of the six major national seed potato marketing systems. In modelling the six systems, emphasis is placed on the strategic and organisational capabilities of the industries in relation to exporting. In addition, the way in which the strategic and organisational functions relate to the mainline activities (breeding and multiplication) and support activities (quality control, research and extension, market support) of a seed potato industry, is analysed. (See Figure 5)

Figure 5: A Model of the Mainline Activities and Support Functions within a Seed Potato Industry



4.1 THE NORTHERN IRELAND SYSTEM

The descriptive model of the Northern Ireland marketing system will be presented in four main sections, as follows;

Section 4.1.1 will detail the production system in the Province, and draw some conclusions regarding the strategic importance of this system in terms of export marketing potential.

Section 4.1.2 details the important strategic and organisational components of the Northern Ireland system, in terms of export marketing capability.

Section 4.1.3 details the strategic and organisational functioning of the Province's only seed potato marketing co-operative (Expotato Limited), which occupies a special position in the industry in terms of marketing channel integration, and from which much can be learned.

Section 4.1.4 summarizes the strategic and organisational strengths and weaknesses of the industry in relation to export marketing, identifying areas for improvement.

4.1.1 The Product from Northern Ireland:-

Special requirements for the production of seed potatoes in Northern Ireland

Compulsory classification of seed has existed in the UK since the introduction of EEC legislation, and may be defined as a control system, intended to ensure that seed meets certain standards of quality and varietal purity. The EEC system which the UK is obliged to follow largely involves 'generation control' - seed can be produced only from a preceeding generation. Under these regulations seed potatoes can be classified under two main categories; 'Basic Seed' or 'Certified Seed', and these two categories are sub-divided into grades:-

Basic	VTSC Grade (Virus Tested Stem Cuttings)
	SE Grade (Super Elite)
	E Grade (Elite)

These three grades are intended as parent stocks for the production of more seed crops

AAI and AA grades - which are intended either for ware production, or as parent stocks for AAI, AA or CC production.

Certified CC grade, intended for ware growing only

Because of the higher health requirements for the production of Basic Seed, a 'Protected Region' exists in the UK, and areas within this Region (including Northern Ireland, Scotland and the counties of Northumberland and Cumbria, with some district exclusions) are eligible for the production of all grades of Basic Seed (VTSC, SE, E, and A). Elsewhere in the UK, outside the protected region, growers can enter potato crops for classification in the Elite (E) and A grade schemes in approved areas only and for classification in the CC scheme in any area.

The areas which produce the vast majority of the UK's Basic Seed, therefore, are Scotland and Northern Ireland, and within these two countries it is the more cool, wet, windy and mountainous locations which are selected for the production of this high grade seed.

Technical and research facilities for the production of seed potatoes in Northern Ireland

The main promotional slogan used for Northern Ireland seed potatoes refers to the high health status of the seed produced in the Province -

"Northern Ireland Seed Potatoes - First For Quality And Health"

(Seed Potato Promotions, Ltd.)

Several scientific support services, along with the Government Inspection Services, are responsible for maintaining the health and quality aspects of the Northern Ireland product. The main technical and research services are listed below, along with their locations in the Province:-

- **Aphid control and monitoring:** Agricultural Zoology Research Division, Agriculture and Food Science Centre, Newforge, Belfast
- **Propagation and virus health:** Plant Pathology Research Division, Agriculture and Food Science Centre, Newforge, Belfast
- **Inspection Service:** locations throughout the Province
- **Nematode control:** Agricultural Zoology Research Division, Felden, Newtonabbey
- **Husbandry advice, research and development:** Greenmount Agricultural and Horticultural College, Antrim
- **Tuber disease research:** Plant Pathology Research Division, Agriculture and Food Science Centre, Newforge, Belfast
- **Variety Breeding:** Northern Ireland Plant Breeding Station, Loughgall, Armagh
- **Variety Evaluation:** Agricultural Botany Research Division, Felden, Newtonabbey

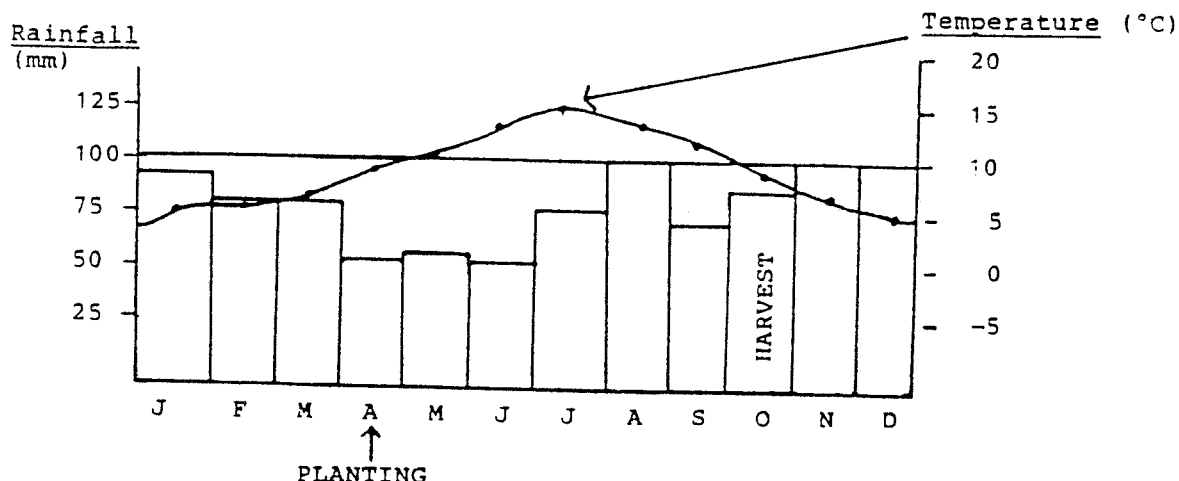
The following is a brief resume of the roles played by each of these scientific and technical support services within the industry.

APHID CONTROL

Northern Ireland's good reputation for the production of healthy seed potatoes is due in large part to the climate. Cool, wet conditions do not favour the development of large aphid populations, which spread virus diseases, and in general Northern Ireland has much lower numbers of aphids than Britain.

Consideration of a climagram (see below) for Garvagh, the centre of a seed potato producing area in County Londonderry, illustrates why the spread of virus disease is limited. Summer temperatures are below 20°C, and in the early part of the growing season, when plants are most susceptible, temperatures scarcely reach 10°C. With a relatively high rainfall at this time, aphid activity is likely to be at a minimum.

A Climagram for Garvagh, County Londonderry



(After Proudfoot and McCallum)

Nevertheless, it is vital to monitor the aphid situation - a task which is undertaken both in the laboratory and in the field by the Agricultural Research Division. An Insect Survey Suction Trap operates daily at Newforge, Belfast, and daily catches provide information on the timing and size of migrations of vector species. In conjunction with this, an annual Potato Aphid Survey is conducted specifically in those areas where high grade seed crops are grown. On the basis of information collected in this way, a spray warning may be issued to high grade seed growers to apply an additional insecticide spray to their crops. (Dr. A. Bell cited in SPP Publications 1984)

PROPAGATION AND VIRUS HEALTH OF SEED STOCKS

The conditions which are ideal for the production of healthy seed in Northern Ireland exist on the slopes of the Antrim Plateau in North Antrim, specifically at Breen, near Ballycastle, and at 'Dooher's Farm'. Here the altitude of the land and the cool moist conditions produced by the Gulf Stream, enable crops of the highest quality to be grown. These two sites, therefore, have been chosen as the stock-rearing centres for the Northern Ireland industry, and it is here that the initial high-quality pre-basic (or nuclear) stocks of seed are propagated before being released to VTSC growing farmers.

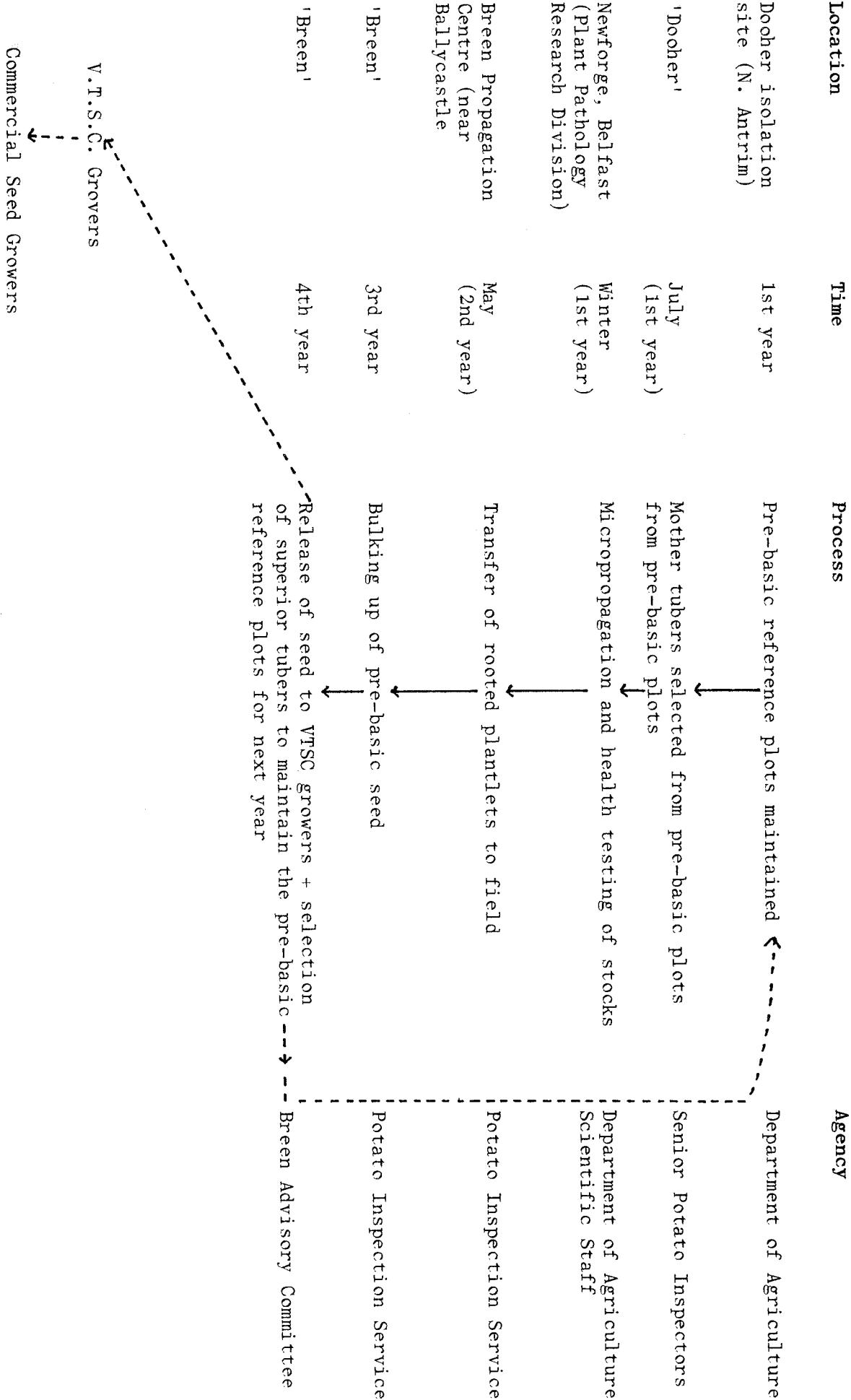
In Northern Ireland the propagation of new stocks is conducted by the Department of Agriculture, and starts in July of each year. In July, senior potato inspectors examine the pre-basic reference plots which are maintained in isolation at 'Dooher's Farm' in North Antrim, and from these plots they select the best plants of each variety. If the quality of the progeny they harvest is satisfactory the tubers are then forwarded to the Plant Pathology Research Division, in Belfast, for micropropagation during the winter. Micropropagation is the process whereby cultures of the tuber sprouts are grown on nutrient agar to produce new potato plantlets. After 3-4 weeks these plantlets can be subdivided to produce more plantlets, and usually three divisions, taking two months, occur. This micropropagation phase is timed to produce plantlets in mid-April, ready for transfer to compost. Whilst in compost, the plantlets develop a vigorous rooting behaviour and are hardened ready for field planting.

In late May these rooted plantlets are transferred to the isolation Breen Pre-Basic Propagation Centre, near Ballycastle, to undergo three years of field propagation. After these three years of bulking up in the isolated site at Breen, the stocks are then released to selected farmers (known as VTSC growers) to be grown as VTSC seed. Figure 6 is a schematic representation of the process of micropropagation and field propagation of pre-basic seed which occurs in Northern Ireland.

INSPECTION SERVICE

Forty full time Department of Agriculture Potato Inspectors are responsible for the classification of seed potato crops. These inspectors are resident in the areas they supervise and are responsible for the general standard of potato health within that area. When growers apply for classification of a seed crop, the following procedure is followed. Firstly, it is ascertained if the land to be planted is free from eelworm, and that the correct length

Figure 6: A Schematic Representation of the Micropropagation and Field Propagation of Northern Ireland Pre-Basic Seed



of rotation is being observed. Then, by examining trading documents and the seed to be planted, the source and class of the seed is verified. If all these aspects are in order, planting is allowed.

After emergence, the crop is inspected on at least two occasions for purity and absence of foliage diseases, and is later awarded a certificate to state that it is of a certain class (VTSC, SE, E or A).

The number of post-emergence inspections carried out and the seniority of the staff conducting the inspection depends upon the class of the crop. VTSC crops are inspected at least four times, being walked every four drills, and at least once by Senior Potato Inspectors. Elite and Class A crops are inspected twice by the Area Inspectors.

Certificates are only issued after confirmation that crops are burned off by a date specified by the Inspectors; failure to do so normally results in a downgrading or rejection of the crop. These burning down dates are issued by the Inspectors largely on the basis of preventing late aphid infestation of foliage.

After harvesting and bagging, lots and consignments are then inspected and sealed in the growers' or merchants' store. This inspection includes a check on such presentational items as brands on bags, proper labels, secure sewing and clean dry sacks, as well as an examination of the contents of a number of randomly selected bags to ensure that grading and dressing is within the tolerances specified in the Marketing Regulations. If a lot passes this farm inspection, the labels are then passed/date stamped and handsewn bags are also sealed with a metal seal.

Consignments are again inspected by Senior Potato Inspectors at the port of shipment. This is to:- ensure that an excessive time has not elapsed since inspection on the farm; to weigh a sample of bags; and to determine whether any deterioration has occurred in the meantime. This check also enables uniformity of application of standards of inspection to be maintained in the 21 inspection areas and is a further check on possible variation within consignments.

An important aspect of any seed potato production system is to maintain a high rate of renewal of high grade seed stocks, by growers, for planting each year. In Northern Ireland this is encouraged by the automatic downgrading of potato crops by one step in the classification system each year, even if they are 100% up to standard and show no signs of virus infection, varietal impurity or blackleg. Growers are therefore encouraged to renew their stocks of seed frequently from higher class crops.

Higher standards of health for the lowest class of basic seed produced in Northern Ireland, Class A, were enforced in 1986, under the new Northern Ireland Seed Potato Regulations. Under the new regulations Class A seed is not eligible for replanting in the classified seed scheme. This means that when a crop is grown and classified as Class A it cannot subsequently be replanted to produce a classified seed crop. Rather, it has to be exported as Class A seed, or used to produce a ware crop in Northern Ireland.

NEMATODE CONTROL

A statutory soil sampling programme for potato cyst nematode (PCN) has now been operational in Northern Ireland for almost fifty years. More than 10,000 hectares of arable land are sampled annually, mainly for seed potato production, although ware for foreign shipment is also sampled. The objectives of the programme are to ensure freedom from PCN in seed potatoes for both home and export markets and to meet the requirements of the Department of Agriculture's Seed Potato Classification Scheme.

Any new PCN infestations are recorded in detail and such records are frequently used to advise farmers engaged in land improvement and field amalgamation on the procedures to be adopted to prevent dispersal of the nematode. Public authorities and various bodies engaged on road improvement or development schemes which encroach on infested land, are advised on the safe disposal of soil in order to prevent contamination of clean agricultural land.

The number of new PCN infestations recorded each year in Northern Ireland is declining steadily, whilst intensive sampling of all 20 and 30-year-old infestations is releasing large areas of land into potato cultivation when cysts are no longer found to be present; more land is now being returned to potato production than is restricted because of new infestations.

Although resistant varieties may not be used on infested land in Northern Ireland to control PCN levels, many seed-importing countries (including England and several European and Mediterranean countries) require resistant varieties to control their local nematode populations. Efficient resistance to all pathotypes in these countries is yet to be achieved, but an extensive screening programme of the Commonwealth Potato Collection has started to identify new sources of resistance. Useful genetic material is sent to the Northern Ireland Plant Breeding Station, for incorporation into their breeding programme. (Dr. S. Turner cited in SPP Publication 1984).

HUSBANDRY ADVICE, RESEARCH AND DEVELOPMENT

The Department of Agriculture for Northern Ireland offers an Advisory Service to potato growers, operating through the Agricultural Advisory Centres in the six counties of the Province, and specialist back-up services are also provided by the Research Divisions, Research Centres, Agricultural Colleges, the Potato Inspectorate and other Inspectorate Divisions.

Regular Departmental publications are also used in conveying extensive information to growers. Such publications include:-

- (1) 'Agriculture in Northern Ireland' - A monthly magazine of advisory articles aimed at farmers and growers (HMSO)
- (2) 'Record of Agricultural Research' - A scientific journal reporting results of trials and surveys etc. (DANI/HMSO)
- (3) 'Annual Report of Research and Technical Work' - containing brief scientific reports of Research and Technical work being carried out within DANI (HMSO)

A range of applied research and development projects on potato husbandry are carried out in the Experimental Husbandry Department at Greenmount Agricultural and Horticultural College, Antrim.

TUBER DISEASE RESEARCH

As almost all potato disease problems are carried over-winter by the seed tuber, the concept of breaking their disease cycles by starting fresh stocks of cultivars with disease-free materials has been realised for some time, and this gave rise to virus tested stem cutting (VTSC) propagation during the 1970s. The recently developed technique of micropropagation has allowed the rapid multiplication on agar of meristematic tissue and has simplified testing for the presence not only of viral but also bacterial and fungal pathogens. Thus, all stocks are routinely tested using a combination of indicator plants and serology for:-

- Ring rot pathogen - Corynebacterium sepedonicum
- Blackleg pathogen - Erwinia carotovora (subspecies atroseptica)
- Gangrene pathogen - Phoma exigua (variety foveata)

In conjunction with the Potato Inspection Service, the Plant Pathology Research Division in Northern Ireland also monitors disease levels in all pre-basic stocks.

Cooperative laboratory and field trials are undertaken in conjunction with other UK plant pathologists to establish reliable methods for assessing cultivar reaction to blackleg, soft rot and gangrene. Tests for resistance to blight, dry rot and wart disease are carried out on various submitted under Plant Variety Rights and National List Trials.

Potato growers in Northern Ireland have become increasingly dependent on chemical treatment with fungicides as an insurance against the development of blight and stem canker in the growing crop and of gangrene in storage. Current Northern Ireland research indicates that recently developed formulations containing mixtures of systemic acylalanine compounds and dithiocarbamate protectants give adequate control, despite the presence of acylalanine resistant strains in the blight population. These strains are at a very low level in the Province and are continually being monitored. Research conducted in the Province on stem canker shows that treatment with iprodione (Rovral) before planting has given good control of sprout death, stem canker and black scurf. More recently Rizolex, which is applied as a dust during planting, has given good control of all phases of this disease and improved tuber quality.

Research is continuing on gangrene and other storage diseases, and current results from experiments with recently developed fungicides indicate that none is more effective than the standard thiabendazole (Storite) treatment, providing it is applied efficiently at lifting. (Dr. C. Logan cited in SPP Publication 1984)

VARIETY BREEDING

In Northern Ireland Potato Breeding work is conducted at the Plant Breeding Station, Loughgall, County Armagh. Experimental clones or established varieties with useful characters are chosen as parents for

sexual crossing. Pollen from the stamens of one clone is transferred to the stigma of another. Each potato berry thus produced contains upwards of 80 seeds. Each seed develops into a genetically different plant - just as all children in one family are different. The chances of producing a better variety from one cross are very small because of the complex and irregular manner in which characters are passed from the parents to the progeny. The potato breeder can increase his chances of success by choosing the right crosses and by devising scientifically based testing systems to filter out the best new seedlings.

Within the Loughgall Breeding Programme seedlings are multiplied and tested for yield and quality of tubers. Trials are organised in Northern Ireland and Britain for any with potential for the UK market.

For seedlings with potential for export to overseas markets, these are subjected to field and laboratory tests for susceptibility to diseases. These cover fungal pathogens such as blight, gangrene and dry rot and viruses such as leaf-roll and potato virus Y. The Loughgall Potato Breeding Programme has recently been tripled in size and now produces over 30,000 new seedlings each year. (Dr. H. Lee, cited in SPP Publication 1984)

VARIETY EVALUATION

Evaluation of potato varieties in Northern Ireland is carried out at the Plant Testing Station, Crossnacreevy, County Down. New varieties of potatoes which are intended for marketing in the United Kingdom must go through two years of trials and tests before they can be added to the National List and subsequently traded. New varieties must be shown to be distinct, uniform and stable (DUS) and to have value for cultivation and use (VCU) if they are to be added to the National List.

Distinctness, uniformity and stability are established through examination and recording of a total of over 100 morphological characteristics on the sprouts, the growing plants and the harvested tubers. Descriptions are produced which are published in the Plant Varieties and Seed Gazette and subsequently used to identify varieties during the multiplication and certification stages leading up to commercialisation.

The field trials used to assess distinctness, uniformity and stability are conducted by the Department of Agriculture and Fisheries for Scotland (DAFS) at East Craigs, Edinburgh, and by the Department of Agriculture for Northern Ireland at Crossnacreevy, County Down. These Scottish and Irish centres, and the National Institute of Agricultural Botany, Cambridge, on behalf of the English and Welsh Ministry of Agriculture, Fisheries and Food (MAFF), also conduct field trials assessing the value for cultivation and use of the new varieties.

Yields of the varieties are assessed in detail with removal and classification of defects prior to grading of the marketable yield at 30, 30-40, 40-60, 60-80 and 80+ mm. Additional lifts to determine rate of bulking are carried out in 1st and 2nd early varieties. During the two year testing period the reactions of the varieties to fungi, viruses and nematodes are examined in tests conducted by the Plant Pathology and Agricultural Zoology Research Divisions of the Department of Agriculture for Northern Ireland. The Department of Agriculture and Fisheries for Scotland and the National Institute for Agricultural

Botany also assess resistance to diseases and pests, and in addition carry out tests on cooking quality characteristics.

A new variety is added to the National List only if it shows improvement over existing varieties, taking into consideration all the characteristics assessed. Promising varieties are then investigated in more detail at two sites in Northern Ireland and their performances compared with those varieties already established in production. Yield and cooking quality characteristics are given more emphasis in these trials which constitute part of the coordinated system of Recommended List Trials conducted in conjunction with the Scottish Colleges and the National Institute for Agricultural Botany. (SPP 1984)

Compared to many countries in the world (including the Netherlands), Northern Ireland is very advantageously placed, in terms of geographical location, altitude and climate, to produce a naturally healthy seed potato product. Due to the wet, windy conditions and relatively low temperatures prevailing in the main seed potato producing areas of the Province, there is virtually no problem with aphids. Nevertheless, through the vigorous efforts of the Agricultural Zoology Research Division of the Department of Agriculture, the aphid population is constantly monitored. These efforts, backed up by the very progressive research efforts being made in the fields of PCN control, tuber disease research, virus health research and combined with the work of a very professional Inspection Service, give the Northern Ireland seed potato grower the potential to produce one of the healthiest products in the world. Product health is one of the foremost considerations of seed potato importers all over the world. With the excellent research and technical facilities which it has at its disposal, the Northern Ireland seed potato industry should be well placed to improve its position in the world's seed potato markets, on the basis of product quality considerations.

4.1.2 Strategy and Organisation for Export Marketing

The secondary and primary data on Northern Ireland reveal that the following strategic and organisational elements are the prime determinants of the industry's export marketing capabilities.

(a) Strategic elements:

- (i) Positioning
 - Product (Product quality, Grading, Packaging)
 - Distribution
 - Pricing and sales negotiation
 - Promotion
- (ii) Marketing Research
- (iii) New Product Development

(b) Organisational elements:

- (i) Quality Control
- (ii) Channel Functioning (in terms of the degree of horizontal and vertical integration, and the efficiency of procurement of product)
- (iii) Production Control and Planning

The functioning of each of these strategic and organisational elements will now be described.

4.1.2(a) Strategic Elements

(i) Positioning

The Product

As has already been mentioned, the inherent health of the Northern Ireland seed potato product provides the industry with a potentially powerful competitive advantage in world markets. Certainly in the past this has been the major strength of the industry. However, evidence from the trade and from export tender documents, indicates that the basic health message must now be coupled with more sophistication in the grading and packaging of the product, in order to provide a complete product-specific service to customers.

Grading of potatoes (seed and ware) is basically the process of segregating the very variable harvested product into smaller, more homogenous groups on the basis of specified quality characteristics such as disease tolerance and size. More importantly, the selection of homogeneity characteristics should be in relation to the specific demands of target market segments. Such market-orientated grading can be of benefit to both producers and consumers; consumers can increase their satisfaction by obtaining with certainty the particular product qualities they desire, and producers can, potentially, increase their returns by taking maximum advantage of buyer's product references.

The increasing importance of product grading in successful seed potato marketing is well appreciated by most sectors of the Northern Ireland industry. However, there does appear to exist some organisational difficulty in producing the required size grades in sufficient quantities to fulfill selected market needs, and to adapt to changing market requirements. As a result of this inability over recent years, the tonnage of Scottish seed potatoes exported by Northern Ireland based merchants has increased considerably. In the 1985/86 season, 25,000 tonnes of Scottish seed potatoes were exported by Northern Ireland merchants, and the reasons given by the Northern Ireland trading sector as to why such a large tonnage of Scottish seed was exported by them, provides a useful insight into the nature of the grading problem currently facing the Northern Ireland industry. The two reasons given by Northern Ireland merchants for the exporting of such large tonnages of Scottish seed are:-

- (i) Scottish growers are willing to enter into pre-planting contracts, thereby giving the merchants a greater degree of surety of supply of product, and greater confidence when negotiating deals.
- (ii) Northern Ireland growers were not able to produce sufficient quantities of seed potatoes of the correct grade specifications to fill orders which Northern Ireland merchants had secured in 1985.

These explanations are indicative of two shortcomings in the Northern Ireland grading system: firstly, they indicate the serious nature of the communication problem which exists between the grower and merchant sectors; and secondly, they indicate that the present grading system is not adequately geared to meet new and changing market requirements.

The question arises therefore as to why the present Northern Ireland grading system is not able to bulk-up sufficient supplies of particular size-grades to satisfy the requirements of potential market segments. The answer to this is provided, at least partially, by the fact that

the major agronomic decisions taken regarding the growing of seed potato crops, and the way in which these subsequently affect the yields of different marketable fractions, are taken by individual growers, and also by the fact that grading facilities for the industry are largely located on growers' farms and are operated by individual farmers.

The main factors which influence agronomic and grading decisions at the individual farm level in Northern Ireland include:-

- (i) The markets for which the Northern Ireland seed potato grower has traditionally grown his crops, have in the past accepted a very wide size grading from 35mm - 60mm. The growers have therefore become conditioned over a period of time to use seed-rates and spacings which produce a crop with a very large proportion of 45-60mm seed tubers, and in addition a similar proportion of 60mm+ sized tubers which are traditionally either sold onto the ware market as ware tops (if the variety is suitable), or are used as stockfeed,
- (ii) As it is less expensive, and less labour intensive, (per tonne) to dress-out larger tubers for sale, than it is to assemble a small sample (say 35-45mm), the Northern Ireland growers' traditional economies of scale are therefore attuned to grading a larger sample. Estimates from seed/ware potato farmers would suggest that grading costs are currently of the order of £10/tonne for the 35-55mm seed fraction, and £3/tonne for the 55mm+ ware/seed fraction.
- (iii) Due to a lack of market information and lack of a formalised contracting system in the supply channel, many potato growers are not at all certain as to the ultimate destination of their crop when they plant it. In addition, the price differential between seed and ware crops is often not sufficient to defray the extra costs of producing a seed crop. The net effect of these two considerations is that many growers practice what is known as 'dual cropping'. This is the practice whereby crops are left in the ground to bulk up for as long as possible. This increases the total number of tubers, without reducing the overall number of seed sized potatoes; an optimal fraction of larger tubers is then available to be graded out and sold as ware. This increases producers margins, but is detrimental to seed quality, as tubers are left longer in the ground. It also militates against early harvesting, and supply of early markets.
- (iv) Growers also tend to react retrospectively to market trends and prices when making growing decisions regarding their ware crops. As a result, many dual croppers will bulk up their ware size fraction following a year of good ware prices.

Due largely therefore to traditional husbandry practices, economies of scale and fragmented small unit grading systems, the Northern Ireland industry currently produces a restricted size-range of products. In addition, due to the small quantities of each size of seed produced on each farm unit, it proves very difficult to bulk up supplies of very precisely graded seed, as is currently demanded by an increasing number of markets abroad and in Great Britain. Northern Ireland produces basically only two products in terms of size grading - a 35-55mm

product and a 35-60mm product. This in effect restricts marketing strategies to globalisation.

Representatives of the Northern Ireland industry spoken to were well aware of the potential opportunities which exist for marketing all small seed crop fractions internationally, and that this is being taken full advantage of by competitors. The Dutch identify viable market segments and then dress their seed into several grades to suit; 28-35mm, 35-45mm, 45-55mm, etc. being offered.

In this respect it is interesting to note that in Northern Ireland the 25-35mm seed fraction is either fed to livestock, retained for growing ware crops, or regarded as disposable 'trash'. In the French seed potato market, a very large premium is paid for such closely graded 25-35mm 'trash'.

Seed potato farmers spoken to in Northern Ireland were also well aware of the advantages to ware growers of small seed sizes and a guaranteed number of tubers per bag, and could therefore appreciate the growing trend amongst customers to demand smaller, more closely graded seed, coupled with a guaranteed tuber count per bag. Nevertheless, there still exists a large degree of resistance from growers to adapt their production and grading systems to suit these perceived changing market requirements. This resistance stems from several factors, including:-

- (i) The lack of any size-grade price premium which might act as an incentive to growers, in order to defray the extra grading costs incurred in handling a value-added smaller seed tuber product. Some Northern Ireland merchants claim that they cannot afford to offer such price differential incentives to growers, because they themselves "are already operating on such a tiny profit margin".
- (ii) Considering the large proportion of 55mm+ sized tubers produced by growers under their current growing practices, then the dressing of samples to 35-40mm would mean that growers could be left with a larger volume of ware tops to dispose of. As it is extremely difficult to get rid of the ware tops of many Northern Ireland seed potato varieties, growers therefore fear the prospect of being left with the 50mm+ fraction of their crop, unable to find a suitable market outlet.

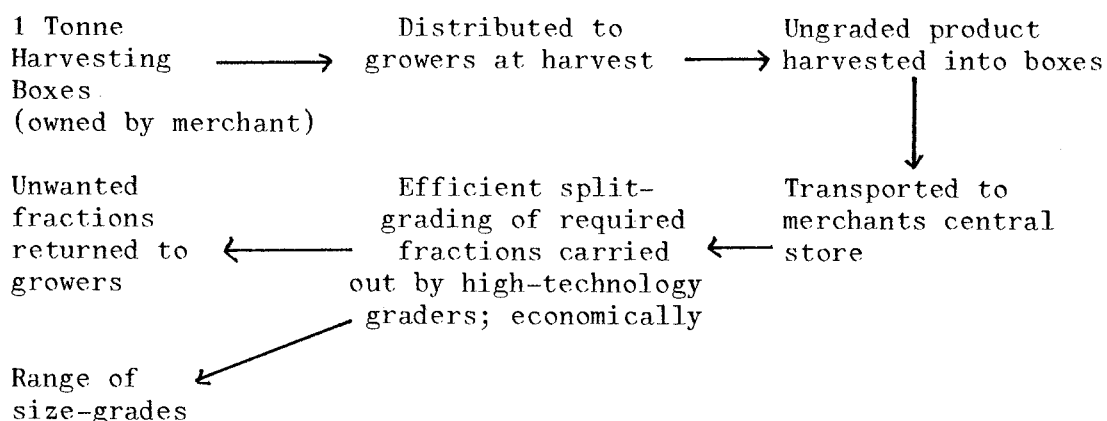
The net effect of all this on the overall marketing philosophy of the industry has been summed up very well by two Northern Ireland merchants, who said:-

"Increasingly over the past decade the options open to the Northern Ireland industry have become clear:- either (i) we compete and develop new markets by meeting required grading specifications, or (ii) we trade somewhere 'easier', where our product, as currently offered, will be accepted. We have unfortunately chosen the latter. The resistance which exists within the industry, against producing more closely-graded samples, means that rather than adopting a proper customisation approach of supplying a wide range of products to a wide range of different markets, merchants are forced to try to sell what the growers produce to the few markets that will accept it" (Merchant 1).

"Our competitors are successful because they supply exactly what each customer wants. We Northern Ireland merchants are forced to try to persuade customers to accept what we have on offer, whether it is exactly what they want or not; and often at reduced prices".
(Merchant 2)

Attempts are being made by some of the larger merchant-growers in Northern Ireland to introduce a central grading system to handle both their own grown product and the product of their 'contract' growers, with the intention of making more precise grading of the product economically viable.

The operation of one such system which was viewed in Northern Ireland is shown diagrammatically below:-



Although such a system does represent a well tried and tested method of improving economies of scale in agricultural grading operations, a serious drawback would seem to be the reluctance on the part of Northern Ireland growers to lose control of their own grading.

Research work done by Mr A. Saunders, Potato and Arable Research Officer in the Experimental Husbandry Department of Greenmount Agricultural and Horticultural College, has demonstrated how it is feasible for the Northern Ireland seed potato grower to produce a more marketable, precisely graded product, and still compete economically (Saunders (1979)(1980)(1982)(1983)(1984))

Packaging of the graded product is an extremely important component in the marketing mix strategy for any agricultural product. Moreover, packaging arrangements must be as flexible and as responsive to the customer's requirements as any other marketing component. Appropriate and diverse packaging of a product enables the producers to add value to their raw product and also provides another useful and versatile tool for precise market segmentation.

Reports from the merchant trade in Northern Ireland suggest that the present form of Northern Ireland packaging (50kg sealed bags) is satisfactory from the traditional customer's point of view, particularly with regard to branding, labelling details, and sealing inspections. However, one element of customer feedback which has become increasingly consistent over the past decade is the desire for a standardised number of product items (tubers) per package unit (bag). The number of Northern Ireland's traditional customers who are

demanding such modification and precision in packaging of seed tubers, is increasing.

Responses from the Northern Ireland industry to demands for precise tuber counts per bag, have not been encouraging so far, although Seed Potato Promotions (Ltd.) has for a long time, by way of press releases and public meetings, been advocating more precise packaging procedures with regard to the number of product items per package.

One of Northern Ireland's traditional customers which has for many years been demanding greater precision of tuber counts per bag is the English/Welsh market, and the following is a quote from Mr R. Whittle, President of the National Association of Seed Potato Merchants, speaking on behalf of English and Welsh ware grower:-

"The Dutch are offering seed graded to practically any size specified by the buyer, and also guaranteeing the number of tubers in the bag. If the Irish trade does not follow suit, a lot of goodwill that has been built up will be lost to the Dutch, who will increase their supplies and take a larger share of the UK market".

It is interesting to note in this respect that the Dutch supplied virtually no seed potatoes to Great Britain prior to 1976, and yet by 1982 their exports to Great Britain had grown to over 11,000 tonnes. Reports from The Netherlands suggest that Dutch suppliers aim to supply up to 25% of Great Britain's seed potato requirements by 1992.

Reports from merchants indicate that losses of sales are also being suffered by the Northern Ireland industry in some of their traditional Mediterranean markets as a direct result of the unsuitability of grading and packaging specifications. Some evidence is available from the export marketing manager of one of Northern Ireland's larger merchant companies which won a contract with Egypt in 1983 to supply a large tonnage of seed potatoes of the variety 'Desiree'. He did not actually know for sure that he would be able to supply the precise tonnage of Northern Ireland seed required, due to the lack of a proper binding contract system for securing the supplies from Northern Ireland growers. In addition, the terms of the contract stipulated that there should be a minimum guaranteed number of 600 tubers per 50 kg bag. Knowing the potential difficulties involved in actually obtaining the required tonnage to fulfill the contract from Northern Ireland, the export manager was then forced to rephrase the terms of the contract as 'supply of UK seed potatoes' (not 'Northern Ireland' seed potatoes), thus leaving the option open to export Scottish seed potatoes to fulfill the contract, if need be. The exporter then proceeded to check the number of tubers per bag in a standard Northern Ireland lot of export Desiree seed, and found to his dismay that he could only achieve a maximum count of 500 tubers per bag; the contract was subsequently met by supplying Scottish seed, graded and packaged to the correct specifications.

In both the grading and packaging of the Northern Ireland product, therefore, it is clear that inflexibilities in the production and grading systems, compounded by problems in the relationships between growers and merchants, are forcing the industry to adopt a 'cut-price' globalisation strategy with respect to product positioning. Most sectors of the industry do realise that such a globalisation approach

sectors of the industry do realise that such a globalisation approach is inappropriate to supplying a range of market segments, and can appreciate the competitive advantage possessed by the Dutch (for example) in adopting a customisation strategy.

Distribution

Essentially Northern Ireland seed potatoes are exported to a nearest neighbour export market (G.B.) and to other (ex-G.B.) markets. Hence, two distinct types of marketing channel exist for the distribution of the Northern Ireland product, as shown in Figures 7(a) and 7(b).

Traditionally, the selling of Northern Ireland seed potatoes to Great Britain has been done exclusively through merchant to merchant contact:- Northern Ireland merchants ship the seed to Great Britain wholesale merchants, who then sell the seed on to the G.B. growers. Thus intermediaries are used in distributing to the end user of the product. The use of such intermediaries almost always, however, leads to a loss of margin to producers, because the intermediaries necessarily absorb some of the margin that would have been available for return to the producers. Such an intermediary system still dominates the trade into G.B., although some sales have recently taken place directly between Northern Ireland merchants and G.B. growers, in an attempt to reduce intermediary costs. However, there is, in general, considerable resistance from the Northern Ireland merchant sector to any further growth of direct sales to farmers in G.B. This resistance is based on three factors:-

- (i) Sales direct to growers in G.B. are said to be financially risky in terms of speed of payment.
- (ii) G.B. merchants have a more exact knowledge of G.B. growers requirements than do Northern Ireland merchants.
- (iii) Trade politics has a role to play. Within the framework of the U.K. National Association of Seed Potato Merchants, Northern Ireland merchants do not want to be seen to be 'stepping on the toes' of their G.B. colleagues, by by-passing them. Indeed, the Northern Ireland merchant's trade association (the North of Ireland Potato Marketing Association) has a policy of advising G.B. growers to order seed potatoes through their local merchant in G.B.

In looking at the G.B. distribution channel, therefore, two facts emerge:-

- (i) The use of intermediaries, and multiple-handling of product, represents a potential reduction in revenue to Northern Ireland producers.
- (ii) The demand for Northern Ireland seed in G.B. is dependent to a great extent on the promotional and stock-holding policies of G.B. merchants. Indeed, reports from the trade would indicate that the demand for Northern Ireland seed in G.B. often exceeds the supply made available by G.B. merchants.

The distribution channel to countries outside the U.K. (see Figure 7(b)) is also characterised by the use of distribution intermediaries. In contrast to the G.B. situation, the use of agents and distributors in foreign countries is well justified because of the high costs involved in operating direct marketing channels into these countries.

However, in both marketing channels, there is much multiple handling of product within Northern Ireland; by merchant-growers, local agents, supply merchants and finally export merchants. Because of the rural nature of most of the country, extensive rail networks do not penetrate into all the seed growing areas, and therefore the transporting of grower's crops to the export merchant's premises, or to the appropriate quayside, is done by road haulage. With such multiple-handling of product by road, a major concern of growers is an unnecessary erosion of potential market returns.

The principal ports in Northern Ireland for the shipment of seed potatoes are Belfast, Larne, Londonderry, Warrenpoint and Coleraine. Due to the fact that most export merchants were historically domiciled in Belfast, and also due to the historic development of Belfast as the country's largest shipping port, the vast majority of export shipments take place from here. For seed potatoes grown in North and mid-Antrim, the use of Belfast port, along with Larne, is very convenient for exporting. For growers in country Londonderry, the use of Londonderry port, and to some extent Coleraine, is convenient.

However, as the facilities at Larne, Londonderry, Coleraine and Warrenpoint are not ideal, in terms of storage facilities and frequency of shipments, for the exporting of large volumes of seed potatoes, the vast majority of exports leave via Belfast. For seed potatoes which are grown in more remote areas, such as South Down, South Londonderry and North Tyrone, internal transport costs are increased significantly by the need to travel to Belfast. The example of the problems faced by growers in the Mourne area of South County Down serves to illustrate the inefficiency of the transport system used. The growers from the Kilkeel/Newry area must firstly transport all their growing equipment and crop inputs north, to the area around Downpatrick/Ballynahinch, where they can rent suitable land for the growing of seed potato crops. This involves round trips of up to 40 miles. Having grown and harvested their crops here, they must then transport the product back to Kilkeel/Newry for storage and grading, and then finally back north again to the port of Belfast for shipment, a distance of 40 miles. The need to transport the product to Belfast exists in spite of the fact that the port of Warrenpoint is 'on the doorstep' of these Newry/Kilkeel growers. This conveniently situated port of Warrenpoint only handles a token volume of seed potato exports, as do Larne and Coleraine.

At the main port, Belfast, there are also problems concerning the standards of storage facilities. Currently the containers in which seed potato consignments are stored at the port, prior to loading, are inadequately insulated. As one major exporter explained -

"for a perishable and easily damaged product such as seed potatoes, especially when cold and wet, the fact that consignments of the product may have to be stored outside, in these poorly insulated containers, for long periods of time, is

totally inadequate to the provision of good customer service."

Information would also suggest that the use of containers for the shipment of seed potato consignments is being increasingly demanded by customers. This also poses a potential threat to the Northern Ireland handling facility, in that there exists a degree of resistance from Northern Ireland exporters to the introduction of containerisation.

Apart from these problems with the rationalisation of internal transport and handling facilities, the Northern Ireland industry also suffers a major export cost disadvantage, in that port costs are much higher than in Scotland, for example. Currently, seed potato handling costs at Belfast port are about £11-£12 per tonne, while at Montrose, the main East of Scotland seed potato exporting port, the costs are only £6 per tonne.

In summary, therefore, four main problem areas can be identified in relation to the present distribution strategies of the Northern Ireland industry:-

- (i) **Inefficient routing of internal transport, and multiple handling,** particularly with regard to the multiplication of transport costs which results from a succession of agents and merchants and also in relation to the actual ports used and the way in which these relate to the growing areas.
- (ii) **Inadequacy of port facilities:** the lack of properly insulated containers for long term quayside storage and the lack of weather-proof stores into which the product can be moved in times of rain, frost etc.
- (iii) **High port handling and shipping costs:** compared with the Netherlands and Scotland, Northern Ireland's merchants are at a cost disadvantage in terms of the transporting of seed to both the Great Britain and overseas markets.
- (iv) **A reluctance to use containers for shipping:** traditionally Northern Ireland seed potatoes are loaded into the ships' hold in the form of 'lots' of 50kg bags stacked on wooden base pallets. However, some important markets are now demanding containerization of seed potato shipments but the degree of uptake of containerization within the Northern Ireland industry appears to be slow. Merchants appear to perceive containers as a threat on two counts:- firstly, if they used them they may be difficult to fill; secondly, other companies with in-depth experience of container operations may be tempted to move into the seed potato trade.

Figure 7a : A Schematic Representation of the Struture of the Marketing Channel for Northern Ireland Seed Potatoes sold in G.B.

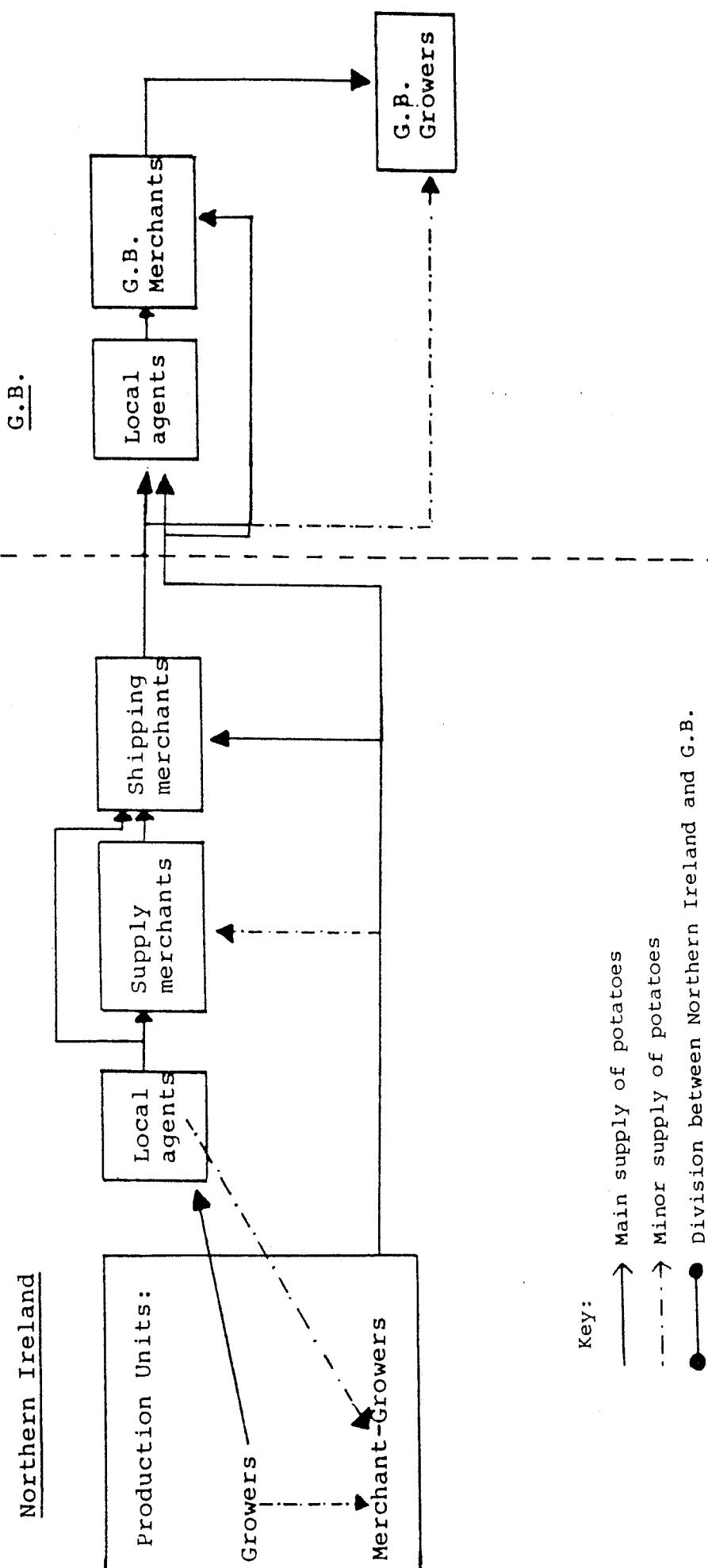
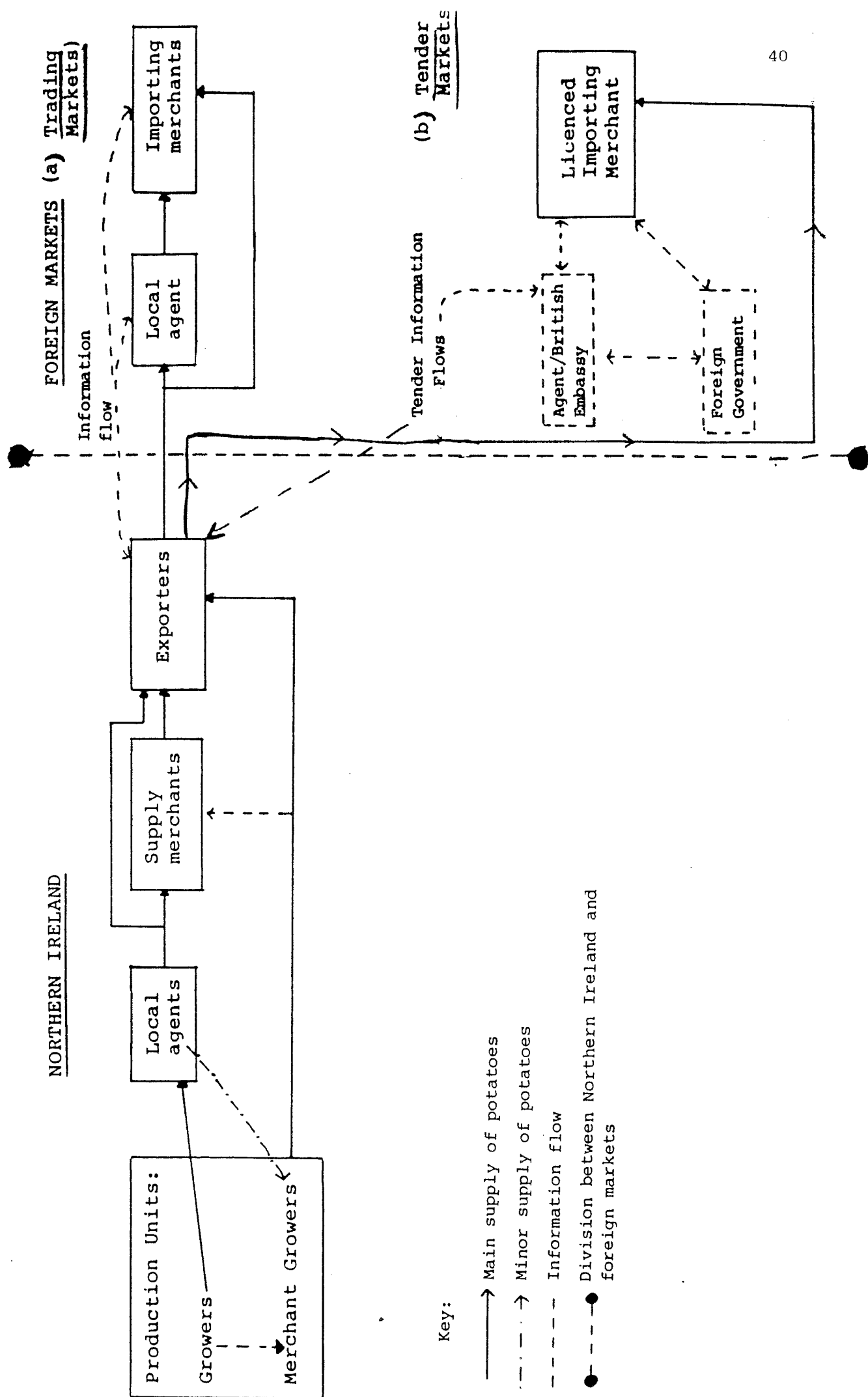


Figure 7b : A Schematic Representation of the Structure of the Export Marketing Channels for Northern Ireland Seed Potatoes



Pricing and Sales Negotiation

When considering the selling and pricing strategies of any trader in the international seed potato market, the most important determining factor is the degree of exclusivity to the trader of the particular product (or products) being traded. In the seed potato business there are two types of tradeable potato varieties, firstly 'free varieties', which are not monopolised by any trader by means of plant varietal rights, and secondly 'protected varieties' which are exclusively bulked up and traded by the owner of the varietal rights, or by nominated licencees (rather like a franchise arrangement). The practical implications of this varietal rights legislation as it applies to seed potato pricing and selling, is that in general the protected varieties have a greater intrinsic value than do free varieties. Given that there is a market demand for a particular protected variety, then the owner of that variety can potentially create a premium price for the product by legally restricting production levels. With free varieties on the other hand it is more difficult, though not impossible, to control either production levels worldwide or the traders who are actively trading in the product.

Northern Ireland's position, vis a vis free or protected varieties is as follows:-

- Over 90% of Northern Ireland's export trade is composed of free varieties, which are not exclusively owned by any one merchanting business in Northern Ireland.
- The same varieties are also not exclusively owned by Northern Ireland ie. they lack legal exclusivity in an international context.

As a result of the free nature of Northern Ireland's most important varieties, the potential does therefore exist for any seed potato production and selling agency in the world to produce and sell these varieties. At first sight this would appear to result in the Northern Ireland industry being in possession of a very low value range of over-produced free products, providing no opportunity for the industry to either sell premium products at premium prices, or to provide good returns to growers. Indeed, this argument was often used by Northern Ireland traders to explain why so much of the Northern Ireland product is severely under sold, in pricing terms, in world markets. However, a detailed comparison of the varietal production patterns of the Northern Ireland industry with those of Scotland, its main competitor in the free varieties, reveals that the Northern Ireland industry does, to all intents and purposes, have a monopoly of production of its most important export varieties. Given a known demand for these varieties in world markets, then the Northern Ireland industry only has one competitor - itself.

By analysing data on the relative importance of the main free varieties in the exporting patterns of Northern Ireland and Scotland, the following figures emerge:-

Variety	Exported Tonnage 1983/84		Notes
	From N.Ireland	From Scotland	
Arran Banner	19,160	Insignificant as export from Scotland	N. Ireland dominance
Arran Consul	6,386	Insignificant as export from Scotland	N. Ireland dominance
Desiree	19,160	209,160	Scottish dominance
Up-to-date	2,554	7,470	Scottish dominance
King Edward	14,050	2,470	N. Ireland dominance
Pentland Dell	1,277	4,980	Scottish dominance
Kerrs Pink	1,277	Insignificant as export from Scotland	N. Ireland dominance

These figures serve to show that although the varieties Arran Banner, Arran Consul, and King Edward are technically free varieties (and they are also actually well advanced in terms of product life stage) they do nevertheless represent the nearest things which the Northern Ireland industry has to an exclusive product range. However, in view of their length of time on the world market, these varieties are now experiencing strong competition from a number of new and improved Dutch varieties and this does of course reduce their intrinsic value. Nevertheless, these old varieties are still being exported from Northern Ireland, and until any new 'winners' emerge from the Northern Ireland varietal breeding programme, the question arises as to what sort of pricing and selling arrangements are being employed by Northern Ireland merchants in order to sell the old varieties to the best advantage of the industry.

Unfortunately, over recent years, the selling strategies of the Northern Ireland industry have been characterised by severe intra-competitiveness and price cutting, which has resulted in the Northern Ireland produced varieties being severely undersold and often used as loss-leaders by competitor industries. This situation has been fostered by the extremely fragmented nature of the Northern Ireland selling sector, where there is much duplication of negotiation and selling effort in overseas markets. More particularly, the Northern Ireland merchants are notorious for indulging in unnecessary competition, and very often compete more with themselves than with the Dutch, Scots or Canadians. Numerous press reports have, over recent years, commented disapprovingly upon the overseas selling activities of the Northern Ireland merchants. These comments have come not only from within Northern Ireland where growers and growers representatives are angered by the intra-competitive price cutting tactics of the Northern Ireland merchants, leading ultimately to potentially very valuable products, such as Arran Banner, being 'given away' to overseas customers, but also from the Scots.

The Scots are particularly angered by the unrealistically low price for which Northern Ireland Arran Banner is frequently sold in Malta at the start of the selling season. The Maltese tender for Northern Ireland Arran Banner seed potatoes is crucial to the price trends set

throughout the rest of the selling season, and if the price for the Malta contract is very low, the net effect is that prices for all subsequent varieties and contracts are lowered.

Appendix 4 gives a selection of press cuttings taken recently from the Northern Ireland and Great Britain agricultural press, illustrating the extent of the tactical price cutting which is engaged in by Northern Ireland merchants, and also illustrates that the merchants are competing against themselves, as an industry, rather than against other supplying countries.

The price figures quoted in Appendix 4 reveal that the intra-competitive behaviour of the Northern Ireland selling sector can effect a reduction in prices of up to 50% (the difference between £250/tonne and £120/tonne). Such an unnecessary, self-inflicted reduction of revenue by the industry must be a cause for grave concern to growers, who are largely unable to influence such matters. Also, the quoting of prices for high quality seed potatoes at a level of £23-£30/tonne below those for ware potatoes must have a serious knock-on effect of eroding the confidence of growers and the degree of commitment which exists to produce high quality seed potatoes, at the extra costs thus incurred, rather than to simply produce low input, poor quality crops, or ware crops.

Obviously, such an intra-competitive industry proves extremely attractive to the overseas buyers, in that they can play off several Northern Ireland merchants one against the other purely on the basis of price. This situation is made worse by the fact that none of the major Northern Ireland export varieties (Arran Banner, King Edward) are exclusive to any of the Northern Ireland merchanting businesses, and in the absence of any real exclusive product distinctions with which to conduct negotiations, the Northern Ireland merchants are forced to compete solely on the basis of price. The nature of the markets with which they trade tends to encourage this dependence on price as the main selling factor. The objective of inviting tenders in particular as a buying procedure, is primarily to 'fish' for the lowest price seller and to stimulate competition on the basis of price. With the present approach of the Northern Ireland selling sector, conditions are ideal for the buyers to exercise ultimate channel power, and to operate in a buyers' market.

The following piece of anecdotal evidence, provided by one of Northern Ireland's main exporters, illustrates this point very well:-

"Three Northern Ireland merchants, realising the benefits of a joint venture in bulking up supplies for a large Egyptian contract in 1985, went out to Egypt and dealt hard and long (on the basis of obtaining a good price for Northern Ireland growers) and eventually won the tender, against the Scots and Dutch, to supply Northern Ireland seed potatoes at a very good price of £300/tonne delivered. However, as the deal was negotiated on the Moslem Holy Day (Friday), no contract could actually be signed. Therefore, this Northern Ireland export cartell returned on Saturday to sign the contract, only to find that another, independent, Northern Ireland merchant had in the meantime found favour with the Egyptian buying committee by offering Northern

Ireland seed potatoes at a price of £275/tonne delivered. The original cartell and the independent merchant then became engaged in a price cutting confrontation, with the Egyptians, who were quite happy to pay £300/tonne, playing one off against the other, until the cartell did finally win the contract. However, the contract was finally won at a much reduced price of £249/tonne delivered. In the end therefore the Egyptians gained handsomely from the activities of the Northern Ireland industry, while the backbone of the Northern Ireland industry, the growers, lost."

If one takes this reduction in price of £51/tonne delivered, the net loss to the Northern Ireland industry for a typical, annual quantity exported to Egypt (say 8,000 tonnes) is therefore £408,000. With no binding contract arrangements between growers and the vast majority of Northern Ireland merchants, the system at present means that the merchanting business first deducts its marketing costs and own profit margin (unknown) from the price received, and the growers then get a price corresponding to the profit margin which remains. In circumstances whereby Northern Ireland merchants engage in competition with each other to the extent of reducing the overall channel margin in one single market by £408,000, the net effect on producers is that the price they receive is reduced to totally unacceptable levels.

In conclusion therefore, the salient features of the present selling/pricing arrangements of the Northern Ireland industry are as follows:-

- (i) There is a general lack of any formalised contractual pricing or other risk-sharing pricing policies between growers and traders.
- (ii) An apparent lack of any strategic pricing policies or any 'cost of production related' pricing formulations.
- (iii) A degree of reckless, intra-competitive price cutting within the industry which is incompatible with maximizing channel profit margins to all channel sectors, and which is also incompatible with the potential to sell, to best advantage, quality products at premium prices.

Like the problems which exist in grading and packaging of the product, the pricing and selling strategies adopted by the Northern Ireland trade mitigate against a market-orientated customisation strategy and only allow for a rather crude, cut-price globalisation approach.

Promotion

The former Northern Ireland Seed Potato Marketing Board, in addition to its 'selling agent' function, carried out promotional and development work on behalf of the Northern Ireland seed potato industry. With the demise of the Board in 1982, the two 'sides' of the industry, namely the North of Ireland Potato Marketing Association Ltd (representing merchants) and the Ulster Farmer's Union (representing producers), set up an interprofessional body to continue to perform the non-trade functions of the Board, which were for the general benefit of the industry as a whole. This new body, Seed Potato Promotions, (NI), Ltd., is a private company, and has an equal shareholding and equal numbers of directors from each 'side', ie: producers and merchants.

In broad terms, SPP's aim is to "increase the demand for Northern Ireland seed potatoes, through promotional activities". During recent years, overseas promotional visits have taken place to Syria, Portugal, Malta, the Canary Islands and the Republic of Ireland. In addition, SPP have identified Italy as being a growth market for seed potatoes, and now exhibit at two important agricultural fairs - the Budiro Potato Harvesting Demonstration in July, followed by the Fieragricola (in Verona) in August.

Reports from SPP on the nature of their promotional impact on such outward missions, indicate that at every demonstration or show abroad, 'fierce' promotional competition is experienced from the Dutch, French and Scots. In particular, these countries are increasingly using three very powerful promotional tools which the Northern Ireland promoters cannot fully utilise:-

- (i) The offering of very close size grades (differentiated products)
- (ii) The guaranteeing of precise tuber counts per bag
- (iii) The continual offering of new improved varieties of seed (particularly the Dutch)

The main promotional tool of the Northern Ireland industry remains the traditional 'Health and Quality' slogan. However, evidence from the SPP indicates that promotion based on much more specific product/package attributes is more likely to succeed. Such product-specific promotion would at least keep up with the efforts of the Dutch and the Scots.

'Health and quality' slogans obviously require service back-up, and one of the main back-ups provided as a promotional customer service, is the arranging of inward missions by Government officials and other state bodies of prospective (or actual) customer countries, to visit Northern Ireland and to see the health of seed crops, both at the growing stage and after harvesting. Programmes for these visits, drawn up in conjunction with the Department of Agriculture, include, where appropriate, tours of the Department's Research Centres, port handling facilities and growers and merchants premises. During 1986, inward missions were received from three traditional customer countries - Egypt, Israel and Syria. There were no visits by prospective new customers.

SPP are particularly concerned that Northern Ireland has only supplied less than 4 of Great Britain's annual requirement for seed potatoes in recent years. As SPP commented:

"potato consumption in the UK per head of the population is the highest in Europe. To satisfy this demand a large area - almost 180,000 hectares - are normally planted each year. To service the planting of this area, up to 300,000 tonnes of seed potatoes are required annually".

SPP consider that with proper exploitation the Great Britain market for Northern Ireland seed potatoes can be expanded considerably. To back up this view a new programme of Great Britain promotional activities covering the next few years has been drawn up. This programme is largely centred around the use of a Mobile Display Unit at various

Agricultural Shows, and at other events which are 'good shop windows' for Northern Ireland seed potatoes. During the 1984 season, events at which the new Mobile Display Unit was on show included:-

- Spring Potato '84, Stoneleigh, Warwickshire
- Shropshire and West Midland Show, Shrewsbury
- South of England Show, Hayward Heath
- Essex County Show, Colchester
- Lincolnshire Show, Lincoln
- East of England Show, Peterborough
- Royal Lancashire Show, Blackburn
- Pembrokeshire Show, Haverfordwest
- World Ploughing '84, Horncastle, Lincolnshire

One very important aspect of seed potato promotional activity, which sets it apart from very many other commodities, is the fact that serious promotion of a variety cannot begin until that particular potato variety is placed on the National List of Recommended Potato Varieties of the country in which the promotion is to take place. In order for a Northern Ireland variety to be placed on a National List it is necessary that trial plots are set up by Seed Potato Promotions in that country. Currently, samples of Northern Ireland produced varieties are sent to overseas trialling plots in three ways:-

- (i) SPP sends samples to be grown and assessed for the general promotion of Northern Ireland seed potatoes
- (ii) Individual merchants also send samples to be grown in trial plots in countries where they are trying to penetrate the market.
- (iii) New varieties of seed potatoes which are developed at the Northern Ireland Plant Breeding Station are sent by the Department of Agriculture to a standard 'hot climate' test site in Israel for initial quality screening.

When these varieties have passed the initial tests in Israel, staff of the Plant Breeding Station travel to Israel and make a division of the test varieties into appropriate maturity classes (earlies, second-earlies, maincrop etc.). On the basis of their maturity rating, the various new varieties are then distributed to appropriate trialling sites in countries where there is a perceived demand for that particular maturity class. For example, in Eastern Spain, in the region around Valencia, there is a big early re-export market ie. the growers in this area want early variety seed which will produce early ware crops which can then be exported to other parts of Europe. In addition, the Valencia area has a serious PCN problem and so PCN resistance is also a desired feature in any new seed variety for this area.

Each year about 350-400 clones (each a potential new variety) are bred at the Plant Breeding Station in County Armagh, and most of these are then entered in the preliminary trials in Israel, where they are assessed for yield, quality, heat tolerance and symptoms of early and late blight Verticillium dahliae. Their maturity is also assessed. After harvest these clones are then allocated to early sites such as Valencia (previously mentioned) (Spain), or Cyprus, and late sites such as Northern Spain. Other features looked for are extreme heat and drought tolerance, usually with a medium-late maturity. These clones

are trialled in Israel, Algeria, Sudan and the Canaries, where such characteristics are essential in a new variety. Superimposed on this set of selections is the awareness of the importance of Potato Cyst Nematode resistance, especially in Cyprus, Valencia (Spain) and the Canaries.

There are six main trial sites - Israel, Cyprus, Spain, Algeria, the Canaries and Egypt. All of these countries are traditional customers for Northern Ireland seed potatoes, but it is interesting to note that over the past decade these six countries have accounted for less than 40% of Northern Ireland's seed potato exports. The largest single market for Northern Ireland's seed potatoes has consistently been Portugal, taking over 50% of Northern Ireland's total export tonnage. Yet, there is not trial site in Portugal for Northern Ireland seed potatoes.

In conclusion, therefore, although an interprofessional body has been established specifically for the export promotion of Northern Ireland seed potatoes, the industry's promotional efforts are hampered by several problems:-

- (i) The industry is unable to use potentially potent 'product diversification' messages in its promotional strategies.
- (ii) Although mounting a mobile display at G.B. grower events, the supply of seed to G.B. growers will still largely be governed by the priorities and policies of G.B. merchants.
- (iii) There seems to be a duplication of effort, and therefore presumably a difference in purpose, between the Northern Ireland merchant trade and S.P. P. in the trialling of Northern Ireland seed abroad.
- (iv) Trial coverage (the most important component of seed potato promotional activity) is poorly organised, with no trial site in Portugal, Northern Ireland's biggest customer.

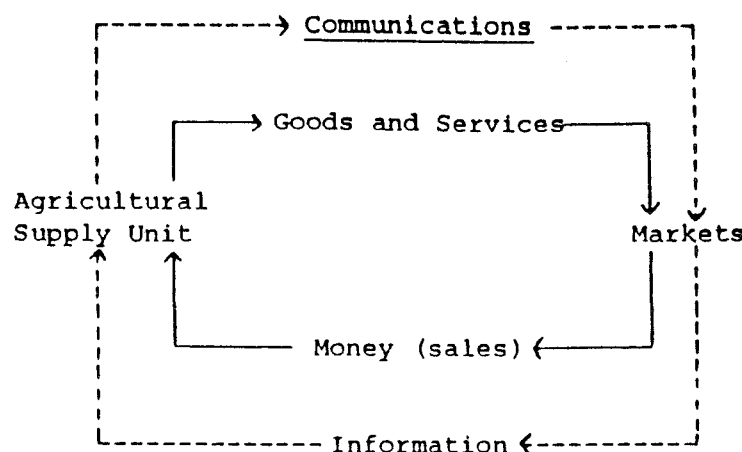
In general, promotional activity appears to have a low priority within the industry, as the lack of a trial site in Portugal would certainly testify. In addition, the composition of the promotional organisation (S.P.P.) appears to reduce the strategic and operational efficiency of the organisation, although its aims are highly laudable.

A poorly organised, low priority promotional activity, coupled with a globalisation strategy based on low priced products, is an unfortunate strategic combination, taking into account the work of Lee (1981). Lee's work on generic promotions in agriculture indicates that a high priority should be given to promotional activity, which is a much more powerful tool in marketing than a low price strategy.

(ii) Marketing Research

The first crucial process in any agriculture marketing enterprise must be to "identify and interpret customer requirements". The whole basis of the marketing concept is grounded in the notion that the profitable development of an industry can only be ensured through constant attempts to match the capabilities of producers to the needs of

customers. In order that these needs may be identified, and a suitable product offering devised, it is necessary to institute an efficient information flow between the consumer and the agricultural production unit. The way in which a well organised, cohesive, agricultural supply industry relates to its markets is illustrated in the diagram below, highlighting the importance of information flows from the market to the production unit.



A certain amount of information may be obtained through current customer feedback, but the information function is largely the role of marketing research.

The central importance of appropriate marketing research, and its subsequent conversion to marketing information, and hence to marketing action, within a seed potato industry is illustrated in Figure 5 (Page 20).

Evidence from the Northern Ireland industry would suggest that a limited amount of analytical marketing research work is conducted. The majority of merchants quoted two main sources of marketing information used:-

- Overseas visits to agents, and day to day telex/telephone communications between exporters and their agents.
- Customer feedback, provided by past customers in the form of reactions to deliveries made.

Although the Industrial Development Board's 'market research grant scheme' provides financial support for market research to the extent of 50% of total costs, it has been little used by the seed potato industry. Analysis of how it has been used indicates duplication of effort by several competing business, with little apparent regard for the future direction and long term strategy of the industry as a whole.

Seed Potato Promotions Ltd, in conducting research through the I.D.B. scheme, for use by the industry as a whole, has attracted the Accusation from merchants who are not Board Members of the

organisation, that market information is being monopolised by board-members. Again, this erodes confidence in S.P.P., and does little to develop a unified industry strategy based on accurate market information.

Once marketing research information has been gathered, it is then important that it is appropriately interpreted and disseminated to relevant sectors of the industry, so that action can be taken. In a seed potato industry there are four sectors of the supply channel which should regularly receive marketing information:-

- There must be a regular input to the selling sector, such that merchants can develop appropriate marketing plans enabling them to continue servicing traditional customers and also enabling them to exploit new market opportunities profitably.
- There must be a continual, up-to-date input to the new product development department (the new variety breeding programme) to enable new product specifications to be appropriately matched to market requirements.
- The research and extension services need to be kept informed of all market developments, in order that any advances in crop husbandry techniques and cropping characteristics are properly developed within the context of a specific market orientation.
- There must be a regular distribution of marketing information to the multiplication sector, to enable growers to make prudent marketing decisions (regarding appropriate husbandry techniques, selling agencies, etc.) and also to instil confidence in the growers by giving them appropriate recognition through their active involvement in the marketing process.

With regard to the information dissemination process in the Northern Ireland seed potato industry, three problem areas can be identified:-

- (i) Members of staff of the Northern Ireland Plant Breeding Station feel that there is insufficient marketing information input to their Department from the representatives of the selling sector who may be collecting such information. Merchants only very occasionally have contact with the Breeding Station and even then only on a fairly informal basis. Much criticism has been levelled at the Breeding Station over recent years, following the general realisation by the industry that the development of new marketable varieties from Northern Ireland had fallen well behind that of Scotland and the Netherlands. However, some merchants in Northern Ireland attribute the inability of the new product development process within the industry to keep pace with market developments to their failure to recognise changing market requirements quickly enough. As a result, most of the existing products in the Northern Ireland portfolio are now in the decline phase of their product life cycles.
- (ii) The lack of precise marketing information leads to poor market orientation with regard to the annual placement of new pre-basic stocks. There are about 20 specialist growers who annually draw clones for VTSC stock multiplication from DANI. To some extent

this process can be fairly random, and can fail to match the varieties to market requirements. The varieties and amounts of pre-basic stocks introduced into the scheme each year are governed by three main information feedbacks:-

- The area planted in the previous season
- The demand as expressed by merchants
- The demand from growers as interpreted by the local DANI inspectors.

Information from the Breen Management Advisory Committee, which takes decisions about the release of specific stocks into the VTSC scheme, indicates that scenarios such as the one described below, can, and do, develop:-

"50 tonnes (say) of pre-basic stocks, of a particular variety X, are produced at Breen Field Propagation Centre. This is announced, and the Regional Potato Inspectors then place orders with the Breen Committee for their requirements of pre-basic stocks. However, if a particular area wants 20 tonnes of the variety X, but can only be given 10 tonnes of X, then that area is allocated 10 tonnes of a different, unrequested, variety to make up the volume required".

Such a system obviously presents serious difficulties in any attempt to accurately match supply with market demand. However, it must also be said that the general question of matching market demand and supply is fraught with logistic difficulties. Crop yields are unpredictable and the nature of customers' buying activities often means that definite contracts/orders are often not known till late in the selling season.

- (iii) There is little reliable marketing information made available to farmers in the particular form in which they require it. This was one of the most common problems expressed by growers in Northern Ireland. Partly due to the general lack of trust and open communication between the merchant sector and some of the growers, growers complain of receiving virtually no reliable information relating to:-

- prices and quantities of products on offer in the markets
- the precise costs of marketing through different channels
- prices received for products delivered to customers
- market-related growing requirements for the coming season.

A lack of precise information in relation to all these factors increasingly makes the growers production/marketing decision one of speculation. In this respect it is worth mentioning that many growers report that, as a result of dissemination of information by the new co-operative, Expotato Ltd., they are for the first time in a position to know precisely what range of prices are

received for Northern Ireland seed potatoes on delivery to customers.

In the field of marketing research, therefore, major improvements need to be made within the Northern Ireland industry, not only in terms of marketing research strategy and methodology, but also in terms of information interpretation and dissemination. A more strategically based, industry wide, marketing research effort could provide the new product development, R and D, production and selling sectors with much more accurate information upon which to base their decisions. Unless the marketing research and subsequent new product development process is continuously developed, and allocated a large proportion of the available resources of an industry, in terms of financing and effort, then the result will be an industry which is out of touch with prevailing market requirements, and which is in possession of a largely obsolete portfolio of products. It is clear that this is already taking place within the Northern Ireland seed potato industry.

(iii) New Product Development

As was outlined in the introduction to this thesis, it is important for an export industry to have a new product development process which is (a) market-orientated in the widest sense, (b) creates a distinct product differential advantage and (c) creates products within an 'international orientation' framework.

An analysis of the Northern Ireland industry's new product development process, in respect of these important components, indicates many shortcomings. A summary of the weaknesses of the industry's new product development process are illustrated in Figure 8. The conclusions to be drawn from the factors outlined in Figure 8 are threefold.

- (i) The industry does not have a strong tradition of market-orientated new product development.
- (ii) The new product development process has traditionally been 'Domestic orientated' rather than 'international orientated'.
- (iii) The new product/marketing interface is poorly developed.

Traditionally, breeding of new varieties has been conducted by the state, and hence has developed largely in isolation from the private trading sector. From 1930 to the mid-1960s the state's breeding efforts were based on the work of one 'hobby-breeder'. This was obviously a fairly low-key activity. When this hobby-breeder passed on in the 1960s, the state carried on developing new products in a low-key fashion, and with a 'domestic' remit. The error of such a low-key breeding activity, and of a domestic orientation, was realised, in the mid-1980s, when Northern Ireland's staple export varieties were seen to be reaching the maturity and decline phases of their life cycles, with no real successor products in the portfolio. This prompted the government to triple the state breeding programme, and to switch to an international orientation. However, any successful international products to emerge as a result of this new policy,

will not be launched until the 1990s. With the old traditional products declining rapidly, this obviously creates a product development gap of several years for the industry.

However, despite a new policy stance by the state breeding department, the fact remains that this department has no meaningful interface with the market place. Thus, the fundamental problem remains; new product development is being conducted with a less than satisfactory marketing orientation. The private trading sector is still little involved in new product development.

Figure 8. A Summary of the Weaknesses in the Northern Ireland Industry's New Product Development Process

1) TRADITIONALLY CONDUCTED BY THE STATE



1930s - 1960s: Based on activity of one breeder

2) 1960s - 1980s: LOW-KEY GOVERNMENT ACTIVITY



1980s: Programme tripled in size



Products from this new initiative ----- 1990s

3) TRADITIONAL U.K. BREEDING POLICY:
BREEDING FOR THE HOME MARKET



N.Ireland's independent export-breeding programme
begun in 1978



Viable export products from this initiative ----- 1990s

4) BREEDING/MARKETING INTERFACE POORLY DEVELOPED
(Private trading sector little
involved in new product development).

5) TRIAL COVERAGE INSUFFICIENT.

4.1.2(b) Organisational Elements

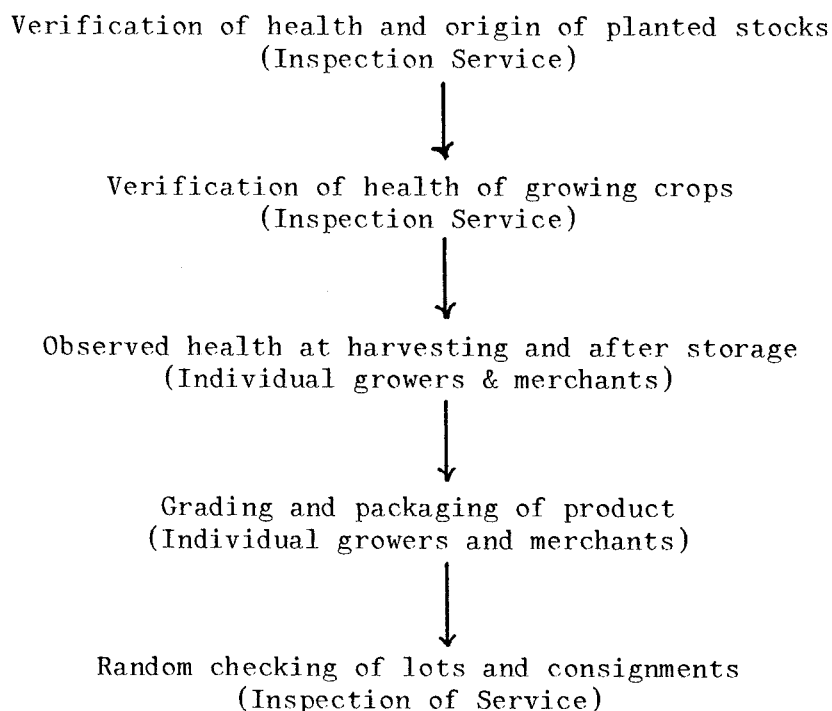
(i) Quality Control

A vital component of organisation within a seed potato industry relates to the way in which its quality control process operates. For such a potentially poor quality product as seed potatoes, which often have to be stored for long periods of time in grower's stores, and then endure long distance shipping to customers, the quality control process must be organised and executed with precision. Moreover, as with other organisational aspects of a seed potato industry, the quality control process must enhance the marketing strategy being employed.

The primary advertising and promotional slogan currently used for Northern Ireland seed potatoes relates to the quality/health aspects of the product:-

'Northern Ireland Seed Potatoes - First for Quality and Health'
(SPP slogan)

Undoubtedly it was very largely due to the reliable quality and health aspects of the Northern Ireland product that its world reputation has traditionally been high. The inspection system in the Province ensures that random samples of all shipments are checked for presentation and health. However, it must also be remembered that the operation of an inspection system for a product as variable as seed potatoes is only as strong as its weakest link. Information from the Northern Ireland industry is beginning to show that there are serious weaknesses in the present Northern Ireland quality control system, and that the most serious weakness exists at the grower/merchant grading level. This is the only level of quality control at which the Inspection Service does not have total control over what product is presented for sale. The diagram below shows the critical stages of quality control and the agencies responsible for them:-



The ultimate verification of the effectiveness of this system comes back to the industry in the form of customer feedback. Information from the Northern Ireland merchant sector (to whom quality complaints are automatically referred) suggests that the amount of negative feedback from customers regarding quality of product, is increasing. Recently, consignments have been refused by several of Northern Ireland's most regular customers, on the grounds of poor quality (eg: Egypt, Portugal and G.B.).

Indeed, the export marketing manager of one of the Province's largest seed potato exporting companies, speaking at a recent public meeting organised by SPP Ltd., was of the opinion (based on recent personal experiences of increasing quality complaints from customers) that "the Northern Ireland industry is now living on a past reputation with regard to guaranteed product health and quality".

Evidence from the Northern Ireland Potato Inspection Service indicates (regretably) that:

"poor quality products are being produced in Northern Ireland, largely through inappropriate husbandry techniques, and that subsequently they are avoiding detection by the inspection service by being placed strategically in 'rigged' shipment containers".

According to the Inspection Service, such activities have increased dramatically in recent years.

The Northern Ireland industry waves the flag of 'Health and Quality' when promoting in export markets. Any weaknesses in the health and quality control system must therefore receive priority in terms of making amendments to the organisation of the industry. As has already been elaborated, the industry has few other strong promotional tools; the 'health and quality' tool must be preserved and enhanced at all costs. Ways must be found of preventing any deliberate cheating of the system, and of providing further quality assurance services to customers, if possible.

(ii) Channel Functioning

The marketing channel for a particular product can be viewed as the course taken in the transfer of title of the product from its original source of production to its ultimate consumption.

The main components of the channel through which the Northern Ireland seed potato product has been traditionally marketed are the producer and the potato merchant. Literature on the development of the Northern Ireland marketing system indicates that much conflict has traditionally existed between these two sectors, and that this has always represented a major organisational problem for the industry. (Northern Ireland Assembly, 1985). (Produce Studies Limited, 1979).

Conflict between the producer and merchant sectors in Northern Ireland is indeed still considerable. The literature on channel functioning has devoted much analysis and discussion to the causes, effects and solutions of channel conflicts. The basic conclusion of this literature, drawn from numerous examples of product marketing, is that

if enough conflict is present in a channel, then that channel may well disintegrate, or at least operate with chronic inefficiency, which ultimately will be reflected in poor financial performance for the channel members and higher costs and/or lower service to the consumer. (Christopher M. et al, (1983); Mallon B, (1982); Rhones V.J. (1983)).

In view of the known traditional conflicts within the Northern Ireland industry, and the conclusions of the channel literature, it is important to analyse the present functioning of the Northern Ireland marketing channels. As was outlined in the introduction to the thesis, such channel conflicts in agricultural sectors have often been resolved through cooperative integration of channel participants and functions. A major consideration of this section, therefore, will be the extent to which horizontal and vertical integration occur within the Northern Ireland industry, and the consequences thereof.

Secondary and primary data indicate clearly that little has changed in relations between growers and merchants since the 1960s, at which time the relationship was so poor that a statutory seed potato marketing board was set up to act as a 'buffer' between producers and merchants. Apart from the progressive activities of the seed potato marketing cooperative, Expotato Limited, virtually no (horizontal) integration of producers occurs, nor any (vertical) integration of production-marketing functions.

A strong indicator of the lack of vertical integration present is the fact that, outwith the activities of Expotato Ltd, there exists no formalised contractual economy between producers and merchants. Traditionally, Northern Ireland growers have always grown 'free'. (uncontrolled) varieties. The nature of the supply-demand dynamics of free varieties are such that, in a world market context, gluts and shortages occur periodically. Thus, the growers have traditionally 'weathered the storm' in times of oversupply of these varieties, and have also 'played the markets' to great benefit in years of under supply. This very independent, speculative orientation, combined with the importance of dual-cropping in the potato economy already described, means that the majority of producers are extremely reluctant to enter into binding contracts with merchants. Far less do they rush to join the cooperative Expotato Ltd, which requires strict contractual discipline over several seasons. (Indeed, even the cooperative has had to alter its 'commitment' clauses over the years, in a form of 'retreat' from the strict contractual discipline upon which it was founded).

With such a lack of both horizontal and vertical integration, it can prove extremely difficult for exporters to achieve a satisfactory degree of market orientation with regard to product supply (ie: varietal and product specifications). Moreover, it can prove difficult for exporters to obtain any degree of regularity of supply over time. For export merchants in Northern Ireland, this problem is overcome to some extent by arranging to have some seed potato crops classified and registered in their own name, rather than in the name of the grower, as is normally the case. Growers who opt for the registration of their crops (or a proportion thereof) in the name of a merchant, are known as 'contract growers'. However, as was emphasised by growers and merchants interviewed, the term 'contract' here is used very loosely. The motivation for growers to have their crops registered in the merchants'

have their crops registered in the merchants' name, seems to be governed by two main factors. Firstly, it is used as a risk-spreading strategy. With the high degree of speculation involved in forecasting market conditions, one of the biggest worries for growers is the uncertainty of obtaining a guaranteed outlet for their produce. By having their crop registered in the name of a merchant, growers feel that the merchant is thereby obliged to market these crops with top priority when filling orders. However, an important consideration to bear in mind here is that no legally-binding, formal contract is actually entered into between the grower and the merchant regarding either pricing, quantity to be marketed, or commitment to sell. As one Northern Ireland merchant commented - "The question as to whether a merchant, once having contracted a grower's crop, is then obliged to sell that crop, has yet to be legally tested."

Secondly, some growers opt for 'contract hectarage' because they are 'tied' to merchants. The reason for this is that merchants often finance input requirements for growers, in exchange for the growers' agreement to register a crop in the Merchant's name. Merchants operating such finance schemes will provide such items as seed for planting, fertilizers, sprays and, according to some reports, some may even go to the extent of providing harvesting labour and machinery. The impetus for the perpetuation of these contract arrangements amongst growers, appears to stem historically from the fact that many speculative seed potato growers have in the past become deeply financially indebted to merchants, and are now truly 'tied' to the merchants in continuing attempts to clear outstanding debts. Farmers and merchants spoken to told particularly of large numbers of speculative growers being financed up to 100% by merchants, following the price-boom years of 1975-76.

Entering into a loose 'contract growing' situation, therefore, appears to be vindicated on three counts by growers:-

- (i) As a pseudo risk-spreading strategy
- (ii) As part of a debt clearing obligation
- (iii) As a means of partial financing

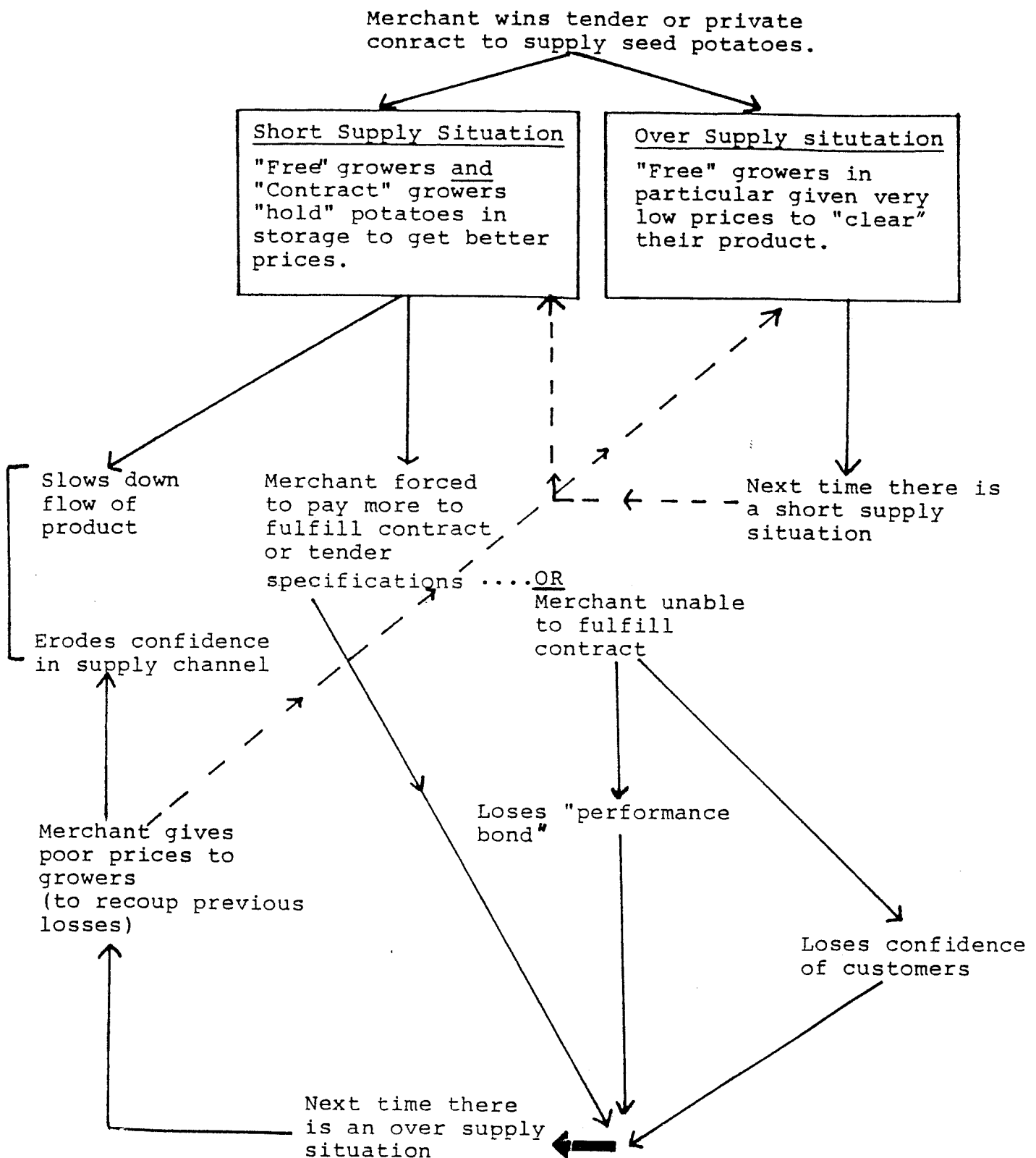
Evidence collected from merchants in Northern Ireland would suggest that the primary motivation for merchants to operate such 'contract' growing arrangements is in order to spread their risk by obtaining at least some degree of control over planting and harvesting decisions, and by having some surety of supply of product. Additionally, evidence from growers indicates that merchants also use such 'contracting' as a means of debt redress.

In a more direct attempt to better integrate production and marketing functions, six Northern Ireland merchants currently grow a proportion of their product requirements on land which they themselves actually own, or which they have rented. However, the area of seed potatoes grown under such a grower-merchant system is only about 400 hectares, representing just 6% of the Northern Ireland total.

The impact of such loose 'contracting', and 'grower-merchanting', in changing the general state of poor production-marketing integration in the industry is, therefore, marginal. The majority of producers and merchants continue to utilise supply-demand irregularities to their advantage when circumstances permit, and this must entrench the 'them

and us' philosophy which pervades the industry. Moreover, the 'them and us' attitude, can have serious consequences for the functional efficiency of the product-procurement process, as illustrated in Figure 9.

Figure 9 : A Diagrammatic Representation of the Effects of Current Growing Arrangements upon the functional efficiency of the Procurement Process



Another negative effect of the lack of horizontal and vertical integration within the Northern Ireland industry, is that it influences, in a potentially ruinous way, the composition of the trading sector which is eligible for procurement of supplies of Northern Ireland seed potatoes. Due to the free trade philosophy of the EEC, combined with the general lack of a disciplined contractual economy for seed potatoes in Northern Ireland, traders from the Netherlands, England, Scotland, and elsewhere, have been able historically to trade in Northern Ireland seed potatoes. The danger here is that such traders do not necessarily have any long-term investment in, commitment to, or dependence upon, the Northern Ireland industry. Of particular importance in the past in this respect have been companies such as Wolff and Wolff (Holland) and the London-based broker Bennetts. These companies have concluded deals with potential Northern Ireland customers, and then procured their supplies of seed potatoes by purchasing directly from Northern Ireland producers.

Such a situation arose in 1984, for example, a season when supplies of Northern Ireland 'Arran Banner' were in short supply. The first tender in 1984, to supply 1,100 tonnes of Northern Ireland - produced Arran Banner (a variety virtually exclusively grown in the Province) to Malta, was won by a speculating Dutch company. The Dutch company agreed to supply the Arran Banner at an extremely low price of £150/tonne delivered; an offer which the Maltese could not refuse. At the same time, the Dutch also gave the Northern Ireland growers a relatively good price for their Arran Banner. This tactic was then used by the Dutch company in selling their own Dutch varieties in Malta: ie. the Northern Ireland product was used as a loss-leader to gain access to the Maltese market.

When the short supply situation of Northern Ireland - produced varieties is considered against known interest in the market place for these varieties, the effect of such offers by non-Northern Ireland companies to supply Northern Ireland seed at this price, results in serious losses of income to the Northern Ireland industry. The securing of this crucial, start of the season Malta contract by a speculative Dutch company in 1984, is estimated to have resulted in a loss of income to the Northern Ireland industry of at least £2,000,000. (W.F.Livingstone, 1985). Apart from the enormous financial losses incurred by the industry as a whole, such speculative trading with non-Northern Ireland agencies also has adverse effects on confidence and cooperation within the Northern Ireland supply channel.

Not only does the lack of horizontal and vertical integration within the industry allow speculators from outwith Northern Ireland to 'dabble' in the trading of Northern Ireland varieties, but it also adversely affects the composition of the trading sector in the Province itself. Currently, the active element of the Northern Ireland seed potato merchant sector is composed of 25 'shipping merchants', who do trade outside Northern Ireland. However, in total there are over 80 Northern Ireland based companies registered with the Department of Agriculture as licensed seed potato merchants. Many of these 80 merchants trade in seed potatoes on a very speculative, inconsistent basis, and according to the more committed exporters interviewed, many of these registered merchants can be described as 'cowboys' or 'fly-by-night' traders, who obtain licenses every year with no certain intent of contributing on a long-term basis to the industry. However,

despite the speculative, and often disruptive, nature, of these traders, they are still able to obtain large tonnages of seed from producers, by offering high prices periodically. The lack of a disciplined contractual economy between producers and 'bona-fide' traders allows this to occur.

However, even amongst the more committed export merchants interviewed, it was clear (when the information was proffered) that many of these companies also view seed potato exporting as a peripheral rather than a central business activity. Most have several diverse business interests, many are general agricultural merchanting companies and some have the majority of their business interests totally outside the agricultural product field. One must therefore question the actual degree of commitment which many of these traders have to the industry. Only one firm had a clear and unquestionable commitment to the industry, and to seed growers in particular, in that it is a single-product (seed potato) trader - the cooperative, Expotato Limited. Expotato has no other business interests outside seed potatoes, and is unquestionably committed 100% to the industry.

In conclusion, therefore, it is clear that the 'channel functioning' component of the Northern Ireland industry is greatly debilitated by a general lack of vertical and horizontal integration. Much of this is caused by the historical confrontational stances of the producers and merchants one to the other. (The only clear exception to this rule is the seed potato cooperative, Expotato Ltd.) In particular, two main problem areas can be specified:-

- (i) The availability of supplies of Northern Ireland product to marketing agencies outside the province can reduce the overall profit margins to the Northern Ireland industry, and can also be used by competitor industries to weaken the market position of Northern Ireland products. Similarly, the selling of product to speculative traders within the province, who have no long-term commitment to the industry, means that it is difficult for bona-fide traders to plan the marketing of the Northern Ireland product, or the development of the industry, on a long-term basis.
- (ii) The lack of a disciplined, contractual economy between the production and marketing sectors means that merchants have to purchase supplies from growers as and when required, in relation to orders received from customers, and depending upon shipping and other transport arrangements. Such an ad-hoc procurement system militates against economies of scale and strategic organisation.

(iii) Production Control and Planning

In any agricultural marketing sector, it is vital that the agronomic and economic decisions taken by producers with regard to varietal choice, acreage to be grown, and methods of production, harvesting and disposal, are taken with due consideration to the market environment in terms of supply-demand regulation and specific market requirements. Accurate supply-demand regulation is notoriously difficult to achieve, and in cases of over supply many sectors have incorporated the 'safety net' of a surplus-buying (market-support) system.

Within the context of this study, therefore, an important organisational investigation has been to analyse the nature of the Northern Ireland industry's production - control and planning capabilities.

As was detailed in the previous section, Northern Ireland seed potato growers are at liberty to grow almost any variety of seed potato they wish, as most varieties are 'free' ie. not controlled by any agency holding breeders rights. The main exceptions to this general rule are the Dutch-controlled varieties which are grown in the Province ie. Blanka, Estima, Record, Revelino, Romano, Vanessa and Wilja. These varieties are grown under licence from the Dutch cooperatives holding the breeder's rights, and through this licencing system the acreage grown is very strictly controlled. However, out of an annual average of 6,000 hectares of seed potatoes grown in Northern Ireland, only 400 hectares (6%) are Dutch varieties grown under such a regulated, disciplined production-control system. The remaining 94% consists of free varieties, which any grower is at liberty to grow in whatever amounts he wishes (within the parameters of the classification regulations regarding crop rotations, freedom of land from diseases, potato cyst nematodes, etc.?).

All the agencies interviewed in Northern Ireland were agreed that the greatest difficulty in production-control and planning is the fact that the decisions regarding what varieties and hectarages to plant, are still largely individual grower's decisions. Discussions with farmers reveal that the three main criteria governing these decisions, are as follows:-

- (i) Generally growers of seed potatoes respond retrospectively to market forces, and plant larger acreages of varieties which have sold well in the previous year. This tactic can of course, lead to an over-supply situation and a reduction in prices in the subsequent season, which in turn promotes a reduction in planting and higher prices in the following year: this sets of the cyclical chain of events again.

Evidence collected from Northern Ireland merchants and from the Potato Inspection service, indicates that this over-reaction to market forces was very apparent in the level of plantings for 1985. An example of this is given in the figure below:-

<u>Variety</u>	<u>Relative 1984 Price</u>	<u>% Change in Hectarage 1985</u>
Arran Banner	Relatively good price (Shortage)	+ 23%
Up-to-Date	Relatively good price (Shortage)	+ 41%
King Edward	Relatively poor price (Oversupplied)	- 26%
Home Guard	Reively pooor price (Oversupplied)	- 32%

- (ii) Following a year of surpluses, many growers will have quantities of seed potatoes undisposed of and stored through to the following year. Rather than dump these stocks, many farmers will replant them, in the hope that there will be an outlet for that variety in the coming season.
- (iii) Traditional regional growing preferences also play a large part in determining what varieties a farmer is willing to grow. The danger here of course, is that this can also be a retrospective strategy, rather than a progressive market requirements strategy.

Reliance on such traditional and retrospective decision criteria results in a production system which is ill-planned and poorly-controlled in relation to supply - demand regulation and market requirements.

Such lack of planning and control also has an adverse effect upon the functioning of the Northern Ireland merchants' procurement process. Having concluded a deal with an export customer, the Northern Ireland seller has to put up a sizeable 'performance bond', such as the 20% bond illustrated in Appendix 5. If one takes the typical value of a shipment from Northern Ireland to Malta as £330,000 (1000 tonnes at £300/tonne delivered), then the performance bond at Appendix 5 would represent £66,000; a considerable sum of money. Apart from the pressure of having to obtain a bank guarantee for this £66,000, the magnitude of the risk carried by exporters is compounded by the fact that failure to deliver the precise quantities of seed, exactly as specified in the tender, may result in total forfeiture of the performance bond. In such high-risk trading circumstances as these, it is obviously desirable that exporters should have a contracted, guaranteed supply of product ready to fulfill their obligations. Such, however, is not the case in the Northern Ireland industry.

Evidence from merchants who were actively involved in tendering for the Malta contract for Class A Arran Banner in 1985, for example, shows that up to ten different Northern Ireland merchants were competing for this contract (1,100 tonnes). The likelihood of even half of these merchants having a guaranteed supply of 1,100 tonnes of Arran Banner in 1985, is, to say the least, doubtful. By analysing statistics on the hectareage of each variety and class of basic seed contained in the Northern Ireland Register of Basic Seed Potato Crops (1985), it can be shown that the total hectareage of Grade A Arran Banner seed grown in 1985 was 425 hectares. Taking an average marketable yield, therefore, of say 17 tonnes of seed per hectare, the total production of such seed in 1985 probably amounted to about 7,225 tonnes. It would, therefore, be impossible for 10 Northern Ireland merchants to go to Malta in 1985 and for each of them to guarantee with absolute confidence, the supply of 1,100 tonnes of Northern Ireland produced, Class A, Arran Banner seed potatoes. Rather, the merchants are forced into a situation of 'sell first - buy later'; a less than satisfactory situation when one considers the financial risks involved.

From the grower's point of view, the risks of over supply can be equally great, as no market-support system exists to clear surplus product. This is compounded by the lack of any contractual risk-sharing arrangements between producers and merchants; again with the exception of the cooperative Expotato Ltd.

The rather imprecise manner in which pre-basic stocks are allocated regionally by the Department of Agriculture (as detailed in Section 4.1.2(a) - 'Marketing Research'), also contributes to a lack of marketing - orientation in the production-planning and control process.

4.1.3 The Role of the Northern Ireland Seed Potato Marketing Cooperative (Expotato Ltd.)

As has already been mentioned in previous sections of this thesis, the cooperative, Expotato Ltd, occupies a special position in the Northern Ireland seed potato industry, in terms of its fundamental organisational and strategic marketing philosophy. In previous sections of the thesis the activities of Expotato have also been highlighted as representing exceptions to some rather unfortunate rules in the Northern Ireland industry. It is instructive, therefore, to analyse the organisational and strategic marketing philosophy and activity of this, the only seed potato marketing cooperative in Northern Ireland.

As previously mentioned, organisationally Expotato represents the only real attempt being made within the industry to improve marketing performances through both horizontal and vertical integration. A look at the historical development of seed potato marketing in Northern Ireland reveals that up until the late 1950s, the marketing function was dominated by a merchant sector which excluded producers from any real involvement in the marketing management process, and thus was devoid of any horizontal or vertical (production-marketing) integration. As a direct result of this separation of the production and marketing functions, relations between producers and merchants reached such a confrontational position that a Seed Potato Marketing Board was set up in 1961, to act as a neutral, statutory 'buffer' between the two sectors. Throughout its history, this seed potato marketing board, and the philosophy of producer involvement in marketing which it embodied, was undermined by the merchant sector.

By 1982 the merchants had brought about the collapse of the Board, and the Northern Ireland producers found themselves in a 'free market' situation again. At this time, some growers and administrators within the industry feared that such a return to a free market situation, and 'normal' producer-merchant relations, would only represent a reversion to the pre-1961 confrontational era. After only a few years experience of this return to 'normality', this opinion seems to be fully vindicated. Supporters of the idea of grower-involvement in marketing, felt in 1982 that the progress that had been made by the Seed Board in instituting horizontal and vertical integration in the industry, should not be forfeited. A poll of seed potato growers was therefore conducted, and as a result the Central Council for Agricultural and Horticultural Cooperation (now Food From Britain), in conjunction with the Ulster Farmer's Union, helped growers set up the cooperative - Expotato Ltd.

With the demise of the Seed Board obvious and imminent, Produce Studies Ltd conducted a study of the industry in 1979 for the Ulster Farmers Union, in an attempt to advise on options for the industry to follow. In their final report, Produce Studies recommended that "no seed potato cooperative should be set up in Northern Ireland, as it would only represent another merchanting business competing in an already overcrowded industry" (Produce Studies Ltd (1979)). Produce Studies' advice was not heeded, and rightly so, for they had totally missed the point that the new cooperative would represent a radically new and healthy organisational element within the industry.

The opportunity to join Expotato in 1982 was largely taken up by the few growers who had remained faithful to the Seed Potato Marketing Board, rather than contribute to its collapse by trading directly with merchants. Indeed, in principle, Expotato was the natural successor to the Seed Board, embracing as they both did the philosophy of integration in the marketing channel. There does exist in fact a sizeable lobby within the industry at present, composed of growers who remained faithful to the Seed Board till it was wound up, who feel that the assets from the Board should rightly have gone to its successor, Expotato. This, however, has not happened. Under the terms of the Seed Potato Marketing Board Assets Order (1985), £70,000 only of the Board's assets were transferred to Expotato, while about £200,000 was transferred to Seed Potato Promotions Ltd. The major use to which this money is to be put by Expotato and SPP is to incorporate new product development practices into the private sector by "acquiring the rights to grow and sell varieties of potatoes not previously available to the seed potato industry in Northern Ireland". SPP is to perform its part in this process by distributing the money to merchant businesses. The objection which Expotato, and its ex-Seed Board members, have to such an arrangement is that assets from the Seed Board are now being distributed to the merchant sector which was instrumental in working against, and eventually destroying, the Seed Board.

Expotato then, grew out of the cooperative/integration philosophy which existed amongst growers who had remained faithful to the Seed Potato Marketing Board. This philosophy is embodied in the present structure of the cooperative in that its Board of Directors is composed of seed potato grower members. The membership of the cooperative is drawn from all the major seed growing areas in the Province. Each area is represented on the Board by one or more Directors, depending on the proportional tonnages of seed marketed from each area.

The basic philosophy of Expotato, as put by its Chairman, is

"to bring together as many growers as possible to increase the size of business for the benefit of the members, and by doing so to help rationalise the exporting of seed potatoes from Northern Ireland".

This philosophy embodies both horizontal integration of producers and vertical integration of production and marketing functions, in order to improve export marketing performance.

Expotato's general manager feels that the central difficulties facing the Northern Ireland industry are twofold:-

- (i) A lack of integration and cooperation at production level, which reduces the power of producers in the production-marketing process, and which also hinders the organised development of market-orientated production practices.
- (ii) A lack of a single-minded export strategy uniting the selling sector.

Although a young organisation, and commanding only 10% of the volume of Northern Ireland's export tonnage, Expotato has set itself the task of countering these two difficulties facing the industry. The cooperative aims to achieve this goal by pursuing the strategic and organisational objectives detailed below:-

Strategy

Positioning:-

Although not yet practicable, the cooperative plans to utilise central grading of its members crops, in order to improve scale economies, and in order to produce more customised, versatile products in terms of grading and packaging specifications.

In addition, field agronomic advice is provided to members, in an attempt to improve the market-orientation of husbandry practices. The pricing strategy of the cooperative is based on maximising returns to producers, not on maximising company profits.

Having already incorporated new product development into the corporate activities of the group, the general manager hopes to be able, in the near future, to promote the cooperative abroad on the merits of its own exclusive portfolio of varieties, including added-value features of grading and packaging.

Marketing research:-

Through regular area meetings the cooperative aims to provide marketing information to its membership, and to base production decisions upon accurate research information.

New product development:-

In order to develop an intrinsically valuable product portfolio for its members to produce, and in an attempt to get away from a dependence on free varieties, the cooperative has its own in-house breeding programme. As an interim measure, until this new product development process yields successful products, the cooperative is buying-in to breeding programmes abroad, as well as obtaining the production rights to new varieties.

Organisation

Channel functioning:-

By incorporating both horizontal and vertical integration in the marketing channel, the cooperative aims to develop a more cohesive, market-responsive supply unit.

Production control and planning:-

Through eventual control of the pre-basic stocks of its own varieties, the cooperative aims to bring more market-led precision to the multiplication process.

In addition, by allocating production quotas to each of its growing areas, the cooperative can exercise control over demand-supply dynamics. At the grower level, this is achieved through a legally binding members-agreement contract. (See Appendix 6).

In view of the strategic and organisational problems facing the

Northern Ireland industry, as described in sections 4.1.1. and 4.1.2 of this thesis, it is clear that the cooperative is making a well-directed attempt at instituting solutions. Doubtless the cooperative is as much resented by the merchant sector as was its predecessor, the Seed Potato Marketing Board. The fact that Expotato now has 150 members and commands control of 10% of Northern Ireland's export total, suggests that it is succeeding in establishing itself alongside the traditional merchanting sector. However, to gain real marketing power, and to have a real impact in bringing solutions to the problems facing the industry, the cooperative must attract much more committed producer support. The application of funding and administrative effort to this purpose could well represent a positive governmental contribution towards helping the industry out of its dilemma.

4.1.4 A Summary of the Northern Ireland Industry's Strategic and Organisational Strengths and Weaknesses

It is typical of many sectors of Northern Ireland agriculture that farm units are small, with low levels of output. Supply from the farm is fragmented and commodity based. Traditionally, this commodity is either sold to a small number of large local processing firms, or is exported in its raw form with little or no value being added. Typically, there is little or no cooperation between farmers, so that a host of individual decisions are made in each sector concerning what to grow or rear, and where, when, and how, to sell. (Davis J. (1981)). This study has revealed that this is very much the situation pertaining generally in the Northern Ireland seed potato industry. A traditional commodity is being produced by a very large number of small production units, and then being sold, again in a generally uncoordinated fashion, to traditional, largely local, outlets. As a result, the production sector is taking very little interest in adding value to its seed potato product, and all marketing functions from the farmgate are in the hands of another very diverse, fragmented and intracompetitive sector - the merchants.

The repercussions of such a system on the strategic and organisational capabilities of the industry in relation to export marketing have been detailed in the preceding sections of this thesis. In general, the findings indicate many areas of strategic and organisational weakness within the industry. However, the industry does also possess inherent strengths which must be developed, and capitalised upon, in any strategic and organisational adjustments within the industry.

The strategic and organisational strengths and weaknesses can be summarized as follows:-

	WEAKNESSES	STRENGTHS
<u>STRATEGIC FACTORS:</u>		
1. Product	Restricted grading and packaging potential, dictates a dependence on an inappropriate 'globalisation' strategy	Geographic location, altitude and climate produce a naturally high-health product. This is enhanced by professional scientific R and D and inspection systems.
2. Distribution	<ul style="list-style-type: none"> - Inefficient transport routing - Multiple handling of product - Inadequate port facilities - High shipping costs - Resistance to use of containers 	

WEAKNESSES		STRENGTHS
STRATEGIC FACTORS: (Continued)		
3. Pricing	<ul style="list-style-type: none"> - Dependence on 'free' varieties - Lack of risk-sharing contracts between growers and merchants - Intracompetitive merchant sector, resulting in 'price selling' and a globalisation strategy 	The cooperative is loosing its dependence on free varieties, and has introduced a legally-binding, risk-sharing contract system with growers
4. Promotion	<ul style="list-style-type: none"> - Inability to use 'product diversification' message - Duplication of seed trialling efforts. - Inadequate trial-site coverage in key export markets. 	
5. Marketing research	<ul style="list-style-type: none"> - Lack of industry strategy - Duplication of efforts amongst merchants - Little use made of grant-aided research schemes - Marketing information flow to new product development institute is lacking - Lack of accurate information in placing new stocks - Little information flow to producers. 	<p>The cooperative is developing its new product development/marketing information interface.</p> <p>The cooperative is gearing production to marketing research information.</p>
6. New Product Development	<ul style="list-style-type: none"> - State breeding programme very late in developing an 'international' orientation - Private sector little involved in N.P.D. (Marketing/NPD interface poorly developed). 	The cooperative, Expotato, and SPP, are developing N.P.D. awareness and skills within the industry.

WEAKNESSES		STRENGTHS
ORGANISATIONAL FACTORS		
1. Quality control	<ul style="list-style-type: none"> - Deliberate cheating of the system is leading to a weakening of the industry's high product quality image in export markets. 	Highly professional inspection service
2. Channel functioning	<ul style="list-style-type: none"> - General lack of horizontal and vertical integration - Divided industry (Producers vs Merchants) - Lack of a proper contractual economy. - Non bona fide traders can trade in Northern Ireland seed potatoes and use them as loss leaders. - Seed potato exporting is a peripheral business activity for many Northern Ireland merchants 	<p>The cooperative, Expotato, has developed in a small way, the disciplines of horizontal and vertical integration, and a contractual economy.</p> <p>The cooperative has the strength of being a single-product business:- it is solely concerned with seed potatoes.</p> <p>.</p>
3. Production Control and Planning	<ul style="list-style-type: none"> - Producers may grow 'what they want' - Producers agronomic decisions are often grounded on retrospective traditional considerations. - Merchants must often 'sell first and buy later' - Lack of a market-support scheme. - Placement of new stocks is not precisely related to market conditions. 	The cooperative's members are disciplined, and contractually bound, to grow for the group's marketing plans.

In developing export marketing strategies for the industry, this thesis aims to propose solutions to these weak strategic and organisational elements, and to capitalise upon the existing strengths of the industry.

4.2 THE DUTCH SYSTEM

In modelling the production and marketing systems of Northern Ireland's chief competitors, with a view to providing indicators for improvement of the Northern Ireland system, it was evident from the outset of the research that most would be learned from the Dutch industry.

Considering the weaknesses discovered in the Northern Ireland system, one of the most interesting aspects of the Dutch system is the way in which it is organised along strong horizontal and vertical integration principles. This is achieved through the marketing cooperatives (and companies operating on cooperative principles) which control 85% of the total Dutch seed potato export trade. Analysis of the Dutch industry's strategic strengths is therefore concerned with the marketing activities of these cooperative organisations.

The descriptive model of the Dutch system will therefore be presented in three sections, followed by a summary of indicators for the Northern Ireland industry.

Section 4.2.1 describes the strong tradition of vertical and horizontal integration which pervades the entire Dutch potato industry. An understanding of this is vital to understanding the successful organisational components of the Dutch seed potato sector.

Section 4.2.2 will detail the Dutch production system, and draw conclusions regarding the importance of this system to the Dutch export marketing effort.

Section 4.2.3 will analyse the strategic and organisational components of the Dutch industry's export capability, in terms of the activities of the cooperatives (and companies operating along cooperative principles) which dominate the industry.

4.2.1 Institutional organisation of the Dutch Potato Industry

Although the Dutch potato industry operates on the principles of free trading, with minimal 'outside' involvement, there are two types of controlling organisations of importance to the functional efficiency of the industry (seed, ware and starch sectors included). These are the Bedrijfschappen and the Produktschappen. These bodies are often quoted as being the 'Dutch equivalents of the G.B. Potato Marketing Board'. In reality however, they bear no resemblance to the P.M.B., or indeed to any British conception of a Marketing Board. It is important to explain just what these bodies are, and what they do.

The Bedrijfschappen and Produktschappen have their origins in the questioning of the role and power of central government which took place in The Netherlands in the late 19th and early 20th centuries. The two major religious groups in the country (Protestants and Roman Catholics) held strong views on this issue and sought to amend the way in which the responsibility for economic and social issues was borne by different groups in society by putting forward their own doctrines. In addition, during the 1920s and 1930s there was growing academic pressure for central government to allow the people actually involved in an industry to have some influence in the way it operates. Consequently, it was recognised by the Dutch Parliament that legislation was needed in this area, and as a result a number of

policies were implemented which brought into existence institutions equipped with authority to issue and implement regulations having the force of law. An Industrial Organisation Bill was enacted in 1950 which provided the legal framework for the institution, composition, structure and powers of Produktschappen (commodity boards), Bedrijfschappen (industry boards), Hoof produktschappen (central commodity boards) and Hoff bedrijfschappen (central industry boards).

Produktschappen are bodies with powers to issue regulations concerning all the groups of people dealing with a specific product. In the potato sector, seed potatoes and ware/starch potatoes are regarded as two distinct product groups in this respect. There is a produktschap for starch and ware potatoes called the 'Produktschap voor Aardappelen'. This body has represented on it every group concerned with the starch and ware commodities, e.g. producers, wholesalers, processors and retailers, and thus is a form of vertical integration.

The Bedrijfschappen on the other hand are a form of horizontal integration and have powers to issue orders with respect to all involved in the same trade or profession, e.g. the retailers of vegetables, fruit and potatoes.

The value of the Bedrijfschappen can be seen in the 'Landbouwschap' which brings together the three farmers' unions which represent separately Roman Catholic, Protestant and non-demoninational farmers, so that they can act together on agricultural matters which affect them all. It is through the Landbouwschap that farmers make representations to Brussels and to the Dutch Government. The Landbouwschap, like all Bedrijfschappen and Produktschappen, is self-financed by means of levy systems.

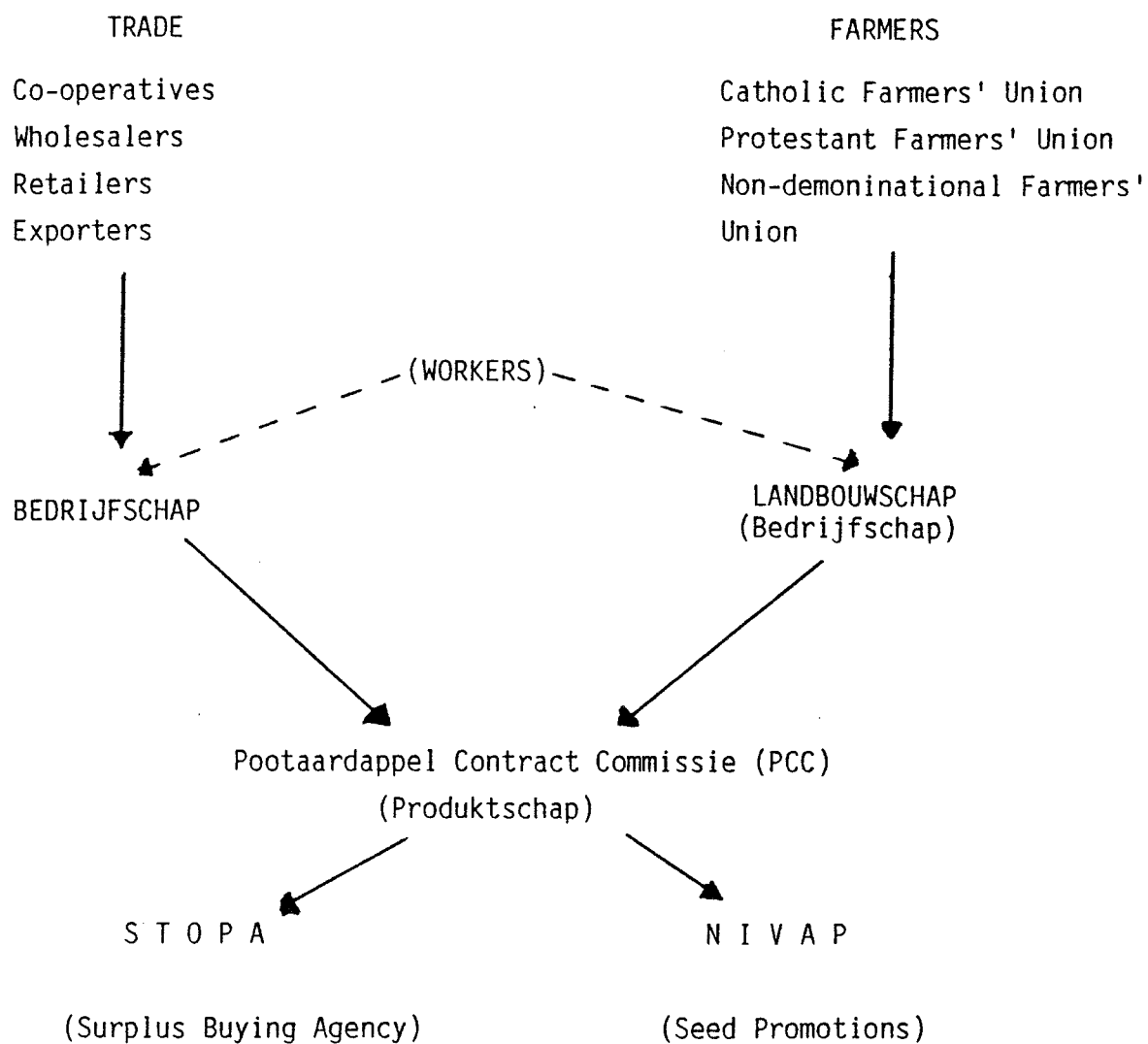
As far as seed potatoes are concerned, the interests of the seed sector are managed by a special Produktschap, the 'Pootaardappel Contract Commissie' (PCC), composed of representatives of the Bedrijfschap and the Landbouwschap. It controls the STOPA (which buys surplus seed, and stabilizes prices), and NIVAP (which undertakes seed promotional and market development activities). All three main bodies in the seed sector (PCC, NIVAP, STOPA) have equal representation of trade and producer members. The principal relationships of the main institutions concerned with the Dutch seed potato industry are shown in Figure 10. The seed potato industry is funded through levies collected from growers and traders, and financial matters are managed by the PCC.

There is no compulsion for an industry or profession to form a Produktschap or Bedrijfschap, but as far as agriculture is concerned there are Produktschappen for virtually every commodity group, and Bedrijfschappen for several groups involved in the agricultural and food industries.

The ware/starch Produktschap collects levies from exporters and importers of potatoes and from the processing sector, while the Bedrijfschap collects levies from potato wholesalers selling potatoes in the Netherlands, and the Landbouwschap collects levies from producers. The money collected from these levies is distributed by the Central Commissie Algemeen Aardappelfonds (CAA).

The CAA provides funds to such organisations as the Instituut voor

Figure 10: Institutions of the Dutch Seed Potato Industry



Bewaring en Verwerking van Landbouwprodukten (IBVL), Nederlands Instituut voor Afzetbevordering van Consumptieaardappelen en Aardappelprodukten (NIVAC) - concerned with ware promotions - and a number of other organisations involved in research on subjects relating to potatoes. (IBVL) is an organisation researching storage and processing problems of potatoes). In addition, some money is put into a General Potato Fund, which is reserved for use in providing aid should disaster hit any part of the potato industry. The last time that these funds were drawn upon was in 1974 when seed potato growers received a subsidy to assist with extra disease prevention measures.

The Ministry of Agriculture plays its part in the potato industry mainly through its advisory service and through its participation in research, although there is a large element of voluntary self-financing for most experimental research stations.

An appreciation of this voluntary horizontal and vertical integration in the Dutch potato sector is vital to any further understanding of how the seed potato industry in particular functions.

4.2.2 The Product From the Netherlands

Regional Distribution of Seed Potato Production

Of the total area of about 180,000 hectares of potatoes grown in the Netherlands in 1985, 33,000 hectares were grown for seed production. As can be seen from Table 2, the total area of seed potato production has increased considerably since 1955.

Map 1 illustrates that over 75% of total production is concentrated within the two smallest inspection areas in the North East of the country. In the Noordzee Polder region, comprising the North East and Flevoland Polders, about 40% of total seed potato production takes place. This represents a very high level of concentration of production, in an area totalling only 148,000 hectares of land (48,000 hectares in the North East Polder, and 100,000 hectares in the Flevoland Polder).

In comparison to Northern Ireland, which has a total land area of 1.3 million hectares, the area of the Flevo and North East Polders represents less than one tenth of Northern Ireland's land area. In terms of Northern Ireland's counties therefore, these two polders are only about the size of the North County Antrim area, and yet they contain almost 13,000 hectares of seed potato - equivalent to almost three times the area of seed potatoes grown in the whole of Northern Ireland.

Table 2: Area of Seed Potatoes in the Netherlands, 1955-1985

<u>Year</u>	<u>Approved Hectarage of Seed Potatoes</u>
1955	26,090 hectares
1960	17,740 "
1965	21,540 "
1970	19,800 "
1975	21,900 "
1980	32,600 "
1981	31,000 "
1982	30,200 "
1983	31,600 "
1984	31,500 "
1985	33,000 "

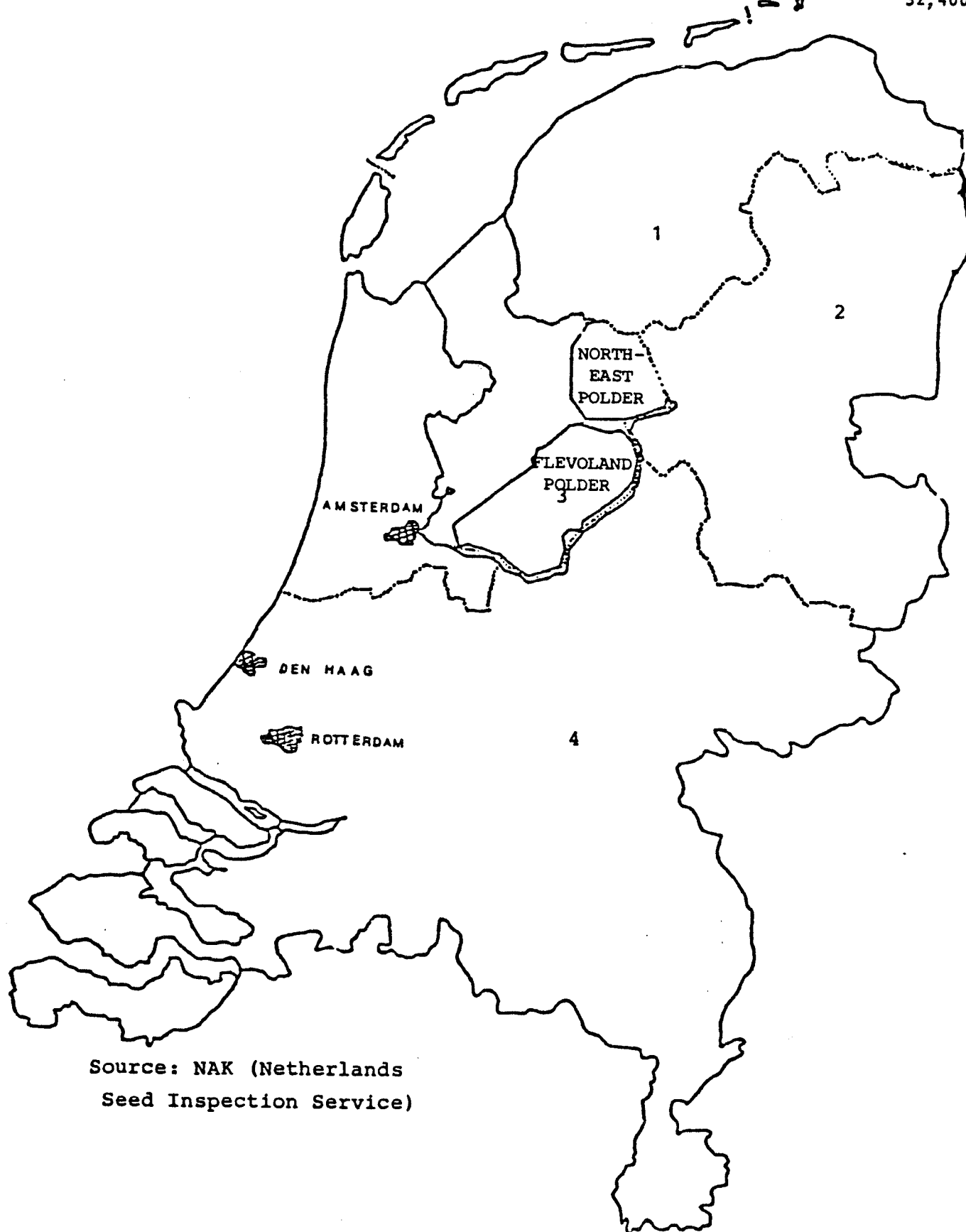
Source: N A K (Nederlandse Algemene Keuringsdienst - The Netherlands Seed Inspection Service).

The Dutch Seed Potato Soils

The main reason why over 75% of total Dutch seed potato production has been concentrated in the two inspection areas of 'Friesland-Groningen' and 'Noordzeepolders', is that the soils here are very conducive to the economic production and early harvesting of good quality, high-yielding, damage-free seed potato crops. The northern portion of Friesland-Groningen is composed of light marine clay soils, and it is in this area that the Friesland-Groningen seed potato crops are grown. The soils on the North East and Flevoland Polders are also marine clays, having been reclaimed from the sea earlier this century (the North East Polder was reclaimed in the 1930s and the Flevoland Polder was completed by 1968). Around Emmeloord, a town in the centre of the North East Polder which is one of the largest seed potato commercial and administrative centres, the soils are totally stone-free. Such a lack of stones in their fields is a great production and harvesting advantage for the polder seed farmers. All potatoes in the Netherlands are machine harvested, and almost all harvesters are unmanned. This contrasts with the situation in Northern Ireland, where spinners and hand picking are still largely used to harvest seed potato crops, and if machine harvesting is used, then the machines must be heavily manned to deal with the stone problem. This also obviously has a bearing on the labour requirements of the Dutch seed potato producers. Evidence produced by the STOPA representatives spoken to, and by seed farmers spoken to in the Polders, shows that the Dutch seed farmer and his family provide over 90% of their own labour, and obviously this helps to keep costs down. An increasing problem for seed potato growers and grower-merchants in Northern Ireland is the decreasing availability of

Map 1: Hectarage of seed potatoes grown in the four inspection regions,
1985

1. FRIESLAND-GRONINGEN	12,500 ha
2. NOORDOOST-NEDERLAND	3,200 ha
3. NOORDZEEPOLDERS	12,800 ha
4. RIVIEREN-DELTA-NEDERLAND	3,900 ha
	<hr/> 32,400 ha



Source: NAK (Netherlands
Seed Inspection Service)

the large squads of casual labour required at harvest time. Such squads also represent a considerable cost factor on the Northern Ireland potato enterprise.

Dutch Seed Potato Husbandry Practices

When investigating the husbandry practices of Dutch seed potato growers, it is important to remember that while in Northern Ireland, the market for 'tops' (large grades produced from seed dressing) have an important influence on producer's returns, this is not the case in the Netherlands. In the specialist seed growing areas of the Polders and Friesland-Groningen, seed crops are 'custom-grown' as seed crops, with no dual-cropping being practised in order to try and bulk up an additional ware fraction. For the Dutch seed potato grower the aim is to produce the highest possible percentage of seed grades (within the size range 25-55mm), and to minimise the percentage of ware size tops. The Dutch seed grower knows that price premiums are paid in overseas markets for the smaller grades of seed, and hence he tries to produce a majority of small sized seed (28-45mm).

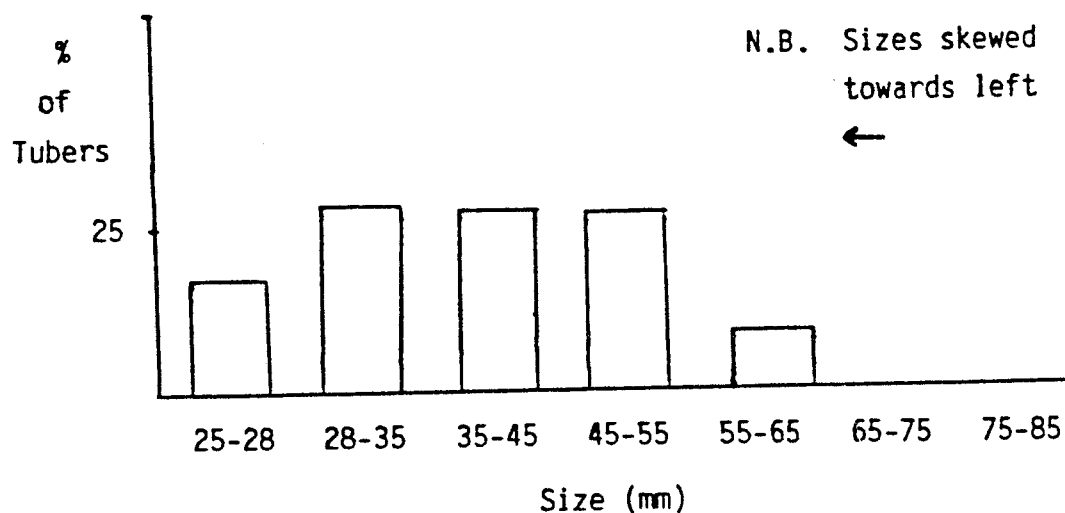
A good perception of the intrinsic value of smaller seed is also instilled in the Dutch grower by the fact that his own seed input is also graded into five main size groups, with the smaller grades being more expensive to purchase. The five main input sizes are:-

25 - 28 mm)	most expensive input sizes
28 - 35 mm)	
35 - 45 mm	
45 - 55 mm	
55 - 65 mm	

By comparison, the vast majority of Northern Ireland's seed potato growers plant standard size seed (35 - 60 mm) (Saunders (a) (1979)).

The size output profile of the Dutch seed potato crop, therefore, is as shown in Figure 11 (P.M.B.(e) No 1 (1976); Scottish Seed Potato Association (1981)).

Figure 11: The Size Output Profile of the Dutch Seed Potato Crop



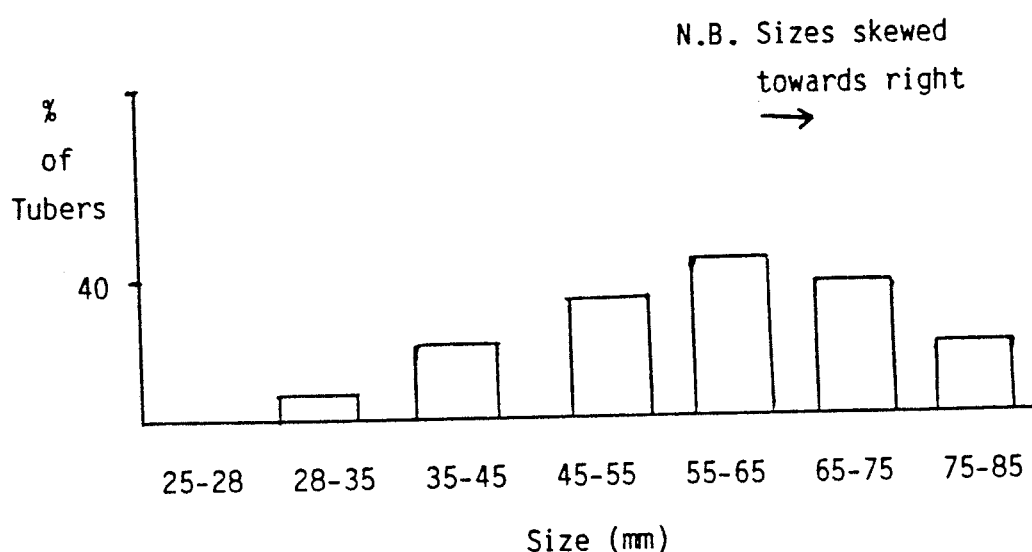
In view of the fact that the general trend amongst seed potato users all over the world is to use smaller and more closely graded seed, it is a great advantage to the Dutch seed industry that its growers can bulk up large tonnages of seed in the smaller size ranges (25 - 45 mm).

By comparison, not only do a large number of Northern Ireland growers practise 'dual-cropping', bulking up a large 'ware-top' element in their seed crops, but the 'seed size' component of their crops is also concentrated in the larger seed size category. Within an average Northern Ireland seed potato crop, only about one tenth of the tuber tonnage falls within the small seed category of 25 - 45 mm (i.e. two tonnes per hectare out of a total crop yield of twenty tonnes per hectare). In addition, especially for those growers who are dual croppers (thought to be up to 60% of Northern Ireland growers), the amount of ware tops produced in a Northern Ireland crop can represent between 50% and 70% of the total crop output tonnage (Saunders, (1979)).

The size output profile of the Northern Ireland seed potato crop therefore is shown in Figure 12 (Saunders, 1979).

The great strength of the Dutch system exists in the fact that the husbandry philosophy of its seed growers is to aim for a 'seed only' crop, and to have the majority of this seed output falling within the size range 25 - 45 mm. From field interviews it is clear that the Dutch farmer sees himself as a specialist producer, and furthermore, because of the strong export orientation of the seed industry, he sees the need to gear his production within the confines of the size ranges and harvesting dates dictated by customer requirements. The way in which the Dutch seed farmer achieves such a market-orientated output is largely by strict management of his planting practices, and by adherence to early burning down dates.

Figure 12: The Size Output Profile of the Northern Ireland Seed Potato Crop.



Dutch seed farmers are very precise about their seed planting rates, and always aim for a specific plant population density rather than a weight per hectare. Row widths used are consistently 75 cm, and typical seed spacings are as follows:-

<u>Seed Size</u>	<u>Spacing</u>	<u>Plant Population Density</u>
25 - 28 mm	17 cm	8000 plants per hectare
28 - 35	20	6800 " "
35 - 45	22	6000 " "
45 - 55	30	4500 " "

The basic philosophy of variable seed spacing in relation to seed size is that the smaller the size of the input seed, then the closer together must these individual seed tubers be planted, so that the final size achieved by the daughter tubers is restricted to the required output size. The spacing figures show that the Dutch husbandry system is well geared towards producing custom grown seed crops of the required size.

Not only does the vast majority of the Dutch seed potato crop fall within the smaller size ranges, but overall yields achieved on the light clay soils are very high. Average seed yields on the Polders are about 30 tonnes per hectare (compared with less than 20 in Northern Ireland), while on the heavier clay soils which are used for producing high bulking ware crops, yields of up to 60 tonnes per hectare are achieved. The production of such large tonnages of purely seed crops (i.e. almost 100% marketable product) close to the farmyard, and with a minimal labour requirement, must represent a considerable economy of scale for the Dutch seed farmer.

For the industry generally, these consistently high yields of early-harvested seed crops enable very large tonnages to be bulked up economically for large, early export orders.

Undoubtedly the skills and professionalism exhibited by the Dutch seed growers reflect two things:-

- (i) The importance of the seed potato crop to the Dutch agricultural economy over many years.
- (ii) The high degree of training and skills of the farmers themselves. The farmers are often trained by schools attached to Wageningen University, which is THE European centre of excellence with regard to potato technology research and extension training. When the new land on the reclaimed Polders was being apportioned to farmers (in the 1950s and 1970s) the prospective farmers were very carefully vetted by the government with regard to such considerations as education and training in agriculture, as well as farming experience.

As a result, the Dutch seed potato industry now has a core of experienced, progressive, dedicated growers, producing a market-orientated product on very favourable soils, and within the framework of very economical farm structures.

Grading of the Dutch Seed Potato Crop

Probably the most striking feature about the grading of seed potatoes in The Netherlands is the production of a vast range of size grades of seed for export. A visit to the grading premises of one of the largest seed potato co-operatives based in Emmeloord, showed export consignments of seed potatoes, destined for markets in South America, Asia, Africa and Europe being graded to an impressive range of size specifications: including 25-28 mm, 28-35 mm, 35-45 mm, 45-55 mm and 55-65 mm. A case of very precise and efficient market segmentation, and a strong customisation strategy.

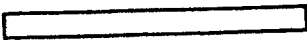
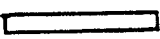
Three factors contribute to the ability of the Dutch industry to produce such a wide range of size grades, to satisfy the demands of a large number of market segments:-

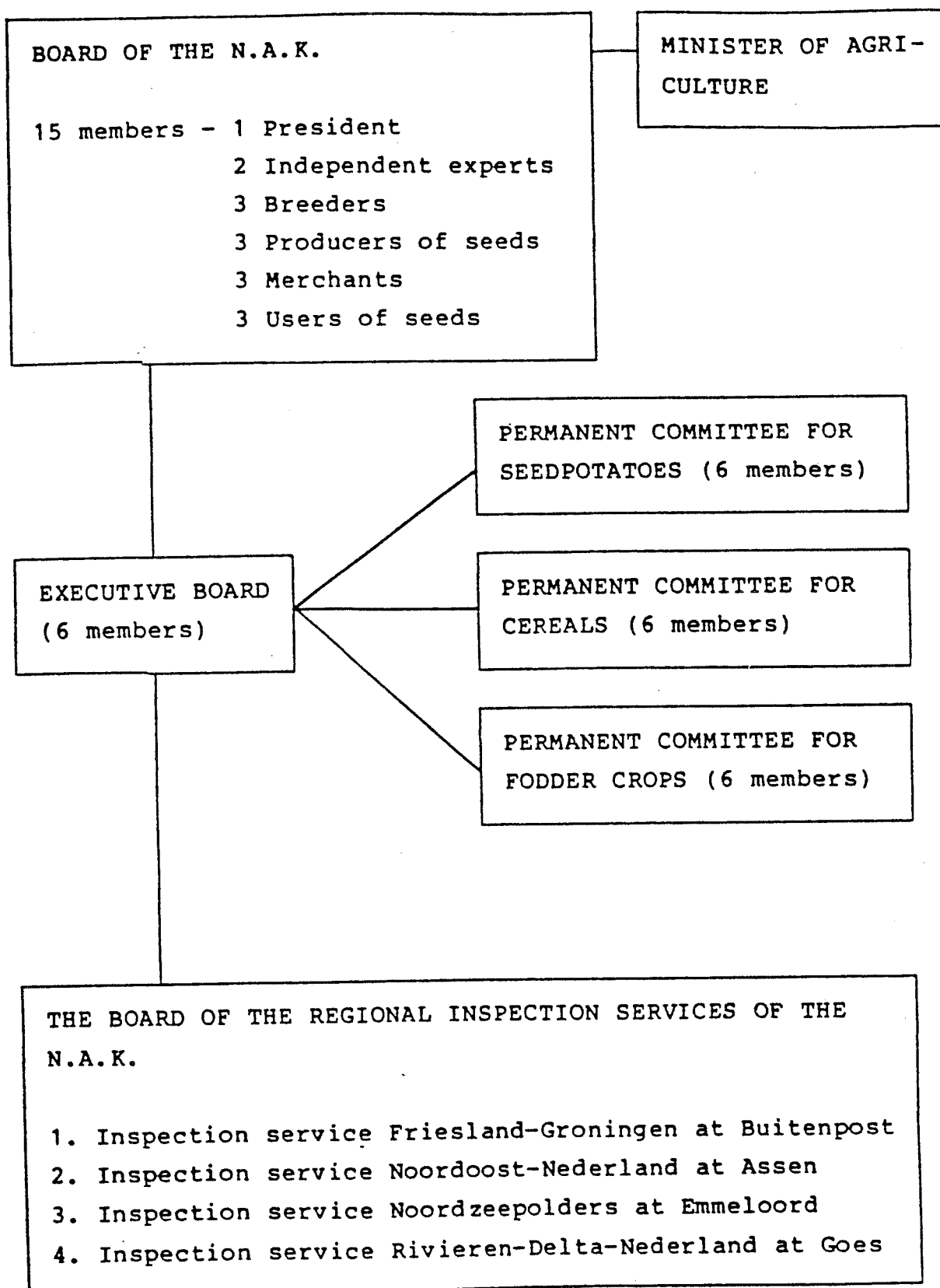
- (i) Dutch seed potato farmers grow their crops in such a way that optimal fractions are produced of each of the important small size seed ranges, thus enabling the industry as a whole to assemble large tonnages of each of the desired size grades.
- (ii) About 70% of the Dutch seed potato crop is now graded centrally in the grading plants of the large co-operatives. The potato grading lines are very fast and efficient and able to produce, simultaneously, a range of size grades from any particular crop input.
- (iii) Even on farms, where about 30% of grading still takes place, the farmers utilize very sophisticated grading machinery, often on a local co-operative basis, enabling them to grade and deliver the specifications as contracted to their co-operative. Furthermore, on-farm grading is strictly controlled by the local NAK inspector.

With regard to the Dutch export consignments viewed at cooperative premises it is also interesting to note that not all seed potatoes are packed in traditional hessian sacks; a considerable number of consignments exported from The Netherlands are now packaged in 25kg wooden crates.

The Dutch Seed Potato Classification and Inspection System

The agency responsible for the certification of all agricultural seed crops in the Netherlands is the Nederlandse Algemene Keuringsdienst (N.A.K.). This organisation carries out seed certification on behalf of the Ministry of Agriculture, but is itself an independent foundation. In 1986 the N.A.K. inspected over 70,000 hectares of different seed crops, this total hectareage being made up as follows:-

Seed potatoes	33,000 ha	
Grasses	20,000 ha	
Cereals	10,000 ha	
Flax	3,000 ha	
Pulses	2,000 ha	

ORGANISATION SCHEME OF THE N.A.K.

For administrative purposes the N.A.K. divides these seed-crops into three groups, as shown in Figure 13 and for each of these groups there is an administrative sub-committee of six members. About half of the N.A.K.'s annual inspection load is, therefore, accounted for by the seed potato crop. Administration of the seed potato inspection system also utilizes 75% of the total N.A.K. budget.

At the beginning of this century inspection of seed potatoes was done by different trading firms' and regional agricultural organisations. Aiming at homogenous quality of Dutch seed potatoes, and also at the insistence of the Minister of Agriculture, the N.A.K. was founded in 1932.

N.A.K. is a decentralised organisation. The national N.A.K. office at Ede issues the statutory inspection regulations for the Netherlands as a whole, but the specific interpretation of othe statutes, as well as the actual inspections themselves, are carried out by regional inspection services.

Originally there were thirteen regional inspection services (one in each of the eleven provinces, one in the peat-district in the north east and one in the new Polders), but this number has now been reduced to four.

Like the P.C.C. (the Pootaardappel Contract Commissie - which manages the general interests of the seed potato sector), the N.A.K. is also based upon a very democratic representation structure. The board of the N.A.K. consists of fifteen members, twelve of whom are representatives of the organisations on which the N.A.K. is based (breeders, merchants, producers and users of seed). Three members, the President and two independent experts, are appointed by the Minister of Agriculture. For each of the three main groups of seed crops (cereals, potatoes and fodder crops) there is a Permanent Committee of six members, and two representatives from each of these permanent committees make up the Executive Board. It is this Executive Board which deals with financial matters, with drawing up and reviewing the statutory regulations, and with the general administration of the N.A.K. (The relationships of these main committees are shown in Figure 13).

The role of the permanent committee within this structure is to deal with the administration and control of the technical aspects of seed production and inspection.

Presently, the permanent committee for seed potatoes meets about 10-11 times per year, providing an almost monthly forum for breeders, merchants, co-op management and producers and users of seed, to discuss the technical aspects of the inspection regulations as they apply to the current year's crop. Besides these representatives of the different interest groups, the Director of one of the regional inspection services sits on the permanent committee for seed potatoes.

At regional level the N.A.K. organisation maintains the same pattern of democratic representation and close contact between the main interest groups, which characterises its national board structure. Each of the four regional inspection services is controlled by its own local board, and again these boards are formed by representatives of the different interest groups in the seed potato sector, and always maintain an equal

representation of 'trade' and 'producer' representatives. Currently the Directors of three of the four inspection services are seed potato producers (in the Noordoost - Nederland, Noordzeepolders, and Rivieren-Delta-Nederland services).

Producer and trade representatives spoken to in Holland stressed the importance of this democratic structuring of the seed potato sector, with its equal representation of trade and grower members, and the provision of regular open forums for discussion and debate, in providing a high degree of confidence and integration within the industry. In particular, the growers are seen to have a very high and powerful profile in the committee structure, and so there is no particular aspect of the industry's functioning in which the trade is seen to have a totally free unaccountable hand in affairs; a situation which might otherwise lead to unproductive stalemates and channel conflicts. This same theme of democracy and open discussion between all interested parties, with the producers in particular having considerable control of the fruits of their labour, is prevalent through all aspects of the Dutch seed potato enterprise, from inspection to trading. It would appear to be a common feature of Dutch agriculture that the farmers themselves have often strengthened their own position by forming a multitude of interconnected organisations and committees, with or without either governmental economic assistance or enabling legislation, and have thus retained a prominent position in the planning and disposal of their produce.

About 200 full-time inspectors are deployed on potato inspection work, a typical seasonal workload being about 400 hectares per inspector (working unaccompanied), in the main production areas in the Polders.

The N.A.K. headquarters at Ede, has new purpose-build accommodation including impressive computer and laboratory facilities, and costing in total about £2 million. The total annual seed potato budget of the N.A.K. amounts to about £7 million, of which 80% comes from farmers (through inspection fees, etc.) and the remainder from other organisations such as NIVAP and STOPA who pay N.A.K. for services rendered in the collection of monies in relation to areas and quantities certified.

Although the N.A.K. has no statutory duty with regard to inspection of ware potato crops, it does exert a considerable influence on the health of these crops through control of the seed planted by ware growers. By receiving documentation returns from farmers regarding the source and quality of planted seed used, the N.A.K. ensures that ware growers only plant 'approved' seed. For the country as a whole, this means that ware growers can only plant seed of at least Class C (certified). One major exception to this general rule does, however, exist, in that ware growers in the North Eastern regions of the country (Noordzeepolder area) may only plant approved seed of at least Class B (one class higher than C). It is interesting to note that this strict control on the health of the ware crop was instituted in the North East area as a result of a decision taken by the board members of the regional inspection service. The producers, breeders, merchants, etc. on this board decided that in order to make the Noordzeepolders a special 'health zone' with regard to seed potato production, then the potential threat caused by the ware crop (for disease transmission) should be minimised by upgrading the minimum permissible class of seed input.

This was of course approved by the Ministry of Agriculture, which must approve any of the regional amendments made to the statutory Inspection Regulations, to ensure that they conform fully with EEC seed regulations.

This illustrates the strength and flexibility inherent in the decentralised N.A.K. system, allowing as it does responsible local representatives to formulate their own interpretation of the statutes, in order to suit local conditions. Fortunately these local representatives have put this flexibility to good use in improving the health image of their products, rather than abusing it by a lowering of standards to 'make things easier'.

In 1986 a total of about 250 seed potato varieties were inspected in the Netherlands. Of these, about 150 are on the official variety list (Rassenlijst), while the remaining 100 varieties are clones at some non-commercial stage of multiplication.

Inspection of new clones is done by specialised N.A.K. inspectors. During the growing season they inspect the clones three, four or five times on trueness to type and for various disease symptoms. In addition to the intensive visual inspection, leaf samples of all clones are tested for virus diseases in N.A.K. laboratories by a serological test called ELISA. For the first year clones one leaf from each plant is tested. As the clones get older, a gradually decreasing percentage of plants are sampled. Before the clones can enter the Basic classification system, as Class S, a sample of tubers has to be taken and planted on the N.A.K.'s 'trial and control farm' situated near Emmeloord in the Noordoost Polder. Samples from all of the two-year old clones are taken and grown concurrently at this farm, and are checked for varietal characteristics. On this farm the clones can be compared for trueness to type.

In the Netherlands, potatoes are planted in early April. In the first half of May the seed potato growers inform the inspection service of the field they want to have inspected, giving information on hectareage, location, seed used (variety, class) etc. If the seed is bought in, labels from the purchased sacks have to be presented, in order that the N.A.K. can determine the appropriate potential class of the crop.

On the basis of this information, field inspections begin during the first week of June, with Basic seed being inspected at least three times, and certified seed at least twice.

Because of the clonal selection procedures and trialling already completed, the Dutch field inspection rests on the assumption that trueness to type and varietal purity considerations need little attention. The inspection concentrates therefore on the detection of tuber borne diseases, and during first field inspection in particular, characteristics such as general appearance and vegetative development are important judgement criteria.

At the time of the first inspection the inspector establishes the % of diseased plants and open spaces in the crop. In order to ascertain if these parameters lie within the permitted tolerance ranges, these percentages are multiplied by multiplication factors which have been fixed for different diseases and symptoms. In following inspections

these multiplication factors are adjusted in such a way that each subsequent inspection is more rigorous than the previous one.

When the percentage occurrence factors are multiplied by the multiplication factors, the resulting figure may not exceed the given disease index of each class. The disease indexes are:-

Class S - 2	Class A - 4
Class SE - 2	Class B - 8
Class E - 3	Class C - 12

For the disease Blackleg a nilnorm (zero tolerance) for basic seed is applied. For Classes A, B and C respectively a maximum of 5, 10 and 15 diseased plants per hectare are allowed.

Although the greatest emphasis in the Dutch field inspection is on the detection of tuber borne diseases, the standards for plants not true to type and plants of the wrong variety are nevertheless very strict. For the Classes S, Se, E and A there is a nilnorm (zero tolerance). For the Classes B and C a varietal purity of 99.95% and 99.9% respectively is required.

The final field inspection is carried out just before haulm destruction and is very important for checking on plants with primary symptoms of virus diseases. In Basic seed (S, SE and E) there is again a nilnorm for viral symptoms, and for certified seed (A, B and C) only a few plants per crop are allowed.

At the end of the field inspection, the crops are classified provisionally, the definite class being determined after post-harvest control checks.

When provisional classification has been completed, the next important process is to regulate the haulm destruction dates in such a way that the crops are ready for harvest early enough to supply the earliest target export markets and to minimize disease factors which are exacerbated the longer the crops are allowed to remain in the soil.

The statutory N.A.K. regulations, and the regional interpretations of these, are important in ensuring that this is achieved, but so too is the existence of an early harvesting tradition amongst Dutch seed farmers; a tradition which is engendered by the need to produce a maximal fraction of small sized seed in the seed crop.

The statutory haulm destruction dates issued to growers by each of the regional inspection services are very finely tuned, area by area, depending on very local conditions. Blanket haulm destruction dates are not issued for the whole country, nor for all varieties and classes of seed. Rather, for the purposes of calculating and issuing haulm destruction dates, all seed varieties are divided into date-groups, based on the official figures for earliness and susceptibility to virus diseases. Each summer, for each area and for each class and group of varieties, haulm destruction dates are fixed.

The early advisory dates for haulm destruction are fixed each year by

the N.A.K. permanent committee during the first week in July. Final (late) dates for haulm destruction are subsequently fixed by each regional N.A.K. service. Failure to comply with these latest dates results in a down-grading of the crop.

In practice, all haulm destruction is completed in The Netherlands by the middle of August, enabling crops to be harvested, heat-cured and ready for export by September/October. In this respect it is interesting to realise the number of early export markets which this opens up for the Dutch, and which are not available to the Northern Ireland industry because of generally later harvesting. Table 3 lists the major seed potato export markets in different regions of the world. Those with an asterisk are the very early markets which are available to supplying industries which conduct their haulm destruction and harvesting as early as possible. The Netherlands have successfully penetrated all of these markets!

A feature which is unique to the Dutch inspection system is the conducting of 'post-control'. This is a final test on the actual crop tubers, and samples are taken for this test during the period between haulm destruction and harvesting, or actually during harvesting.

TABLE 3: Shipping times for the worlds major seed potato markets; illustrating the large tonnages shipped to early importing markets in September/October.

Country	Seed Import requirements, tonnes per annum (approx)	Time of Shipping
Belgium	32,000	November/January
Denmark	100	January/February
France	118,000	November/January
<u>Italy</u>	85,000	* <u>October/December/</u> January/March
West Germany	32,000	November/January
Austria	4,000	January/February
<u>Canary Islands</u>	15,000	* <u>Late September/</u> October/November/ January
Cyprus	8,200	November/December
Finland	1,000	March/April
Greece	15,000	November/December/ January/February
Hungary	10,000	November or February
Madeira & Azores	1,200 & 100	November/January
Malta	3,000	November/January
Norway	100	February/March
Portugal	45,000	December/January
Spain & Balearics	25,000	October/November/ December
Sweden	100	March
Yugoslavia	2,000	November/December
Europe	400,000 (approx)	
<u>Argentina</u>	16,000	* <u>October</u>
<u>Brazil</u>	16,500	* <u>First week October</u>
<u>Cuba</u>	19,000	* <u>October/November</u>
<u>Uruguay</u>	13,000	* <u>October</u>
<u>Venezuela</u>	26,000	* <u>October</u>
<u>West Indies</u>	3,500	* <u>October/November</u>
S.America	100,000 (approx)	* <u>October/November</u>
		November/December
Angola	7,700	March
<u>Egypt</u>	32,000	* <u>October/November/</u> December
Ghana	100	December
Kenya	100	December
Libya	3,700	November/December/ December/January
Morocco	22,000	November/January
Senegal	1,300	November/December
<u>South Africa</u>	500	* <u>October/November</u>
<u>Tunisia</u>	11,000	November/December/ December/January
<u>Zambia</u>	1,500	* <u>End September/October</u>
<u>Iraq</u>	15,000	November
<u>Israel</u>	7,000	* <u>October/January</u>
<u>Pakistan</u>	1,400	* <u>First week October</u>
<u>Sri Lanka</u>	4,000	* <u>Early October</u>
<u>Syria</u>	6,900	December/January
Med Basin Middle East & Africa	200,000 (approx)	
TOTAL	702,000	

(Source: P.M.B.)

The requirement for post-testing is not universal, and is decided according to the class of seed, the virus susceptibility of the variety and the date of actual haulm destruction. The specification details are shown in Table 4 below.

Table 4: The Requirements for Post-Testing of Tubers

Class	Virus Susceptibility of the Variety	Haulm Destroyed Before	Requirement for Post-Testing
S & SE	Not considered	Not considered	All lots must be tested
E	Susceptible	Not considered	All lots must be tested
E	Resistant	Advisory date Final date	Not required Required
A & B	Susceptible	Advisory date Final date	Not required Required
A & B	Resistant	Advisory date Advisory date + 10 days Advisory date + more than 10 days	Not required Not required Required

(Size of sample for post-testing: Classes S and SE 300 tubers/plot up to 1 hectare
Class E 200 tubers/plot up to 2 hectares
Classes A and B 400 tubers/plot up to 4 hectares)

From Table 4 it can be seen that post-testing is compulsory for all high grade basic seed (classes S and SE), irrespective of their haulm destruction dates or virus susceptibility. For the lower class of basic seed (E) and for certified seed (A & B) post-testing is carried out only on virus susceptible crops which have had their haulm destroyed after the early advisory date. For the higher classes of seed, the sample sizes are larger than for the lower classes.

The actual post-testing procedure involves excising the top eyes from the sampled tubers, dipping these in a 1 ppm Gibberellic acid solution for 10 minutes to break dormancy, and then propagating these in a greenhouse where the plants produced can be inspected for virus diseases. On the basis of the post-control results the seedlots are then classified definitely.

Before any lot of seed can be finally certified and sealed, a final set of inspections must be carried out. These 'lot inspections' are conducted both before and after grading of the crop, and concentrate on market-presentational items such as visible tuber diseases and

mis-shaped and damaged tubers.

After grading, the size of the tubers is checked and finally the seedlot can be certified and sealed. In the Netherlands, sealing is done by hand as well as by machine. If the bags are closed mechanically the certificates are sewn on automatically at the same time. If the bags are sewn by hand, a metal seal is attached separately. Currently about 90% of sealing is done mechanically on the premises of the large cooperatives.

On the certification label the following information must be displayed:-

- the class of the seed
- the growers registration number
- variety of seed
- size of the seed
- year
- date of sealing
- region where grown (provided by a map on the label).

During on-farm grading of Dutch seed potatoes, it is interesting to note that this procedure is carefully supervised by the inspection service (N.A.K.) and by technical representatives of the relevant cooperative.

As a member of the Agrico co-operative remarked - "my barn is a very busy place during grading. Present are myself, an inspector from the N.A.K., an inspector/fieldsman from Agrico and my farm labour."

As a result of this very strict control of product quality right up to the time it goes into bags, it is impossible for Dutch seed potato farmers to indulge in bag or consignment 'rigging'.

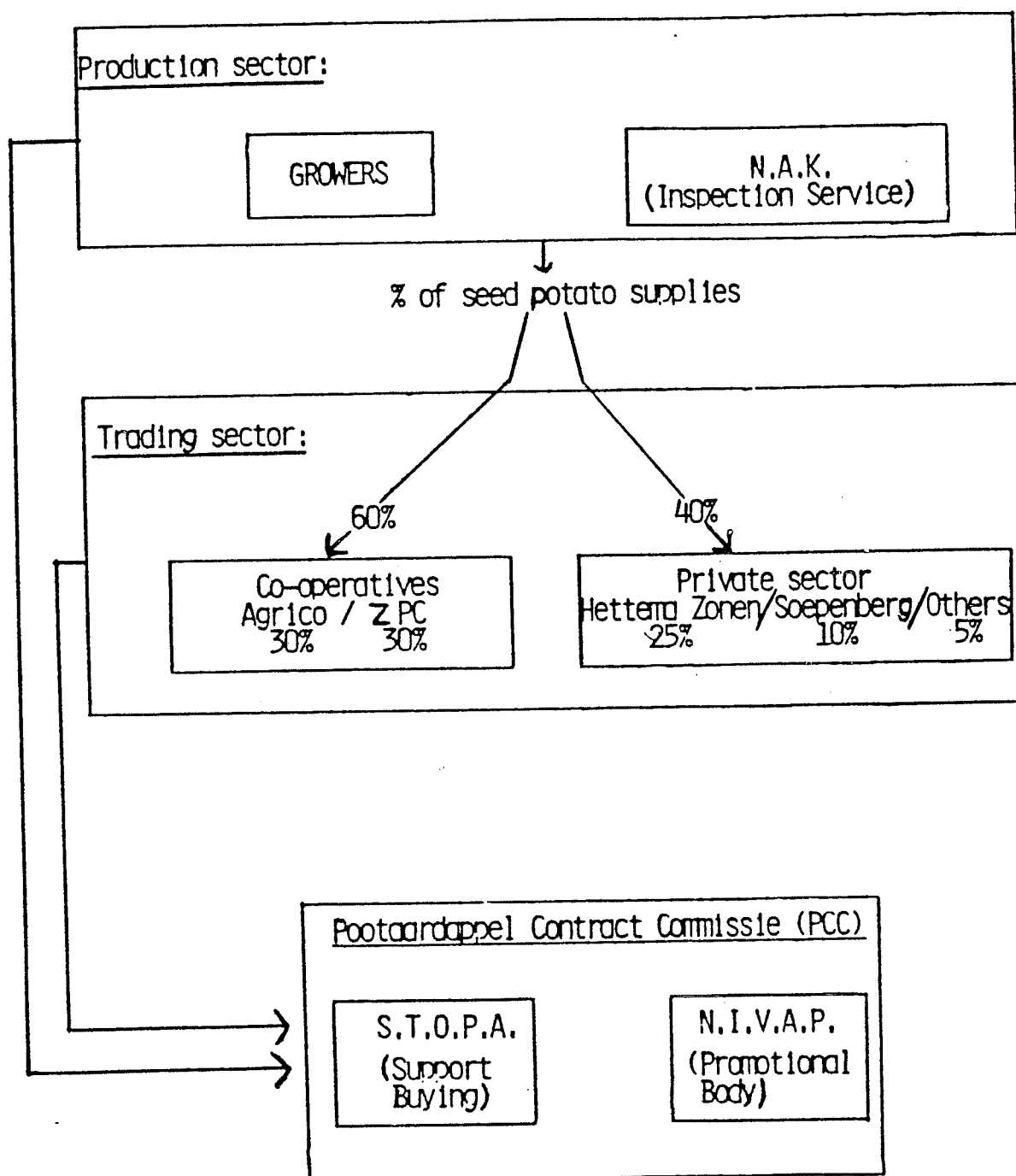
In addition to 'post-testing' of the appropriate crops, and the rigorous lot inspections conducted before final certification, the Dutch inspection system goes one step further by providing a field trial inspection of the certified product. Both the N.A.K. and the regional inspection services lay out check fields each year, after the export season, and here they grow and test about 2000 samples annually; these samples having been taken from seedlots that are certified the year before. In this way about 10% of the qualified seedlots are checked a second time, and assessed for their growth and development, disease, etc.

All Dutch publications read, and representatives spoken to, go to great lengths to stress that this checking procedure is for 'internal verification only'. However, it must be supposed that this system can be very effectively used as part of a promotional after-sales service. Customers are able to see that a scientific check is being made, in the Netherlands, on the product which they have just bought.

In conclusion, therefore, it is clear that the seed potato production system in the Netherlands is extremely well orientated towards the fulfillment of export market requirements. The factors contributing to this orientation can be summarised as follows:-

- (i) Seed potato production is concentrated in the Polders, allowing for ease of communication with the major ports. Multiple handling is also kept to a minimum.
- (ii) The Polder soils are high yielding, allowing large export tonnages to be assembled in a relatively small area.
- (iii) There is no dependence on a market for 'tops', and the agronomic philosophy of growers is rather to produce optimal amounts of small, custom-grown seed for export.
- (iv) Seed growers are well educated specialists, well able to adapt to changing market requirements as need be.
- (v) The majority of the product is centrally graded by cooperatives. This optimises scale economies, and allows for rapid and precise grading and packaging of product as required by export customers.
- (vi) The classification and inspection system is not geared to setting a blanket, lowest-acceptable-denominator, for seed potato quality. Rather, regulations are adapted to local needs, and always with two main aims:-
 - Enforcing early harvesting to match early delivery requirements in export markets.
 - Removing crops early enough from the soil so as to optimise health and quality considerations.
- (vii) The inspection service is extra-thorough by controlling seed quality inputs to ware crops in the main seed growing areas.
- (viii) The Dutch provide export customers with an additional quality control service in the form of 'post-control'.
- (ix) An after-sales service is also provided in the form of field trial inspections of products which have already been exported.

Figure 14: The Significant Institutions Involved in the Dutch Seed Potato Marketing System.



4.2.3 Strategy and Organisation for Export Marketing.

(a) The Role of Co-operatives in Dutch Agricultural Marketing

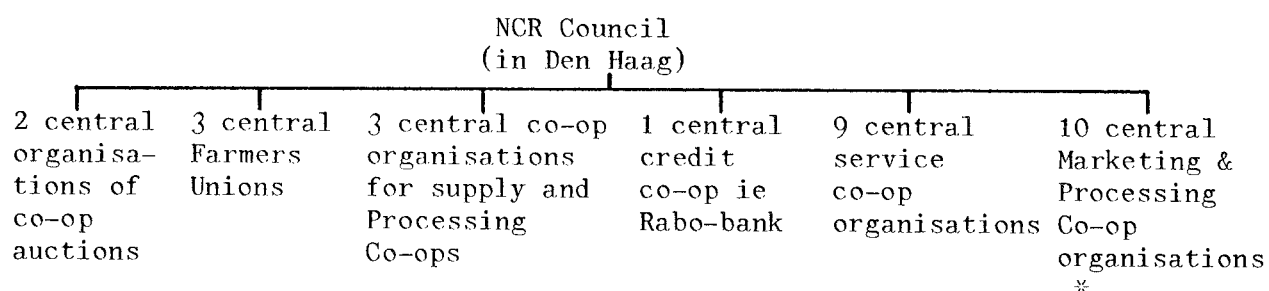
The important part played by co-operatives in the Dutch agricultural sector generally, is common knowledge to anyone studying European marketing systems. Nowhere in the Dutch agro-economy is this influence more strongly expressed than in the potato sector; co-operatives currently control 85% of all seed potato exports, 40% of ware potato transactions and 100% of the starch potato industry.

The National Co-operative Raad (Council) for Agriculture and Horticulture (NCR) in the Hague has a similar role to the Food From Britain organisation in the UK. It is an umbrella organisation for all agricultural and horticultural co-operatives in the Netherlands. The difference from FFB being however that the NCR is a wholly industry funded and industry run body. The NCR sees its main aims as being to further co-operative enterprises and other corresponding forms of economic collaboration between Dutch farmers and market gardeners, and to represent the interests of its members, especially as a representative co-ordinating body of the Dutch agricultural and horticultural co-operatives, at national level (in Den Haag) and at international level (in Brussels). It endeavours to fulfill these aims by:-

- studying problems of an economic, legal, fiscal or organisational nature, especially where these problems effect the principles of co-operation, either directly or indirectly
- supplying information on the principles of co-operation, both within the agricultural sector and to others such as the Dutch Government, the parliament and the press, schools and foreigners.
- publishing a two-monthly paper - called 'co-operative' - brochures, and other printed matter about co-operatives.
- giving lectures about the history, theory and practice of co-operatives.

Virtually all Dutch agricultural and horticultural co-operatives are under the NCR umbrella via membership of their central co-operative organisations, together with the three Farmers' Unions. The main central co-operatives which are members of the NCR along with the Unions. The main central co-operatives which are members of the NCR along with the Unions, are shown in Figure 15.

Figure 15 Constituent Member Organisations of the NCR



(*Includes VECO - the Union of The Netherlands' Seed, Seed Potato and Table Potato Marketing Organisations)

For the purpose of promoting co-operatives at the E.E.C. level, the central co-operative organisations of the E.E.C. countries in 1959 founded C.O.G.E.C.A. (General Committee of Agricultural

Co-operatives in the E.E.C.). N.C.R. is a member of COGECA and actively participates in its Praesidium as well as in several of its committees and working parties.

The rapid expansion of the Dutch agricultural sector, which took place between the late 19th century and the 1930s, was largely stimulated by the almost undisturbed expansion of the world's economy from the 1880s onwards. As production-orientated subsistence farming changed into production for export markets, in order to meet the growing demand for food in Europe, so co-operatives developed as logical instruments of 'self-help' for small farmers; co-operatives provided small farmers, who otherwise would have very little bargaining power in the large and expanding markets of Europe, with a means of developing a 'countervailing power' in the marketing process.

Two main factors have been important in increasing the export market shares of the Dutch marketing co-ops over the past three decades. Firstly, central co-operatives were created to undertake specific economic functions in buying, selling and processing on behalf of their associated primary co-operatives. Secondly, the central role which has been assumed by co-operatives in adding value to farmers' produce, has also contributed significantly to the development of the export market position of the co-ops. An early example of this was in the early 1990s when traders (merchants) were mixing butter and margarine together to improve their returns in export markets, but at the same time ruining the good reputation of Dutch butter. The farmers therefore set up their own butter marketing co-operative in order to market a pure, value-added butter product and so maintain a high quality product sold overseas. A strength of the first Dutch seed potato co-operatives was their introduction of an added-value price-premium system, unlike the private merchant sector which was unwilling to pay premiums for quality products.

(b) The Export Marketing Activities of the Dutch Seed Potato Co-operatives

Currently, Agrico and ZPC each handle about 30% of the annual Dutch export trade of 450,000 tonnes of seed potatoes. Although Agrico and ZPC do have slight differences in approach to some aspects of their businesses, the main principles of (i) horizontal and vertical integration (ii) a strict contractual economy with producers (iii) economy of scale and customisation based on central grading and packing and (iv) in-house new-product-development, are consistent within both organisations.

Agrico: Agrico is the largest specialist potato co-operative in the country, having taken its present form in 1973 following the amalgamation of three smaller co-operatives. Currently, Agrico has 1600 members growing seed potatoes, and a large part of its trading strength is derived from its ability to procure large guaranteed, contracted 'core supplies' of seed potatoes from this membership.

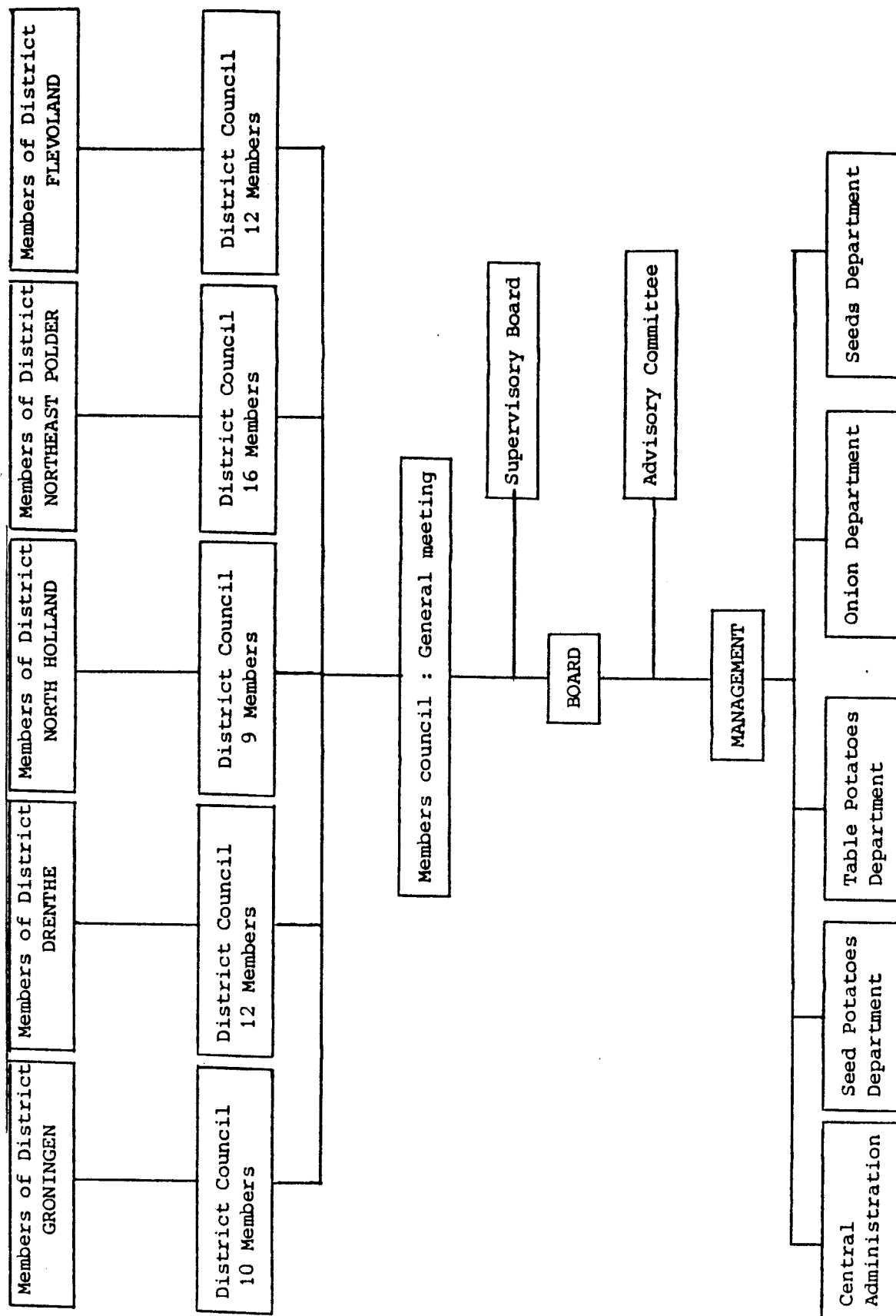
This efficient procurement process is enhanced by three aspects of the co-operative's management techniques:-

- (i) The organisational structure of Agrico is based on a democratic regional representation of grower members, with whom the management of the co-op maintains very close contact all year round (see Figure 16)
- (ii) Of the varieties marketed by Agrico, about 80% are 'protected' varieties, which have either been bred by Agrico or by one of their associated breeding companies. Agrico therefore own the plant breeders rights to these protected varieties and can accurately control production levels.
- (iii) With the majority of its product portfolio being composed of such intrinsically valuable protected varieties, membership of Agrico therefore proves very attractive to growers. Such membership entails that 100% of a members crop is marketed through the co-operative, thus ensuring the co-operative a guaranteed supply of product.

Although the co-operative demands delivery of the whole of a members crop each season, and imposes fines for non-delivery, growers are only committed on an annual basis, and are not required to buy shares. Growers can either submit all of their tonnage to the co-op price-pool system, or deliver only 25 tonnes per hectare to the pool, and obtain the prevailing market price for the remainder at the time of sale. After deducting expenses for pool potatoes, the grower receives the average price based on variety, size and quality grade. There are three quality grades in Agrico's pricing system; A gains a premium, B is average and C is discounted. One per cent of the selling price is retained by the co-op and is used for expansion and new developments.

Not only are the members kept in touch with the management of the co-operative through fortnightly Board meetings, but they also maintain two main forms of supportive contact throughout the year:- firstly, each grower receives a visit at least once a week throughout the growing season from a co-operative 'fieldsman' who advises on the development of the growers crops and appropriate husbandry techniques; secondly, growers receive interim payments every month after planting, from the co-operative, based on the hectareage of potatoes grown, and these payments are then deducted from the final sum received at the end of the season. Grower members of Agrico spoken to in the Netherlands felt that they were very well represented within the management structure of the organisation, and that this was backed up by an excellent service from the fieldsmen, both factors contributing to a very high degree of loyalty of members to Agrico. The pricing system used by the co-operative ensures that each member receives the average price for sales from the pool over a season, but cannot of course either forecast the price in advance or guarantee a minimum unit return. Nevertheless, the Agrico membership does appreciate the stabilizing effect which such a pricing system has on their price returns over the years, and this would seem to be an important factor in their remaining loyal to the co-operative rather than trying their fortunes entirely on the free market.

Figure 16: The Organisational Structure of Agrico



Source: Agrico

Of course, if a grower in Holland wished to rely entirely on the free market, and not to have membership or contacting arrangements with any bona fide marketing organisation, this would severely limit his choice of varieties, as he would only be able to grow 'free' varieties such as Bintje. It is a well known fact that the price fluctuations for Bintje seed on the free market are much more dramatic than for the protected varieties owned by the co-operatives. In this respect therefore it is attractive for growers to become members of one of the co-ops (or larger merchant organisations which operate along the same lines as co-ops). If he wishes to grow a valuable protected variety belonging to Agrico (Kondor, Estima, Famosa, Marfona, Romano, Wilja and Ostara all being Agrico varieties), then a grower must become a member of Agrico; the co-operative then decides exactly what hectareage of each variety the grower may grow.

The democratic structuring of the Agrico organisation, along with its extensive and exclusive product portfolio, and its excellent field service extended to growers, are, therefore, the main factors which enable Agrico to take its membership along with it from year to year, and to consistently produce vast tonnages of guaranteed 'core supplies' of seed potatoes with which to bargain confidently overseas. Most of Agrico's overseas trade is negotiated early in the season on a contract basis. These early contracting arrangements with customers, plus the fact that Agrico can accurately control the volume output of its membership, greatly facilitate the co-op's product/market planning process. The production - marketing integration tool is of great utility to Agrico.

The servicing of customer needs by Agrico largely revolves around the continual development and supply of high-yielding seed potato varieties which are seen to have been developed with the precise needs of the customer in mind. The co-operative's new-product development process is very vigorous, with over 500 potential new varieties being produced from their breeding programme each year. With trialling sites in over 150 countries the new varieties developed by Agrico are given very high profile exposure indeed. In addition, because each new variety is assessed for a wide range of product characteristics, including export orientated factors, such as drought tolerance and heat resistance, the co-operative has at its disposal a vast range of product characteristics which can be matched to the requirements of customers.

Agrico staff themselves are active in vigorous export marketing activities although some of this work is done by NIVAP, the industry's general promotional body. Within its main European markets, for example, Agrico has permanent offices and representatives, and through this continual 'on-the-ground' presence, it is able to exert considerable influence on the decision makers in the seed potato buying process in customer countries.

Equally important in the new-product promotional activities of Agrico, is the way in which potential customers are encouraged to be actively involved in the selection of new varieties. At the 'Emmeloord annual varietal exhibition' are displayed not only the current years produce

from Agrico's breeding programme, but also potential new varieties of seed which have been bred in previous years, maintained by the co-operative's 'selectors', and which are now at various stages of pre-commercial development and trialling. The varieties which are being maintained by the selectors are harvested each year at the same time as the main commercial crops, and then displayed at this annual exhibition. Regular visitors to these exhibitions are therefore able to 'keep an eye' on the development of each potential new variety of seed in which they (as potential overseas buyers) may be interested. Not only can they receive trialling results information about each potential new variety, but they can also see how the varieties actually grow and yield in The Netherlands. From Agrico's point of view, this enables it to obtain feedback at the earliest possible stage from prospective customers, as to the viability of each potential new variety. Thus, the Agrico new-product-development process is both customer-led and internationally orientated.

It is the policy of the Dutch seed potato exporters (Agrico, ZPC and Hetteema Zonen), not to allow overseas customers to base their quality assessment of shipments of Dutch seed potatoes purely on the dockside inspection at their port of entry. Rather, the Dutch exporters insist that the inspectors from customer countries carry out their main inspection at the dockside in The Netherlands. This procedure avoids the possibility of shipments of Dutch seed being deemed as being of poor quality at overseas ports and payment subsequently being withheld. The policy is that if a shipment is deemed as being of good quality at The Netherlands dockside, then it should be of the same quality when it reaches its import destination. As a result of this policy, there are present in the seed potato production and shipping areas of The Netherlands, during the exporting season, a large number of technical representatives from overseas customer countries. This is the time of year when the main exporters stage their new product exhibitions, and obviously they have a ready-made audience available in the form of these overseas representatives. Agrico and Hetteema Zonen have a large staff contingent whose main task is to cater for the social needs of such visitors. One young Agrico representative spoken to, whose job was to specifically act as chauffeur and social host to groups of overseas visitors, was fluent in eight different languages. Service staff of this calibre represent excellent public relations for organisations engaged in overseas trade, and must be particularly useful during the shipping season and during events such as the annual 'new variety exhibitions'.

Z.P.C.: ZPC is another producer controlled co-operative, founded in 1919. It is a seeds co-operative operating in Friesland and the north east Polder, and deals with seed potatoes, cereal seeds, grass seeds and bulbs. Currently the co-op has just over 1000 grower members, producing some 135,000 tonnes of seed potatoes annually. The co-operative has also recently started to handle ware potatoes to provide an additional service to members. Currently the co-operative markets about 50,000 tonnes of ware potatoes.

The general administrative structure of ZPC is similar to that of Agrico. It is a decentralised organisation, with four regional field stations concerned with production, grading and storage, and a marketing and administrative unit at the head office in Leeuwarden.

Grower members of ZPC are required to buy a small share in the co-operative and to commit all of their crop each season. This gives the co-operative the trading strength of being able to procure, with confidence, vast tonnages of guaranteed supplies in advance from the membership. Like Agrico, the majority of ZPC's sales are made on a one to three year forward contract basis, with their seed potatoes currently being exported to over 50 countries. The management of ZPC stress that the success of seed potato co-operatives is chiefly due to their ability to regulate the production, through a loyal membership, of their monopolised seed varieties. But ZPC are also aware that continuous efforts must be made to provide appropriate services to their membership.

ZPC have made particular efforts to broaden the range of services which they offer to their growers, largely through contracting and financing arrangements, and through the work of the company fieldsmen, and report that they have been rewarded by a steady expansion of membership through the 1970s and 80s. There is no actual selection of members by the ZPC management, although members who are tempted to 'play the market', and who are likely to be rather fickle, are discouraged. As in Agrico, there is a penalty for leaving the co-operative, and non-delivery at any time during the season is not tolerated.

The provision of grading facilities is seen as an important service to members, and at present about 50% of ZPC's seed potatoes are graded centrally. (Agrico centrally grades about 70% of its growers seed potatoes). All of ZPC's seed potatoes enter a pool price for each particular variety. After harvesting and delivery of the seed crop to the regional ZPC station, an advance payment of about £1,000 per hectare (1986) is made; usually in October. The remaining sum is settled in April.

As with the Agrico payment system, ZPC members are encouraged to produce quality crops by means of a quality price-premium system. When final payments are made to ZPC members, premiums or deductions are made to the price, depending on whether samples are above or below average. Members are also paid differential premiums for the smaller, more valuable, size of seed.

ZPC currently has 35,000 tonnes of specialised storage at its four grading stations, which supplements members facilities and provides a 'buffer stock' of graded and packed potatoes which can be held in readiness prior to the shipping season. The large central stores of the Dutch seed potato co-operatives are very impressive. Traditionally the Dutch have used the 'bin' system, consisting of individual bulk stores holding perhaps 50 tonnes. However, the number of such bin stores is now declining, with the newly erected stores of organisations such as Agrico and ZPC being designed to store potatoes in half tonne or one tonne boxes. This system requires more initial capital, but is much more flexible and assists greatly in the handling and identification of the crops of individual growers. Stores are completely sealed and have heating and refrigeration units to control the temperature. Growers crops delivered to Agrico and ZPC stores after harvest are maintained at a temperature of about 13°C (55°F) and this is slowly reduced to 4°C (40°F) prior to shipping.

Although a decentralised organisational structure, and a democratic representation of grower-members on the management board, is an important part of the management philosophy of both Agrico and ZPC, there is a marked difference between the two organisations with regard to management responsibility and contact between the directors and the membership. The large central board of Agrico, shown in Figure 16, has between 60 and 70 participants drawn from the elected district councils of the five regions. Although the size of this board makes it difficult to handle, it symbolizes the philosophical importance to the Agrico management of maintaining close supportive and consultative contact with its membership. While the employed management of Agrico is ultimately answerable to the board, it has the sole responsibility for all marketing decisions. In this respect a distinction can be drawn between Agrico, where the division between the salaried management and the board is emphasised and felt to be essential, and ZPC where the two salaried Directors appear to work more closely with a very much smaller elected board of seven farmers rather than 60 - 70. These seven elected grower-members meet with the executive directors of the co-op every month, and relationships between grower-directors and management are reported to be very good. ZPC also holds a monthly internal staff meeting between the grower representatives and fieldsmen of each division (cereal seeds, grass seeds, bulbs and seed potatoes).

The fieldsmen in both co-operatives are considered to be the most important people in the organisation, since they maintain regular contact with members and can assess their attitudes to the co-operative. The fieldsmen are usually farmers' sons with an agricultural education to higher or university level, and as such are well able to appreciate the technical problems faced by growers, as well as having an ability to approach and identify easily with growers.

The teams of salesmen employed by the co-operatives, who represent the direct commercial and technical interface between the co-op and its customers, all have a rigorous technical training specifically in seed production to higher education or university level, usually obtained from the Agricultural University at Wageningen.

Elected grower-directors of the two co-ops are generally experienced farmers with a good perspective of marketing and an interest in management. They are generally older farmers who have sufficient free time to attend meetings and communicate with neighbours.

(c) The Export Marketing Activities of the Dutch seed Potato Merchant Hettema Zonen (Hettema Sons) - A 'Co-operative Private' Company

Hettema Zonen is the largest private company in the Netherlands trading in seed potatoes. Currently Hettema markets about 25% of all Dutch seed potato exports; a tonnage almost as large as that handled by each of the two major co-operatives just discussed.

Hettema is unique amongst the private trading companies in that it

Map 2: Showing the Location of Hetteema Zonen's Six Regional Production Management Offices



(Source: Hetteema Zonen, Emmeloord)

manages its business along the same principles as the co-operatives. Hettema is, in fact, a member of VECO; the 'Union of the Netherlands Seed, Seed Potato and Table Potato Marketing Organisations working on co-operative principles'. (Through their membership of VECO), Hettema Zonen, Agrico and ZPC are represented within the NCR organisation.) Hettema Zonen has six decentralised production/management regions, each one having local offices equipped with grading lines, stores and transport fleets, and the Head Office at Emmeloord has excellent road and rail connections with these regions. Map 2 shows the location of Hettema Zonen's six local production/management offices. These regions have excellent road and rail communications with the large shipping ports of IJmond and Europort at Rotterdam.

The firm is presently composed of three separate working companies, for tax and business purposes; one is concerned with seed potatoes, the second with ware potatoes and onions and the third with the breeding of new varieties for the company, each with its own separate director.

Hettema's philosophy of management is to offer Dutch seed growers a compromise between the strict co-operative system and the traditional merchant's approach. Commitment to the firm is made on an annual basis and after five years of exclusive trading with the company a grower is given a 'good will' cash bonus. The same participation pool contract is negotiated with all growers for each seed variety, and Hettema have found from experience that this type of contract is preferred because it allows risks to be shared in a business-like manner, and gives the grower an active participating interest in the market. Pre-payments are made in October (after harvesting), in February (after the export season) and a final payment is made in June. Growers' contracts with Hettema stipulate that the growers receive the gross price realised from the participating pool system, less 7½% for Hettema's marketing expenses and for the company's development and expansion costs.

Communication with growers is maintained through six regional committees of representatives elected by the local farmers in each of the six regional administrative areas. These committee members meet the company directors monthly to discuss aspects of production, the viability of and market demand for particular varieties, and the export destinations for which the growers are growing their crops. Current world market prices, marketing costs and sales results are regularly announced, publicised and debated at these meetings, and so growers are kept in the picture as to what is happening at the marketing end of the business.

Thus it can be seen that the Hettema philosophy is essentially identical to that of Agrico and ZPC; management sees the need to extend adequate services in two complementary directions - to their grower members and to their customers. Hettema's management are intent on doing a good job in servicing their growers' needs, as they are aware that private growers could change allegiance if dissatisfaction arose. (It is interesting to note that all parties spoken to in The Netherlands were of the opinion that members of Agrico, ZPC and Hettema, almost without exception, were satisfied with their own co-operative and were loyal towards it. It was considered rare for a member to leave or change his co-operative).

In the words of Mr D.J. Meijer, the General Manager of Hettema, the overall philosophy of the co-operative is "one of speculation reduction

- we aim to stabilise returns to our growers and to offer regular sales contracts to our customers at fairly constant prices."

Like Agrico and ZPC, the majority of Hettema Zonen's traded tonnage of seed potatoes is composed of monopolised varieties which have either been bred by Hettema, or by one of their grower-member breeders. The majority of sales are also made on a forward contracting basis of one to three years. Within the central management division of Hettema, at Emmeloord, are based three specialist 'sales units', concerned with negotiating sales (contracted or otherwise) to various customer countries. The markets specifically covered by each of these units are illustrated below:

- Unit 1 - Germany, France and Belgium
- Unit 2 - Rest of Europe
- Unit 3 - Overseas ('by ship') destinations

Because the company's sales are largely conducted on a forward contract basis, the marketing management division can plan its export marketing strategies and its precise production requirements at least one year in advance. Mr Meijer states that because of the regularly high yields of members crops and the loyalty of members to the co-operative, advance market planning of this nature 'works very well'. When the three sales units have reported to head office what the likely tonnages to be sold in a particular season are, the marketing staff at head office then allocate a production quota for each variety to the Emmeloord region and to each of the five regional production management offices. The regional representatives are then responsible for allocating this quota amongst individual grower members in their area. The correlation between the expected sales tonnage and the hectareage to be grown by growers, is based on an average yield figure of 27 tonnes per hectare. After haulm destruction, the company fieldsmen carry out yield samples from all members crops, thus providing more accurate figures of actual total crop yields; these figures are then fed into the central production and marketing planning computer programme at Emmeloord, to produce a more accurate picture of production levels as related to market requirements. These figures can then be used to adjust the company's harvesting and stock holding strategies, so that they are more closely correlated with known market requirements. In the words of Mr Meijer 'it is vitally important to the trading credibility of the co-operative that it does not sell what it doesn't actually have available, either in stock or in a grower-member's field'.

Because of their size, Dutch co-operatives and companies like Hettema Zonen, are able to make their presence regularly felt in overseas markets by the simple fact of having many professional sales and promotional staff 'on the ground', and through having staff with appropriate linguistic and professional skills. Within Europe, they are at a great advantage because of their proximity to, and therefore ease of communication with, large lucrative markets such as Germany, Spain, France, Italy, Portugal and Greece.

About 60% of Hettema's total seed tonnage is centrally graded, the remaining 40% being graded on-farm. Of the farmers who opt for on-farm grading, the larger farmers tend to do their own grading on sophisticated machinery which they themselves can afford to purchase, while the smaller farmers form informal local co-operatives in order to

share the labour and machinery costs of sophisticated grading. From Hettema's point of view, a mixture of central grading and on-farm grading is very desirable, as it makes the bulk storage and movement of stocks more practicable in the busy central stores.

Linked to the central grading activities of the company is the desire of the Hettema management to keep its skilled and semi-skilled storage and grading staff fully employed throughout the year. The management have no wish to employ squads of casual, uncommitted, untrained (and potentially careless) workers during the busy grading and export season. Hettema have therefore increased the volume of onions handled in their central stores, thus occupying the grading facilities and staff more fully at times when seed and ware potato activities are minimal. In addition, and for the same reasons, the company has recently expanded its ware processing activities into crisps (with Smiths) and chips (with McCains). New potatoes are also now being imported and then packaged or processed by Hettema, and this also helps in keeping trained and experienced staff fully employed, as well as enhancing the cost-efficiency of running expensive machinery and transport fleets.

With regard to new market opportunities, Hettema point out that their efforts in coming years are likely to be directed increasingly towards Spain, Portugal and Greece, where they see great opportunities for increased seed potato sales. With regard to the U.K. market, Hettema are cautious; they say that transport costs are still prohibitive, and they believe that the Scots will eventually 'gear themselves up' to the 'healthy competition' being provided by the Dutch.

Mr Meijer attributes the export success of his own company to efficient co-operative production, centralised bulk marketing of different products and rigid adherence to quality. Centralisation of storage, grading, selling and pricing allows Dutch salesmen to respond rapidly and adequately to the needs of their important overseas clients. A centralised marketing system also stimulates the drive towards top quality products, as does the use of price premium incentives for high quality crops.

(d) The Smaller Private Companies

According to sources spoken to in The Netherlands, a situation existed up to about 20 years ago whereby there were a large number of small private merchant companies trading exclusively with 'free', unmonopolised, varieties of seed potatoes. The activities of such companies had two main characteristics:-

- (i) No effort was made to develop new, improved, monopolised products.
- (ii) Such companies had no particularly loyal grower membership; their supplies were procured in an ad-hoc way from diverse 'free' growers, to whom they extended no particular services.

With the advent and growth of the large marketing-orientated co-operatives the number of such traditional merchant companies without loyal grower memberships and appropriate services, has declined rapidly. The existing merchant companies now only handle 15% of total Dutch seed potato sales.

In former years private merchant companies operated only fixed price contracts with growers, but such contracts are now a thing of the past

in the Netherlands, as more and more small merchants have gone out of business through operating such high risk, inflexible contracts, and particularly when selling free varieties such as Bintje into markets with widely fluctuating prices.

The merchants who have remained, therefore, have tended to develop more sophisticated contracting and pricing arrangements in order to make their service facilities more competitive with those offered by the co-operatives (ZPC and Agrico) and by Hettema Zonen. This move can be seen as part of the general management philosophy which is increasingly developing within the whole Dutch industry, whereby the extension of appropriate services to growers is seen as a top management priority. For companies trading in 'free' varieties, such as Bintje, it is imperative that good services are extended to supplying growers, because growers can easily change loyalties and marketing arrangements if dissatisfied.

Soepenbergh, one of the largest private merchants marketing seed potatoes in the Netherlands, has now incorporated the following features into its seed potato marketing management activities:-

- A flexible range of contracting arrangements to suit individual growers needs, enabling the marketing risks to be shared by the company and the grower.
- Company fieldsmen to provide technical advice and services to growers
- Regional grower representation, which has the opportunity to meet regularly with company management to discuss production and marketing details.

The smaller private merchant companies in the Netherlands, both in the seed and ware sectors, have therefore increasingly moved towards a philosophy of marketing management which is comparable to that of the co-operatives. They have made vigorous efforts to procure guaranteed, high quality core supplies of product to service their contract obligations to customers, and have extended a strong corporate image, with associated service facilities, to their growers. They are also now becoming more involved with new product development.

In summary, therefore, it is clear that the superior export marketing capabilities of the Dutch traders are due to strong organisational and strategic export marketing orientations.

In terms of organisation, the Dutch industry (including both the co-operative and traditional merchanting sectors) is characterised by strong horizontal and vertical integration within the marketing channel. The vast majority of Dutch seed potato producers are members of co-operatives, or organisations trading on co-operative principles, and are therefore able to exert considerable influence in the market place through horizontal integration. Through their democratic structuring and the involvement of producers in the marketing management process, the traders are able to reap the benefits of disciplined, market responsive, production/marketing integration.

Strategically, the success of the Dutch industry is based on the following elements:-

- The pursuit of a customisation strategy, based on a vigorous product-specific segmentation of markets, rather than the pursuit of a globalisation strategy

- The major traders pursue a strategy of single-product trading, with the result that seed potato exporting is the central business function, and not a peripheral one.
- The utilisation of scale economies through central grading and packaging, enabling the customisation process to proceed efficiently, and enabling premium-priced, added-value products to be traded to the benefit of producers.
- Distribution strategies are based on a minimum of multiple handling, with the product moving directly from the producers to the co-operative (or 'merchant') central grading unit, and thence to the shipping ports.
- Sales strategies are based on the trading of exclusive portfolios, and, where possible, on a forward contracting basis.
- New product development is conducted in-house by the major traders, and is thus managed within a strong N.P.D./Marketing interface. In addition, the N.P.D. process is internationally-orientated, and includes close customer participation.
- The rationalisation of the export marketing channels, with three cooperatives controlling almost 400,000 tonnes of product annually, represents a general industry scale economy of great importance. (This is in stark contrast to the Northern Ireland industry, where only 60,000 tonnes are handled annually by a merchant sector consisting of 80 registered merchants.)

(e) Promotion, Market Support and New Product Development

Apart from the strong organisational and strategic export marketing orientations of the Dutch traders, other major components of the Dutch industry's exporting capability include:-

- The industry's export promotional system
- The market-support scheme
- The state/private sector new product development strategies.

Promotions. There exists in the Netherlands an organisation called N.I.V.A.A., which is responsible for the general export promotion of Dutch onions and potatoes. It is an industry-funded body, independent of government, and has overall responsibility for three subsidiary promotional bodies, each one concerned with a specific product:-

(N.I.V.U.I. (Onion promotion))
 N.I.V.A.A. (N.I.V.A.C. (Ware potato promotion))
 (N.I.V.A.P. (Seed potato promotion))

About 70% of NIVAA's workload is concerned with the promotion of seed potatoes through NIVAP (Netherlands Institute Voor Aletbevoeding Van Pootardappelen), the remaining 30% being equally divided between ware potatoes and onions. The NIVAA board nevertheless has equal representation from each of the three bodies.

The NIVAP organisation obtains its finance from a levy on seed potato growers and traders. In 1986 the NIVAP budget, as collected in levies, amounted to 3 million Guilders (£750,000).

Although the seed potato promotional body (NIVAP) comes under the organisational structure of NIVAA, through its representation on that body, the actual financial and organisational control of NIVAP is carried out by the Pootardappel Contract Commissie (PCC). The PCC is the controlling body for the entire Dutch seed potato industry. It is

responsible for electing a board to run the NIVAP; this NIVAP board is composed of three growers, three trade representatives and one breeder. It is interesting to note that both the PCC and NIVAP have the same democratic 50:50 representation of grower and trade members typical of committee structure throughout the Dutch potato industry. The relationships between NIVAA, the PCC, and NIVAP are shown diagrammatically in Figure 17.

As well as its board of three growers, three merchants and one breeder, NIVAP also has the services of several government agronomic advisers, usually members of staff of the Agricultural University at Wageningen or one of the government research institutes.

The NIVAP budget of over £ $\frac{3}{4}$ million is spent on trialling and promotional work abroad, including the funding of eight permanent fieldworkers and the management of 150 trial sites worldwide.

With a permanent fieldwork staff composed of agronomic and marketing experts, and 150 sites on which to expose their seed varieties to customers, the Dutch industry obviously has a vigorous and professional promotions programme. Additional to the efforts of NIVAP are of course the overseas promotional efforts of individual traders. For trialling and promotional work, NIVAP work very closely with the traders. It is evident that there will be times when it is impossible for NIVAP to avoid effectively promoting one particular trader's interests when it comes to promotional work involving a variety which is monopolised by one company (as most new introductions are). Promotion and trialling is, however, carried out in the spirit of promoting the best of Dutch seed, which means promoting those varieties which are most suitable for a particular market, regardless of who may hold the breeders rights. The impartiality of NIVAP in its selection of which varieties to promote in particular markets is assured because NIVAP base these decisions not only on the advice of their independent, non-commercial fieldsmen but also on the advice of RIVRO - an independent government institute which is responsible for the trialling and quality evaluation of all new Dutch seed varieties.

The trade representatives on the board of NIVAP are changed every three years, thus ensuring that all the major traders get a chance to become involved with the work of NIVAP; it is therefore in the interests of each trader that he is seen to carry out his work for NIVAP in a professional, impartial manner.

Figure 18 shows diagrammatically how the Dutch traders and NIVAP cooperate in the promotion of Dutch seed potatoes.

It is interesting to note how the Dutch seed potato industry, through the offices of NIVAA, and backed up by the co-operative efforts of the trade and NIVAP, are able to present a united Dutch promotional front when promoting Dutch seed abroad. In addition, because of the Dutch breeders rights legislation, the individual efforts of Dutch seed potato traders in world markets are also carefully orchestrated so that there is no competition between them for the sale of a particular variety. Each Dutch trader has exclusive rights over their own portfolio of products.

Figure 17: Showing the Relationship Between the Main Organisations Concerned with the Promotion of Dutch Seed Potatoes

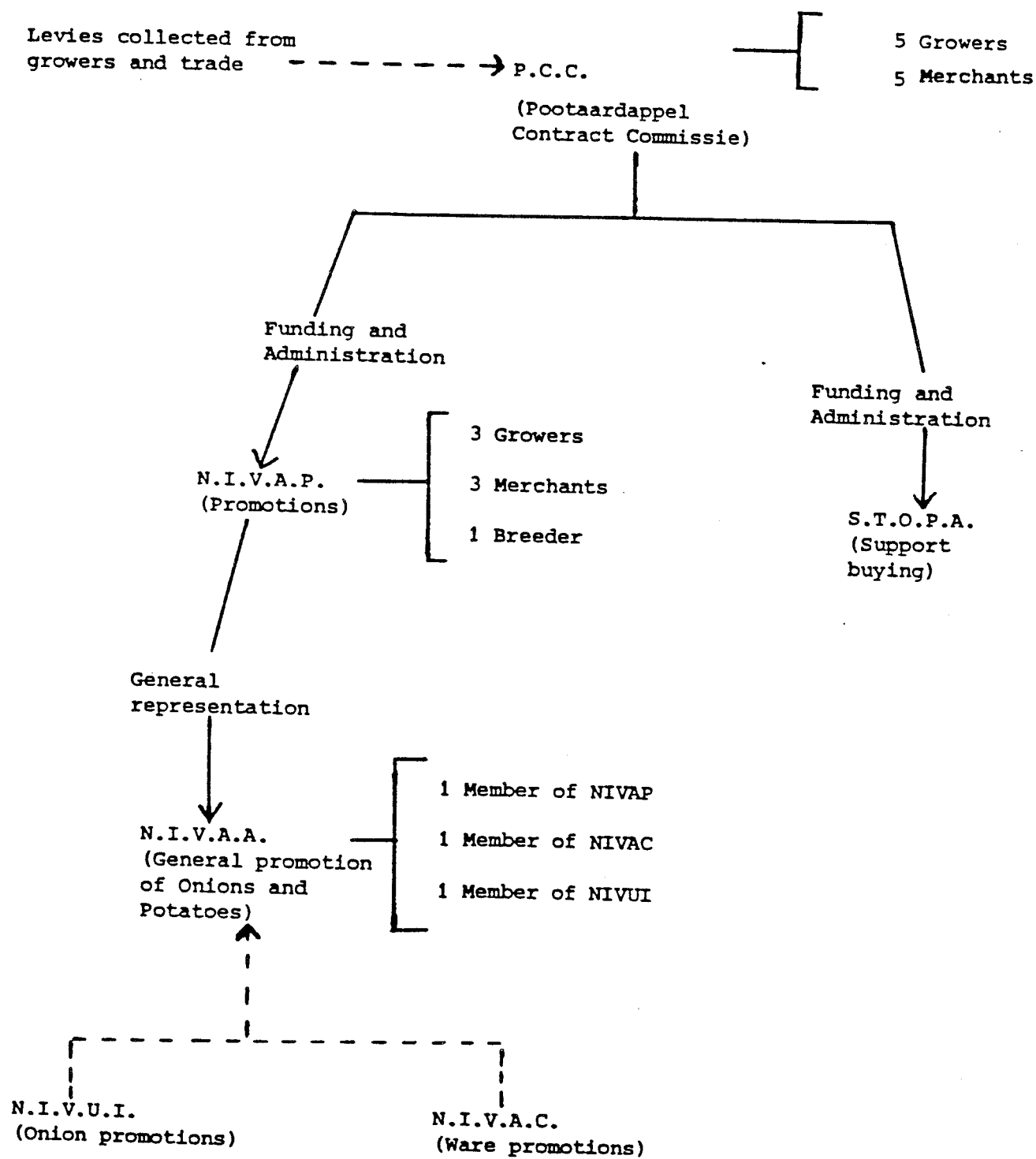
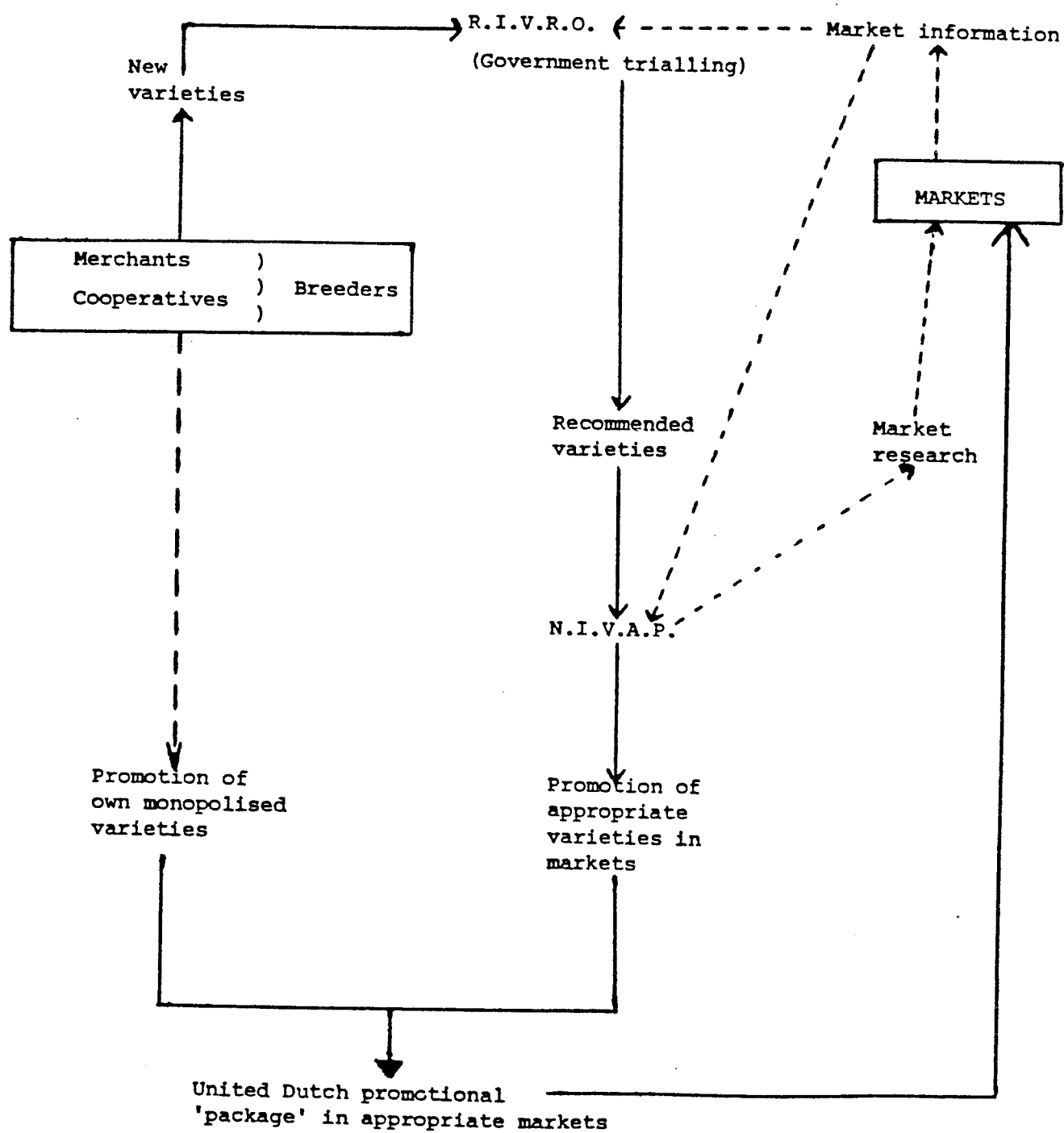


Figure 18: A Schematic Representation of the Mechanism by which Dutch Seed Potato Varieties are Selected for Promotion by NIVAP



The general strategy of NIVAP is to concentrate its educational, extension and market research efforts on those markets which are not very well developed in terms of awareness of seed potato technology and the Dutch varieties available, thus providing a starting point for the work of the private exporters. NIVAP is used as a means of independently introducing varieties into new markets, and also of promoting 'free' varieties, although the private traders have little difficulty in promoting these free varieties at little extra cost and effort to their normal overseas promotional work for monopolised varieties. In summary, the distribution of responsibilities for promotion between the trade and NIVAP dovetail neatly. Separate and complementary promotional roles are identified and there are no important gaps in the coverage, as can be seen in Table 5.

Table 5: Responsibility for Promotion of Dutch Seed Potato Varieties

	<u>TRADE</u>	<u>NIVAP</u>
Primary interest:	'Monopolised' varieties	The Dutch seed potato industry, including its full portfolio of varieties
Secondary interest:	'Free' varieties	Plays a pioneering role in opening up new markets and a supportive role in established markets

The NIVAP representatives who do the actual market development and promotional work 'on the ground' are the eight full-time overseas fieldworkers. These field-workers generally have a university level education in Agriculture, some being agronomy specialists, some having studied tropical agriculture, while others have a good education in

marketing. Their specific activities overseas fall into five categories:-

- (i) **Educational/Extension Activities Overseas:** A very large part of their work is concerned with increasing the awareness of overseas countries of the benefits of improved seed potato technology. Much research work has been done (mainly by Dutch researchers at Wageningen) to firmly establish that improved seed potato inputs will greatly increase the efficiency and profitability of potato growing in many third world countries, and that with the use of improved, imported varieties of seed potatoes, the potato can be made a more nutritious and cheaper source of food than rice for example. Efforts are also made through educational programmes to influence and gradually change the eating habits of peoples in traditional rice consuming countries.

The NIVAP fieldworkers also rigorously assess the agronomic requirements of each particular country or region and then advise growers in the importing country on choosing appropriate

varieties and growing them. It is important to remember here that the Dutch portfolio currently consists of 150 varieties, and that the goals set in breeding new varieties are very much export-orientated.

The Dutch are undoubtedly at the forefront of international potato extension technology; the vast majority of research papers relating to world potato developments are of Dutch origin, notable researchers being A.J. Reestman and D.E. van der Zaag. When such vigorous research efforts are combined with widespread 'on the ground' extension work, as carried out by NIVAP fieldworkers, and a very comprehensive product portfolio of export-orientated varieties, then the Dutch obviously have enormous advantages in overseas promotional work.

An interesting component of the education programme for potential customers is a 'potato development course' which is run for six weeks every year at Wageningen University and relates to Dutch seed varieties. This course concentrates on seed potato production, storage and technology, with particular reference to developing country circumstances, and it is interesting to note that the admission regulations for the course state that "preference will be given to candidates from developing countries". Financial assistance for tuition fees, accommodation expenses, etc. is also offered preferentially to candidates from developing countries.

- (ii) **Trialling of Dutch varieties abroad:** Before any variety of seed potato can be commercially developed in a country, it must be on the 'recommended list of potato varieties' for that particular country; NIVAP currently have 150 trial sites in over 80 countries. Crops are tested for:-
- Soil suitability
 - Yields
 - Drought resistance
 - Wind resistance of foliage
 - Irrigation responses
 - Daylength category of the variety
 - Altitude and aspect effects
- (iii) **Conducting of marketing research and collection of market intelligence information:** NIVAP fieldstaff maintain constant contact with relevant government and private seed potato procurement agencies in their respective countries, and are thus able to generate a considerable amount of first hand market intelligence information which can be used to ensure that the correct varieties of potato are promoted in appropriate market segments.
- (iv) **Reciprocal agronomic extension work in The Netherlands:** An important function of NIVAP is to relay information, collected by their fieldstaff abroad, back to Dutch seed potato growers and advisory staff. This exchange of information enables the development of husbandry techniques in The Netherlands which are appropriately geared to the production of 'custom-grown' seed. Information on the varietal specifications required by different

markets is also fed back to the Dutch traders and breeders by NIVAP, and this enables the breeding of future varieties to be carried out within a proper market-orientated framework.

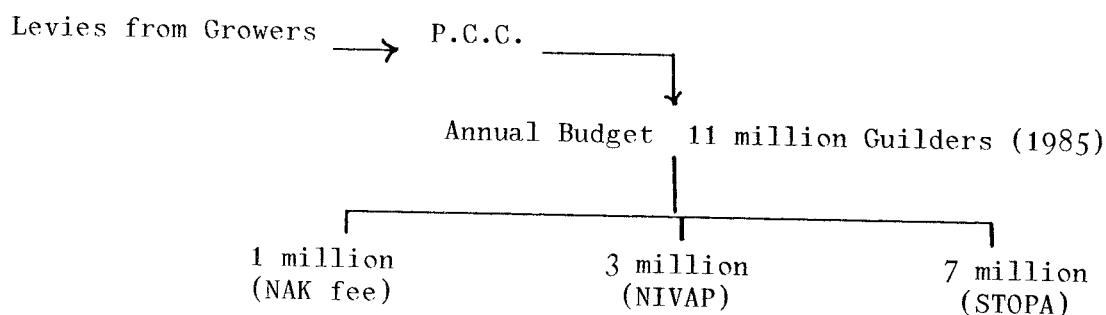
- (v) **Dissemination of market intelligence information in The Netherlands:** The market intelligence information which is collected by NIVAP fieldstaff is disseminated to all traders in The Netherlands on a regular basis, normally at the NIVAP monthly meetings. No trading is undertaken by NIVAP, nor does it become involved as a body in any commercial matters relating to exporting. In this way NIVAP avoids allegations of preferential treatment being provided to specific merchants in terms of export information provision.

Market Support

As was mentioned earlier, a great strength of the Dutch seed potato growers is the way in which they have often strengthened their position by forming their own horizontal management and control organisations, with or without either governmental economic assistance or enabling legislation. An example of such an organisation is 'S.T.O.P.A.', the agency responsible for taking surplus seed potatoes off the market at appropriate times of the year. The STOPA organisation is non-governmental; funding and staffing come entirely from within the seed potato sector. The Board is composed of five seed potato growers and five trade representatives (the normal democratic structuring of bodies which is typical of The Netherlands seed potato industry).

Funding of STOPA comes from growers through a levy of 150 Guilders (£30) per hectare of seed potatoes classified, plus a further levy of 70 cents per 100 kg of seed sealed (equivalent to about £1.40 per tonne at sealing). Taking an average yield of 27 tonnes per hectare of seed classified, these total charges therefore work out at about £67 per hectare, or approximately £2.50 per tonne.

The PCC in fact administers a budget of about 11 million Guilders (over £2 million) for the operation of NIVAP and STOPA. A fee of some 1 million Guilders is also paid to the NAK for services rendered in the collection of NIVAP and STOPA levies. The allocation of PCC funds is shown below:-



The level of STOPA levies has remained fairly constant over the past ten years, in real terms. Any change in the amount of area levy to be collected is dictated primarily by the precise tonnage of seed potatoes which had to be removed from the market in the previous year. Following the 1974 season, when a large surplus of seed potatoes were removed from the market, necessitating a high level of financial payment, the area levy in the following year was increased to about £120 per

hectare.

The service offered to growers in return for their levies, is the ability to offer surplus seed potatoes for clearing by STOPA (usually into stockfeed) at two specific times every year. The first time seed potatoes can be offered to STOPA is during a one week period in November - growers have only one chance in November to decide if they want to offer a quantity of seed to STOPA at this time for the STOPA guaranteed price, which is always set at a level of 170% of costs of production. Commencing on 1st February, further buying-up contracts are offered by STOPA every two weeks (i.e. a total of 6-7 chances to offer surplus seed for buying-up). Thus a grower may decide whether he wishes to get rid of surplus seed in November, or if he prefers to store it through to February, thus extending the period available to him to market his crop.

The total tonnage cleared by the STOPA each year varies considerably depending on climatic and market conditions. During 1977 for example, a drought year which produced very poor yields throughout Europe, 98,000 tonnes were removed through STOPA, while in 1964, a year of very exceptional yields, 138,000 tonnes were cleared. The average uptake through the 1980s has been of the order of 40,000 tonnes annually (approximately 7% of total seed potato production). In 1985, total seed potato production in The Netherlands was about 860,000 tonnes. Of this total 250,000 tonnes were for home use in Holland (29%), 566,000 tonnes were exported (63%) and 45,000 tonnes were cleared through STOPA (8%).

In deciding the amount of levies to be collected from each grower, the STOPA allows for a basic average surplus of 1.47 tonnes per hectare. This is the level of surplus which will not necessitate extra levies being raised. When a calamity occurs however, which upsets trade for reasons beyond normal control, such as the closing of a particular market due to war or other political circumstances, then everyone contributes proportionally to any additional levy needed. If a particular variety is in constant surplus, an additional levy is raised from producers of that variety. Local disasters, such as flooding which leads to a loss of crop in a limited area, can be eased by reducing the basic levy in that district.

As with the PMB buying schemes in G.B., the cost of the STOPA operation is mitigated by selling as much as possible for stockfeed or industrial purposes.

The offering of surplus seed potatoes to the STOPA is also carefully regulated and very strict conditions relating to quality, size, etc. must be adhered to. Appendix 7 is an English translation of the STOPA regulations regarding buying-up of surplus seed potatoes. This gives some insight into the discipline inherent in the regulations relating to the sale of seed potatoes to STOPA.

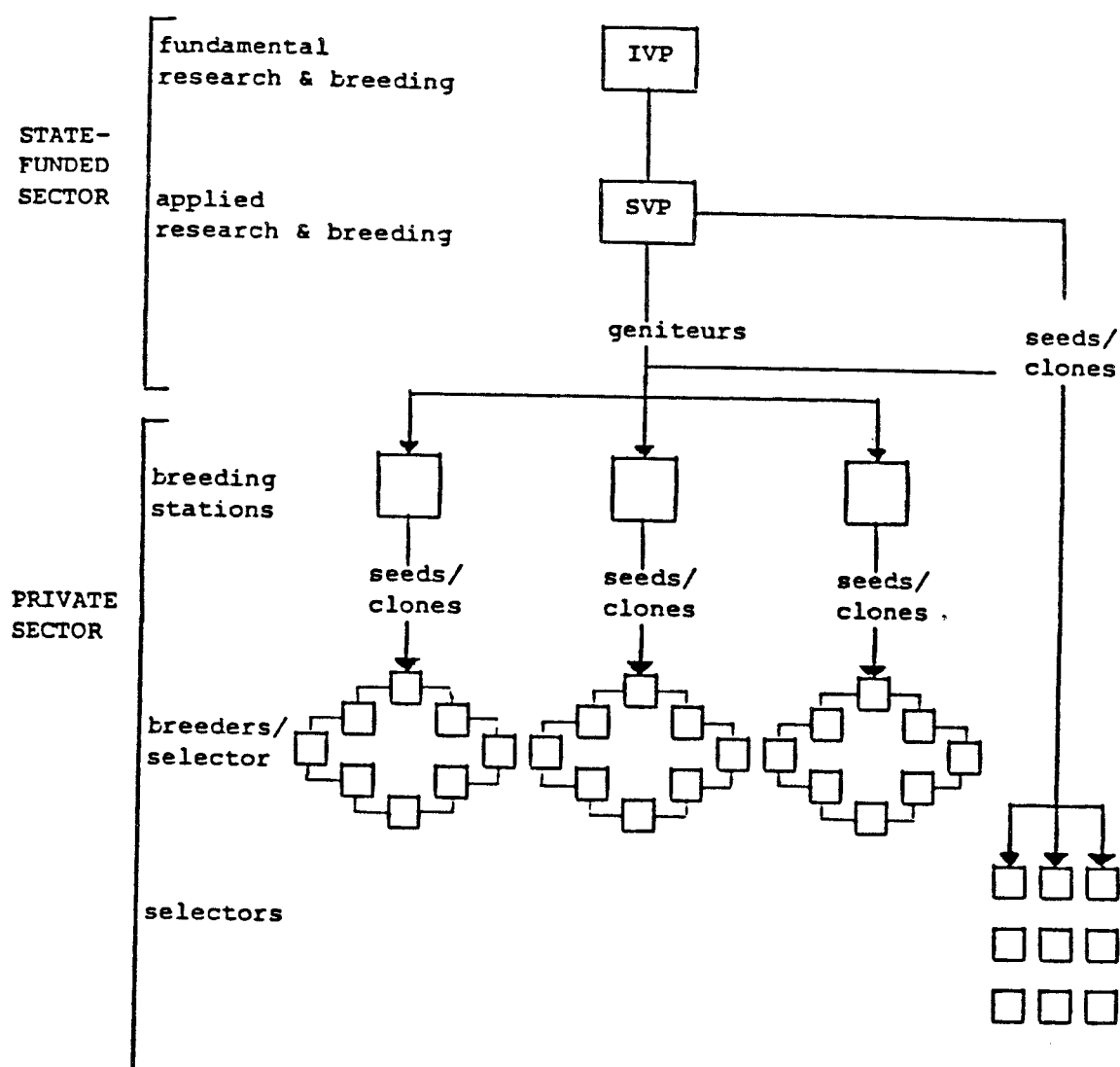
New Product Development

In the field of seed potato marketing, due to the nature of Plant Breeders Rights legislation, the maximum effective product-life-cycle for a seed potato variety is less than 10 years. As a result of this, the dynamic performance of a seed potato industry relies very heavily on the continual development of new products (varieties) in determining its market progress.

Vigorous new product development has been an ongoing activity in the Netherlands for many years, putting their seed potato industry well out in front in terms of having a suitable portfolio of varieties for a vast number of world markets. The involvement of the Dutch seed potato industry in over 70 market worldwide, and the increasing scale of their presence in all of the U.K.'s traditional markets, suggests that the Dutch new product development process is well suited to exploiting an ever increasing number of overseas markets, by displacing older, mature or declining varieties.

The potato breeding system in The Netherlands is presented in a schematic form in Figure 19.

Figure 19: The Structure of the Dutch Potato Breeding Sector



Source : N A Young, 1985.

The key feature of the Dutch system is the division of responsibility for potato breeding between publicly funded institutes and private organisations. In very broad terms the publicly funded institutes conduct fundamental work required in the plant breeding system and the production of parent lines with heritable characteristics and seed and first year clones for selection. The parent lines are distributed to private breeding stations which use them in their crossing programmes. The seeds and clones are distributed for selection to all who request them. The private breeding stations also mobilise the resources of private selectors in their breeding programmes. Under these arrangements all distinct commercial varieties are identified by the private sector, providing a strong incentive for private individuals or organisations to become involved in breeding, as only these private concerns can then own the plant breeders' rights, and therefore control production levels for 'their' varieties.

The two main publicly funded organisations illustrated in Figure 19 (SVP and IVP) are as follows:-

- SVP is the 'Foundation for Plant Breeding', an agricultural institute belonging to the Directorate for Agricultural Research (DLO) of the Ministry of Agriculture. The SVP reports to the DLO and is wholly financed by Government funds.
- IVP is the 'Institute for Plant Breeding', a department of the Agricultural University at Wageningen. It is principally concerned with teaching plant breeding and research.

While the work of the IVP is strictly academic and fundamental in nature, the work of the SVP is to provide material for the use of the private breeding sector.

Currently SVP distributes about 400,000 seeds and first year clones annually. For potential recipients of this material SVP prepare a detailed catalogue of material annually, which is made available to all breeders. The decision on which material to make available is made by an advisory committee comprising breeders and other experts, and this is confirmed by the SVP board. Breeders submit their applications for material from the SVP catalogue on an annual basis. They choose this material on the basis of their past experience with similar material, discussions with SVP staff and how the material looks at the annual open day when breeders visit SVP.

The private breeding sector to which the SVP material is distributed, currently consists of about 100 breeders. This sector is composed of three different types of 'breeders':-

- The major potato marketing organisations with potato breeding stations and selection groups
- The breeder/selectors
- The selectors (hobby breeders).

Although all individuals and organisations engaged in work in these three areas are referred to as 'breeders', only a small proportion of these undertake their own crosses, with the majority selecting material made by others.

The most important major breeding organisations (with potato breeding stations and selection groups) are ROPTA, ZPC, VK, HETTEMA ZONEN, CEBECO and KARNA. KARNA is exclusively involved in breeding new varieties for the starch industry.

All of the other breeding organisations are owned by, or otherwise commercially linked to, the major seed potato exporting organisations and, with the exception of Hettema Zonen's breeding facilities, are all owned by co-operatives. ZPC acts as commercial agent for their own and ROPTA's varieties, while Agrico acts in the same capacity for the varieties of VK and CEBECO.

Agrico, ZPC and Hettema all have their own breeding stations, employ their own plant breeders and have their own facilities for crossing and undertaking disease tests. They hold their own bank of parental material, some of which has been collected from international sources, independently of SVP. Each organisation, in addition to its own in-house breeding and selection programme, also has a group of affiliated selectors (growers) who undertake the selection of either seedlings or first year clones during the first years of a breeding programme.

The category 'breeder/selectors' includes most of the smaller and medium sized breeding organisations, which undertake their own independent breeding programmes using either their own or SVP parental material. A number of the most prominent independent breeders/selectors have now joined together to form the group 'Transolanum'.

This group was set up primarily to assist the commercial development of its members varieties, and for this purpose all its varieties are also marketed by Agrico.

Many of the persons referred to as potato breeders in The Netherlands do not carry out any crossing of breeding material. Their breeding work involves the selection of new varieties on the basis of material which has been produced by the crossing programmes of other breeders or the SVP. In most cases these selectors are working or retired farmers who undertake potato breeding as a hobby - the famous 'hobby breeders' of The Netherlands. Young suggests that of the 100 or so 'potato breeders' in The Netherlands, about 80 - 90 are selectors of this type. (Young N.A. 1984).

For Dutch potato growers, 'hobby breeding' is rather like doing the football pools - the chances of winning are slight but when a win comes it can be a whopper. The potato variety Bintje, which accounts for 70% of the Dutch ware crop, was discovered by such a hobby breeder at the turn of the century. A hobby breeder who comes up with only a moderately successful variety, say 100 ha (250 acres) of seed grown a year, can do very well. The royalties from such an area can easily bring in £20,000 a year.

Although most private sector breeding in Holland is now carried out at the breeding stations of Agrico, ZPC and Hettema Zonen, the role of the hobby breeder is still crucial. ZPC currently screens about 100,000 new seedlings annually at its central breeding station, but in addition another 25,000 seedlings are screened by members of the co-operative on their own farms. According to the director of ZPC's breeding programme,

"our private hobby breeders find more viable varieties per 1000 seedlings than we do at the breeding station. They know a good variety when they see one and are very enthusiastic; they will look their seedlings over in the evenings and on Saturdays rather than watch football on television. They have potato hands and potato eyes." (Mr Jan Tripp, ZPC's breeding director).

By the fifth year of their breeding programme, Dutch breeders can ascertain which varieties show greatest potential for fulfilling identified target market requirements, and these varieties are then entered into a national selection system (preliminary trials) which incorporate material from all of the private breeders. Roughly 200 clones are taken for first year trials, and 50 for the second year. Of these roughly 20 are submitted to official trials each year.

When deciding which varieties should be included on the Rassenlijst (varietal list) each year, the Rassenlijst Committee not only takes into account the results of the official trials, but also collects the views and opinions of farmers who have experience in growing similar varieties and the views of the marketers concerned with the exploitation of these varieties in foreign countries. Thus the final selection of new varieties is conducted within a market-orientated framework before they are put on the Rassenlijst.

Another important component of the trials is the conducting of tests for specific market segment recommendation. The results of these recommended list trials are published annually in the Rassenlijst and all varieties are classified according to recommended use. This classification includes the categories shown below, indicating the number of varieties in each category:-

	<u>No. of Varieties</u>
A - Variety recommended for general growing	41
B - Limited importance or special circumstance	31
O - Minor importance or no longer completely described	-
N - New, recommended variety	7
T - Accepted new variety with sufficient agricultural value	10
UB - Variety mainly for export but also admitted for home use	90
U - Variety only for export, beyond EEC	57

This illustrates very clearly the vast extent of the export-orientated varietal resource which the Dutch industry has at its disposal, representing a formidable product portfolio with which they can maintain, and further develop, their overseas markets. By comparison, the Northern Ireland export portfolio has not changed significantly for decades and currently only three new Northern Ireland varieties are being developed as competitors to the Dutch. By the same token it is alarming to note that the biggest U.K. seed potato exporter (Scotland) is almost totally dependent on one variety - Desiree. For the past five years Desiree has represented up to 85% of total Scottish seed potato exports. Desiree is in fact a Dutch-bred variety which became established in the U.K. before it could be legally secured by the Dutch breeder through Plant Breeders Rights legislation. Interestingly this Dutch variety also accounts for 30% of Northern Ireland's total seed potato exports!

The very limited export-orientated resource base of the U.K. industry verifies the fact that the U.K. breeders are relative newcomers to the international breeding scene. The vast majority of U.K. exports are in fact dependent on one Dutch variety, for which the Dutch industry have already bred several successors. According to Agrico and Hettema representatives spoken to, the effective product life cycle of Desiree is nearing an end (especially as it will become exempt from PBR legislation in a couple of years and thus will be an internationally 'free' variety) and so their breeding programmes have for some years been geared to producing red-skinned, cream-fleshed successors to Desiree. Hettema have for example, a new variety called 'Delcora' red-skinned and cream-fleshed, with maturity similar to Pentland Crown, yields similar to Desiree, but with better shaped tubers and much shallower eyes than Desiree. With Desiree in its parentage, Delcora produces tubers with good cooking quality and is also said to be suitable for chipping. Other characteristics include good storage properties, good late blight resistance, and resistance to leafroll and virus Y.

Thus, while the U.K. export portfolio remains fairly stagnant, the hallmark of the Dutch system is that of a very dynamic developer, continually screening large numbers of potential new varieties and selecting the best for its export-orientated portfolio.

In summary, therefore, the factors which contribute to the success of the Dutch new product development system are as follows:-

- (i) The Dutch industry has a long historic involvement with potato breeding; this vital tradition has been maintained and nurtured to the present day by generous financial incentives, both from government and from the large seed potato exporters.
- (ii) An important factor is the vitality and enthusiasm of the private breeding sector in producing and growing new varieties. In particular, the efforts of the small scale hobby breeders, in maintaining and trialling potential new varieties on their own farms, provides the industry with a very wide resource base from which to select successful new varieties.
- (iii) The Dutch trialling system makes it possible for the industry to assess, in an objective and scientific manner, all potential new varieties which are produced by the private breeding sector. The preliminary trials act as a very effective 'filter mechanism' for new material before it passes on to official trialling, and is instrumental in enabling the Dutch industry to sustain a large and productive private sector breeding effort.
- (iv) All distinct commercial varieties in The Netherlands, are identified by the private sector, thus providing a strong incentive for individuals and private organisations to become involved in breeding. Private organisations which identify new varieties, automatically obtain the Plant Breeders Rights to these varieties and are thus in possession of an intrinsically valuable, controlled, unique product range.
- (v) All breeding organisations in The Netherlands have a policy of breeding specifically for export.

- (vi) The existence of the STOPA organisation, and its commitment to regularly remove surplus seed potatoes from the market, acts as a risk-reducer for Dutch breeders in the process of breeding and maintaining potential new export varieties on Dutch soil.
- (vii) The breeding/marketing interface is particularly well developed in the Dutch industry, for two reasons. Firstly, because the main seed potato exporters have their own 'in-house' breeding programmes, and are also fully engaged in the international seed potato marketing scene, they can gear their new product development process to provide what overseas customers demand. Secondly, when deciding which new varieties to add to the Rassenlijst, the Rassenlijst Committee enter into consultations with the major seed potato exporters, thereby gauging what the varietal requirements of customers are, and on this basis they can select for trialling those varieties which show greatest export market potential.
- (viii) The major Dutch seed potato exporters have a very realistic appreciation of the limited Product Life Cycle of seed potato varieties, and are therefore in the business of continually updating their product portfolios (witness for example the many new red-skinned, cream fleshed maincrop varieties introduced in recent years, to replace Desiree).

The vigour and export-orientation exhibited by the Dutch new-product development process, is therefore one of the most important factors contributing to their success as a seed potato exporting country.

4.2.4 The Indicators for the Northern Ireland Industry

Organisationally and strategically the Dutch industry is strong in many areas where the Northern Ireland industry is weak. In seeking indicators for the improvement of both strategy and organisation within the Northern Ireland industry, therefore, much can be learned from the Dutch export marketing system.

The organisation of the Dutch industry is exemplary, and is based on strong horizontal and vertical integration through formal marketing cooperatives. The main organisational weakness of the Northern Ireland industry is the lack of integration at producer level and the almost total lack of production-marketing integration within the marketing channel. The Dutch industry therefore provides a commendable model of horizontal and vertical integration, through cooperation, for the Northern Ireland industry to emulate in solving its organisational problems. The Northern Ireland seed potato cooperative, Expotato, is to be applauded therefore in having initiated a move towards such horizontal and vertical integration for the Northern Ireland industry.

Other organisational lessons for the Northern Ireland industry include

- (i) The high degree of marketing-orientation and service provision of the Dutch inspection system.
- (ii) The highly disciplined production-control and planning system in the Netherlands.

- (iii) The democratic structuring of all key committees and organisations, which prevents unproductive conflicts and stalemates developing between the production and marketing sectors.
- (iv) A range of risk-sharing contractual arrangements can be formulated in order to rationalise relationships between producers and sellers.

The strategic strengths of the Dutch industry are particularly relevant to the Northern Ireland industry, because the Dutch are rapidly becoming market leaders in most of Northern Ireland's traditionally strong markets. The main strategic indicators for Northern Ireland are as follows:-

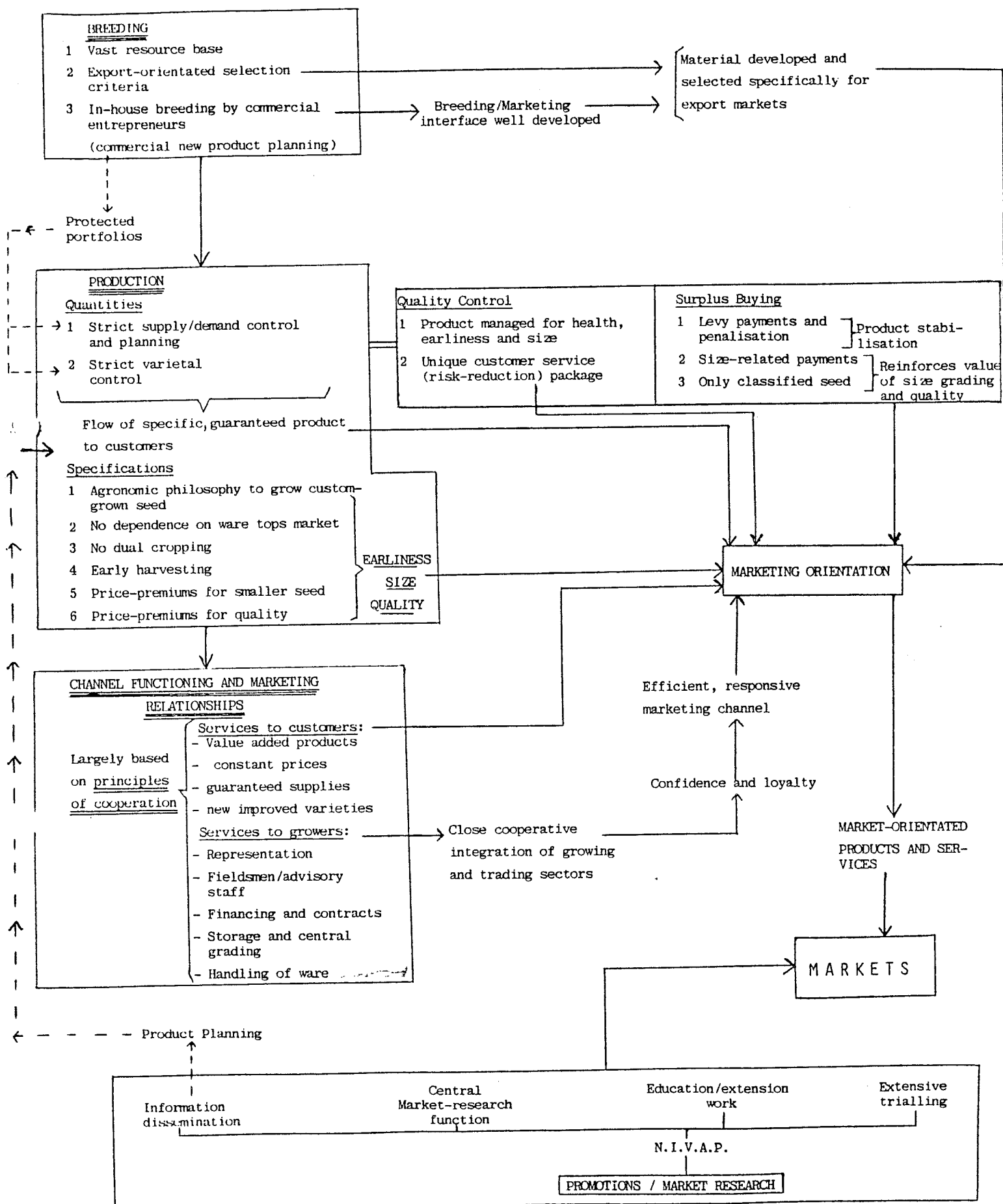
- (i) Strict segmentation of markets should be based on a mix of product-specific and service factors (grading, packaging, delivery time).
- (ii) Such segmentation should be capitalised upon by the pursuit of a customisation strategy, rather than the present globalisation strategy (which emphasises price competition rather than competition based on product diversification).
- (iii) A strong commitment to the industry is more likely to be a feature of single-product (seed potato) traders, than of traders where seed potato exporting is a peripheral business interest. The rationalisation of marketing channels into a few, large, single-product traders, therefore represents a considerable strategic advantage.
- (iv) A strategy of centralisation of grading and packaging not only optimises scale economies, but allows for rapid bulking of customised products which can be traded with value-added to the benefit of producers.
- (v) A rationalisation of internal transportation of product, based on a single movement of the product from field to cooperative store, and a second movement from the store to the dockside, reduces distribution costs and dissipation of producer margins.
- (vi) The possession of exclusive product portfolios by the major traders, prevents the development of intracompetitive sales strategies based solely on price competition.
- (vii) A successful new product development strategy is characterised by
 - A strong in-house NPD/marketing interface
 - An international orientation
 - Early customer involvement
- (viii) A successful promotional strategy is characterised by the following:-
 - Widespread trial coverage
 - Professional staffing of the promotional organisation
 - Placing of agronomic advisory and marketing staff in key markets.

- The provision of educational services to key decision makers in key markets.
- (ix) The operation of a market-support scheme is a useful confidence-building strategy within a seed potato sector. Penalties emphasise production discipline.
- (x) Product development and marketing management strategies are based on a good appreciation of the product life cycle concept.

In conclusion, it can be said that the success of the Dutch export marketing system is largely due to the fact that both the strategic and organisational components of the industry are managed with a good marketing-orientation.

Such marketing-orientation is illustrated in Figure 20.

Figure 20: A Model of the Success Components of the Dutch Industry:-
Management for Marketing-Orientation



Sections 4.3, 4.4, 4.5 and 4.6

Within the context of this thesis it is felt unnecessary to reproduce, in detail, comprehensive descriptions of the Scottish, Irish, French and Canadian seed potato industries. These industries have been comprehensively covered in report number 3 (Appendix 3), published by Cranfield Press in 1987.

Rather, the four sections listed above will describe the quintessential organisational and strategic components of the Scottish, Irish, French and Canadian industries respectively. Organisational and strategic indicators for improvement of the Northern Ireland system will be detailed at the end of each of these sections.

4.3 THE SCOTTISH SYSTEM

An analysis of how the Scottish seed potato industry has evolved over the past three decades, and in particular how it has developed organisationally and strategically in response to changing market requirements has proved very instructional. This is of particular interest to Northern Ireland, for two reasons:-

- (i) Up until the 1970s the Scottish industry was characterised by very polarised production and selling sectors, and by a very fragmented, intracompetitive merchant sector. This is very much the situation at present in the Ulster industry, and it is informative to analyse how the Scottish industry has managed to develop a much more integrated industry.
- (ii) The Northern Ireland industry is also new faced with rapidly changing market requirements.

4.3.1 Strategy and Organisation for Export Marketing

Traditionally, the main markets for Scottish seed potatoes have been the nearest-neighbour markets of England and Wales. Until the 1970s, Scottish exports to countries not classified as nearest neighbours, such as South Africa, Spain and Italy, amounted to only 10,000 tonnes per year.

In comparison, deliveries to England and Wales were of the order of 250,000 tonnes per annum throughout the sixties. This low level of international exporting took place on a very ad-hoc basis, and was conducted by an intracompetitive, traditional merchanting sector, with little or no real value being added to the grower's product. (Mundy (1973), Hay (1969)).

However, by the 1970s it was clear that the Scottish industry would have to develop both organisationally and strategically if it was to keep pace with market developments. Three factors brought this home to the industry.

- (i) Firstly, the levels of trade with England and Wales began to decline, from a maximum of about 265,000 tonnes in the mid 1960s to just under 200,000 tonnes by 1970. This decline was largely due to the increasing average yields being achieved in ware production, which in turn led to a reduction of the area used for ware production in England and Wales. In addition, the impact of

joining the EEC resulted in a change from a protected, and so captive, home market, to the free, open market of European competition.

- (ii) Secondly further problems associated with internal market conditions were identified by Hay (1969) and Mundy (1973), prior to the influence of EEC rulings. Hay and Mundy both noted the decline in demand for Scottish seed as yields of ware and seed rose. This led to a situation of over-supply of seed and low prices (with the exception of the 1975 and 1976 drought years). Hay also attributed this decline in demand to the poor quality of seed coming from Scotland, while Mundy saw the increasing use of own-grown seed (as a reaction to low quality) as the principle factor in the decline. Both Hay and Mundy stressed the need to develop the export market to reduce oversupply on the home market, which would then allow prices to rise and so ensure a more prosperous future for seed growers.
- (iii) In pursuing a strategy of export expansion, it was clear that there were several factors limiting the Scottish industry's capabilities. A major inhibiting factor in the development of the export market, as Hay and Mundy noted, was the lack of co-ordination found in the structure of the Scottish seed potato industry. (As is presently the case in Northern Ireland).

The main problem was recognised as being the domination of the Scottish industry by large merchant organisations, who, carrying a hangover from the captive market days, tended to view other merchants as their worst enemy. It was noted, with some concern, that this lack of co-ordination and co-operation was very different from the highly successful co-operative system in the Netherlands. (Mundy (1973)).

It was clear, therefore, that if Scotland wanted to become a serious exporter of seed potatoes then a necessary precondition to any strategic development would have to be an improvement in organisation.

Hays report of 1973 recommended four main organisational and strategic improvements:-

- (i) Improved horizontal integration, both within the production and trading sectors.
- (ii) Improved vertical integration of production and marketing functions.
- (iii) The establishment of a single promotional body for the industry, as a method of export market development.
- (iv) The intensification and co-ordination of seed trialling in export markets.

The greatest lesson here for the Northern Ireland industry is that, in response to Hay's report and recommendations, the Scottish industry took action; as a result of which export tonnages increased rapidly from 10,000 tonnes in 1970 to over 60,000 tonnes in 1979.

Horizontal integration of traders was achieved by the formation of an export co-operative of six merchants called Scottish Potato Export.

A new post of Seed Potato Export Development officer was created within

the PMB in Edinburgh, giving the industry the beginning of a professional, single-purpose promotional body.

The PMB assumed the role of intensifying and co-ordinating seed potato trialling abroad.

Having seen the success of the merchants in co-operating within Scottish Potato Exports, Scottish producers formed the Scottish Seed Potato Association with a view to developing better horizontal integration of growers. It was eventually decided in 1980, that this association should become a statutory body to centrally manage the market development function for the industry. The name of the Association is now the Scottish Seed Potato Development Council (SSPDC).

Horizontal integration of producers, and vertical integration of production and marketing functions, has also found expression by the formation of co-operatives and by the development of a disciplined contractual economy between growers and merchants.

Such organisational improvements within the industry have facilitated the development and execution of an export strategy based on:-

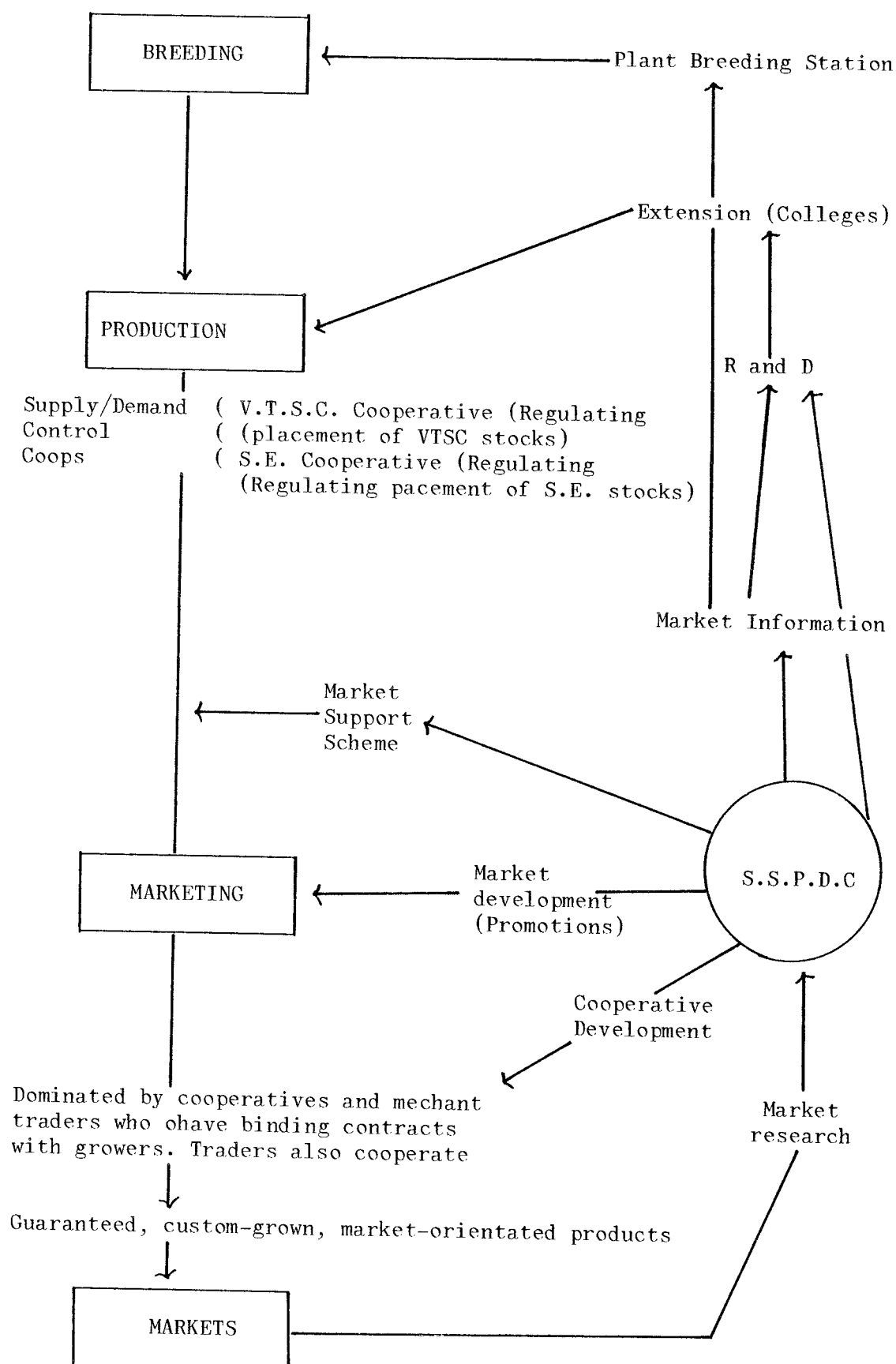
- The guaranteed procurement of core suppliers of export-orientated products by the co-operatives and merchants.
- Optimisation of scale economies through rationalisation of the number of export marketing channels.
- A customisation strategy, made easier by central grading of product.
- Vigorous export promotions, based on extensive trialling.

Over the past two decades, therefore, the Scottish industry has been transformed from a very fragmented, non export-orientated one, to a very integrated one, active in export development. Central to the maintenance and further development of both horizontal and vertical integration within the industry, and to the formulation and execution of export strategies, are the activities of the Scottish Seed Potato Development Council (SSPDC). SSPDC now represents a strong central management agency for the Scottish industry. Not only does it conduct marketing research, development and promotional activities overseas for the industry, but it has, over the years, encouraged the formation of co-operatives at both producer and trader levels. Most recently the "VTSC growers" and "SE growers" co-operatives have been formed, as a method of exercising more market related control over the placement of VTSC and SE stocks in the multiplication channel.

In recognition of the importance of a market support system within a seed potato industry SSPDC has also recently negotiated a Scottish Seed Potato Support Scheme with the PMB (1988).

A model of the Scottish system is illustrated in Figure 21, highlighting the central organisational role played by SSPDC thus enabling export orientated strategies to be pursued.

FIGURE 21: A Model of the Scottish Seed Potato Industry



4.3.2 INDICATORS FOR THE NORTHERN IRELAND INDUSTRY

The main indicators for the Northern Ireland industry are as follows:-

- (i) In seed potato export marketing, an efficient organisational structure is a necessary pre-requisite to the implementation of successful strategies.
- (ii) In response to a marketing crisis, similar to the one being experienced at present by the Northern Ireland industry, both the production and merchanting sectors in Scotland took on board the urgent need for re-structuring on the basis of horizontal and vertical integration.
- (iii) Export orientated strategies are facilitated through the operation of a relatively streamlined marketing channel, operating on co-operative principles.
- (iv) Producers facilitate strategy implementation through entering into disciplined contractual arrangements with co-operatives and merchants.
- (v) Supply-demand regulation, always problematic in a seed potato sector, is being seriously tackled by the Scots, by way of
 - Co-operative control of the placement of VTSC and SE stocks in the multiplication channel.
 - Operation of a market-support scheme.
- (vi) The SSPDC provides a strong centralised management agency for the industry. Guided by this agency, production/marketing units within the Scottish industry are able to gear their export production to both the varietal and product-specific service requirements of customers.

4.4 THE IRISH REPUBLIC'S SYSTEM

The Irish Republic's seed potato industry has many similarities to that of Northern Ireland; production is fragmented, producers tend to be ill-disciplined and some are uncommitted on a long-term basis, and the industry has been in decline, in terms of seed potato export tonnages, over the last two decades.

However, despite being in decline the institutional framework for the integrated management of the Republic's industry has much to commend it, in terms of horizontal and vertical integration. A review of how this system has evolved, and why, and an analysis of the strategies which the industry is trying to implement provides some very useful indicators for the Northern Ireland industry.

4.4.1 The Development of the Republic's Marketing System

From the 1930s (when the Republic's export trade started) through to the 1940s, exports were mostly of the "Arran Banner" and "Up to Date" varieties, and were exported in an unco-ordinated, ad-hoc fashion by a large, intracompetitive merchant sector. The 1931 Agricultural Produce (Potatoes) Act licensed merchants to export both seed and ware. In the late 1940s the merchants involved in the seed trade in County Donegal

(the principle production area in North West Ireland), formed the Irish Potato Merchants Association which along with the proper registration of seed growers, sought to "regularise and improve the export trade in seed potatoes". The formation of this trade association in Donegal was initiated by the merchants in an effort to more co-operatively develop the increasing business opportunity presented by the expansion of seed potato markets in the Mediterranean, and as such, represented the first move towards a rationalisation of marketing.

At the request of the Minister of Agriculture, who was impressed by the co-operative activities of this group of Donegal merchants, the Association was re-organised in 1951, and its position as a centralised marketing organisation consolidated. The Ministry of Agriculture granted to the Association a monopoly of exports of seed potatoes, on the condition that the government would have two representatives within the newly defined body, and also on condition that there would be a rigourously defined, controlled distribution of funds between growers and merchants. The agreement reached by the trade association and the government resulted in 1951, in the setting up of Irish Potato Marketing Limited in order to "develop and administer both the expanding export marketing activity and the marketing structure required to fulfill the market requirements".

An analysis of the Republic's strategic and organisational export capabilities is primarily concerned therefore with the structure and activities of Irish Potato Marketing Limited.

4.4.2 Strategy and Organisation for Export Marketing

The role of Irish Potato Marketing from its formation has been a strong one. The 1951 Agriculture and Fishery (Regulation of Exporters) Act enables it, as Government agent, to have statutory control of all exports of seed potatoes. (Since full membership of the EEC it could be argued that the position of IPM could be challenged regarding freedom of inter-community trade, but such is its expertise and reputation that this would seem unlikely).

Currently the day to day operations of IPM are administered by the General Manager and a staff of twelve, with offices in Dublin and the main production area of Donegal.

The management board of fifteen is composed of a central committee of nine (comprising representatives of all relevant parties, ie growers, merchants, the Irish Farmers Association and two independent Government representatives), and a sub-committee of six dealing specifically with grievances. The independent Government representatives on the central committee have the right to veto motions, and this is seen as an important independent controlling influence on the interaction of growers and merchants within the IPM board structure.

IPM does not produce an annual report which is available to the public, so no exact details of its financial activities are available; instead a report is made direct to the Minister of Agriculture under whose wing and with whose permission IPM operates. Within its governmental remit, IPM's objectives have remained largely unaltered since its inception, viz "the development and maintenance of a profitable export business in classified seed". With the exception of 1981, IPM has performed this

task without direct government aid and is funded by monies retained from export sales revenue.

There are of course limitations to the ability of IPM limited to raise finance for new capital developments. However, in recognition of the need for a greater degree of sophistication and flexibility in production, grading and storage, IPM Limited has been successful in raising a contribution towards the development of two new modern storage and grading units in the main production area of Donegal. In Donegal there are only a very small percentage of growers who have adequate grading and storage facilities. Despite requests for specialised grants towards the erection of special purpose stores made to the Department of Agriculture over many years, grant aid has only been available since 1971 through the Farm Modernisation Scheme. Growers who depend solely on conacre, despite their importance to the industry, are still not eligible for grant aid. For the many producers who have inadequate storage facilities, the grading of potatoes can be a difficult and uncongenial task. For many years both growers and members of the County Donegal County Committee of Agriculture have been requesting government aid for the erection of central grading stores. At a meeting of seed farmers in May, 1975, it was decided to form a Growers Co-operative, namely North Donegal Potato Producers, and to liaise with other interested groups to provide storage and grading facilities for local seed potato farmers. In December 1975 it was decided to amalgamate with IPM Limited and Tirconnell Co-operative Agricultural Society Limited. Site development began in May 1976 and the first potatoes were delivered in September of that year. A grant of £250,000 (Irish) was obtained from the Regional Development Fund and £142,000 (Irish) for FEOGA. IPM Limited combined with the North Donegal and Tirconnell Co-operatives in contributing £120,000 (Irish) share capital and £100,000 (Irish) loan capital.

This probably represents the biggest capital investment made to date by IPM Limited and illustrates the importance attached by IPM to the centralisation and rationalisation of the production, storage and grading functions within the marketing channel.

From the point of view of a centralised marketing agency, IPM Limited sees the advantages of central storage as follows:-

- The quality and quantity of potatoes ready for marketing are easily determined at any given time
- Foreign buyers and potato inspectors can conveniently inspect large quantities of potatoes
- Boats at point of export may be loaded faster and at short notice
- Good quality and presentation of potatoes is much easier to ensure than at farm level
- Because of stronger bargaining power, higher prices are obtainable.

The advantages of central storage from the point of view of the Donegal seed farmers are as follows:-

- It eliminates the need for on-farm storage
- It ensures that potatoes are stored under good conditions; the rejection rate at ports is only 2% as against 17% for potatoes supplied direct from farms
- It reduces labour problems at farm level

- Once potatoes are graded, the farmer is not responsible for any deterioration or rejections at port
- The interim payment made as soon as potatoes are delivered enables the farmer to pay harvesting costs

Despite these advantages, however, the disappointing rate of use of the facility by growers, who are said to be rather undisciplined and ambivalent towards consistent seed production, has proved to be a problem. Figure 22 (below) shows the extent to which the store was utilised by growers during its first five years (1976-1981).

Figure 22: Suppliers to and Output from, the Donegal Potato producers Central Storage Facility (1976-1981)

YEAR	NO OF SUPPLIERS	NO OF 1 TONNE BOXES
1976-77	36	5,600
1977-78	74	16,200
1978-79	70	10,000
1979-80	52	7,000
1980-81	54	9,400

Considering that the Republic has produced an average of about 25,000 tonnes of seed potatoes annually between 1976-81, and that over 70% of this production has taken place in Donegal (17,500 tonnes) then the average annual throughput to the store of about 9,000 tonnes is rather disappointing to IPM Limited.

The philosophy upon which the IPM organisation functions is that marketing of an agricultural product consists in the servicing of customers needs, in terms of continuity of desirable supplies, and in servicing the needs of loyal producers, primarily by rewarding them for their production efforts. To quote the general manager of IPM Limited

"Marketing is not just selling. It is an organised strategy for both the medium and long term, within which the tactical operations of a season, including the sales campaign are conducted. This in itself implies continuity of production. Without reasonably regular supplies, no producer, or group of producers, can expect to retain either the interest or the loyalty of buyers; and in the agricultural world continuity of production implies the confidence of the grower that, if he does his production job reasonably efficiently, he will, by and large, make money from the sale of his crop."

(Burke, 1977)

In the pursuit of this dual marketing objective of providing customer satisfaction through positive management of, and provision of appropriate services to, the growers, IPM operates a highly integrated system of central management. Internally it rests on the following four points:-

- Supply/demand regulation and marketing planning, through recommendations on planting:-
Each Autumn IPM produces a leaflet advising seed potato growers

and merchants about which varieties should be increased or decreased in the coming season. This advice is received, therefore, will in advance of the planting season in question.

- **Guaranteed minimum prices to growers**, as a means of encouraging production discipline and continuity:-
A centralised price support facility is available through the setting of minimum guaranteed returns to producers by the main committee of IPM Ltd. These prices are fixed, guaranteed, and made known to growers well in advance of planting. IPM then sells the seed to exporters and pays supplying merchants. It is during this process that an amount is deducted to provide for research work, expenses, and some subsidy element for those varieties which are either fetching a low price on export or which are overproduced. If a surplus of any variety is discovered then steps are taken to dispose of it as ware.
- **Supply/demand planning through contracting**
Growers of seed are obliged to contract directly to IPM Ltd. IPM contracts are based on contracting the 'produce of the crop' of growers, and on the basis of the crop acreage, tonnages for export are calculated.
- **Centralised risk-sharing** through a final price setting mechanism. Final returns to growers and merchants are decided late each autumn, once a significant proportion of the crop has been sold. The final prices ex-farm are the same for each variety to each grower for the same product, irrespective of when they are moved, for all quantities covered by the contract scheme.

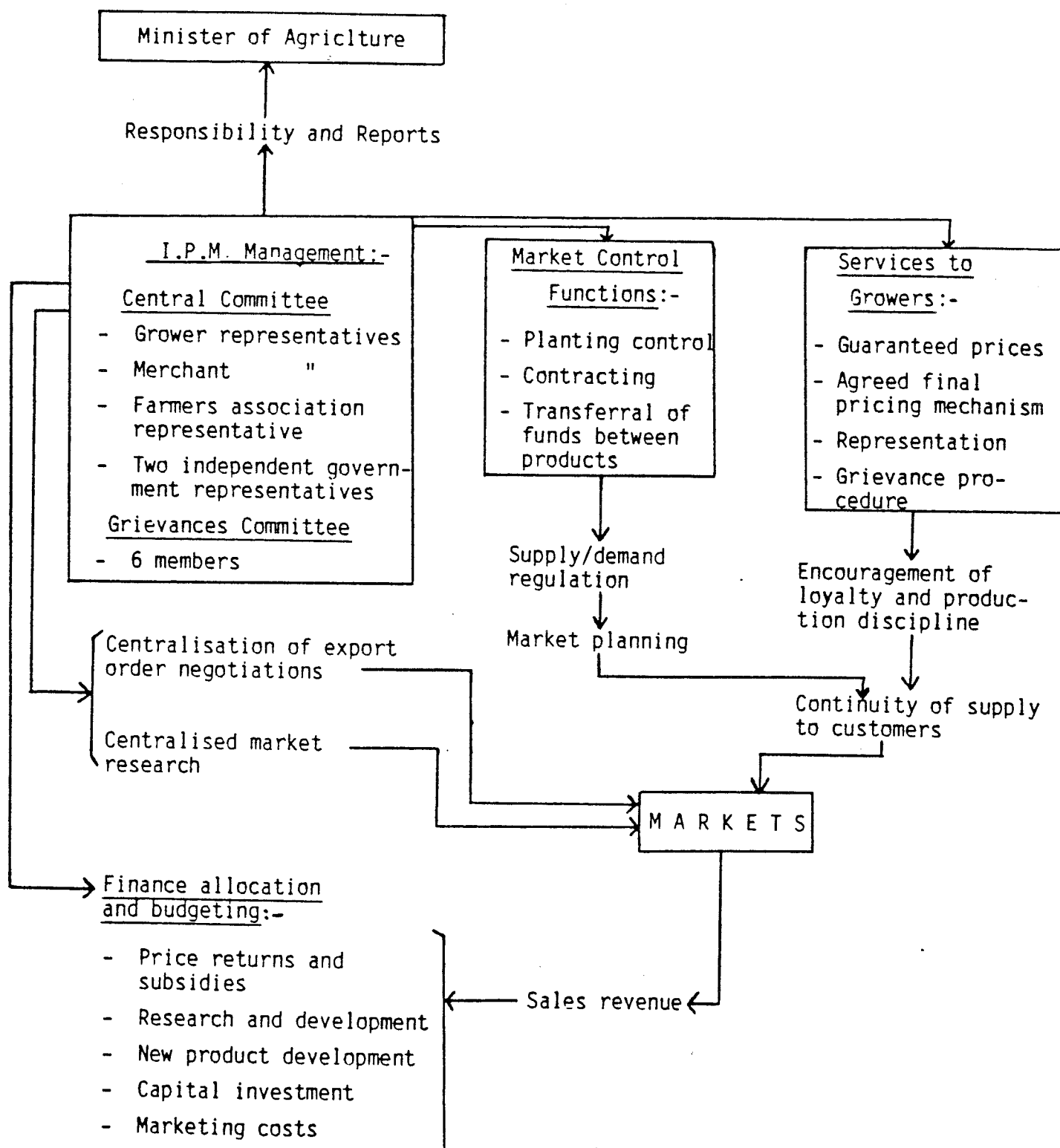
Naturally, the market for seed potatoes, as with all other agricultural products, can vary very substantially from year to year. Indeed the potato market can vary more than many others for the simple reason that a 25% rise in production can push prices down to the floor. The guarantee price scheme operated in the Republic has worked, and guarantees to growers have been maintained, basically because of two things:-

- A balance of production between the various export varieties, or groups of export varieties has been maintained by transferring funds from one variety or group of varieties to another within the same season.
- Prices in years of bad export markets have been supported by drawing on reserve funds created by creaming off money at the top of the market and holding it in reserve for the bad times to come

Thus, the centralised marketing management role played by IPM Ltd. is instrumental in integrating several vital functions of the seed potato sector which would otherwise not be possible within such a very fragmented industry.

Figure 23 is a model of the Irish Republic's seed potato industry, highlighting the centralised IPM marketing management role.

Figure 23: A Model of the Irish Republic's Seed Potato Industry



IPM Management realise that the industry now faces a major marketing crisis, for two reasons;

- (i) The product and service requirements of customers in export markets are becoming ever more sophisticated in terms of grading, packaging, quality guarantees, earliness of deliveries and after sales service.
- (ii) The Dutch are rapidly becoming market leaders in many of Ireland's traditional markets, through aggressive promotion, new products, product diversification, and earliness of delivery.

(Personal communication from K Burke, General Manager of IPM Ltd.)

IPM management believe that in order to pursue appropriate remedial strategies in such a crisis situation, then their centralised, integrated system has many strengths. Centralised grading and packaging, and disciplined production/marketing integration allow the industry to pursue a customisation strategy, which is seen to be appropriate in international seed potato markets. However, this organisational strength, and willingness to pursue appropriate strategies, is undermined by one overriding weakness:- the lack of an appropriate portfolio of export varieties. As in the Northern Ireland industry, new product development has traditionally been conducted by the state as a relatively low-key function. As a result, the Republic's industry is also now in possession of a portfolio of rapidly declining products. IPM is addressing this weakness by closer integration of its marketing activities with the NPD activities of the state breeding station. However, given the long product-development and introduction times for seed potato varieties, it will be many years before this initiative produces new successful products.

4.4.3 Indicators for the Northern Ireland Industry

The main indicators for the Northern Ireland industry are as follows:-

- (i) Despite having an ideal structure for the centralised marketing management of its seed potato product, the Republic's industry has declined rapidly because its export varieties are now in the decline phase of their life cycles. These products have neither been rejuvenated nor replaced by new products. As in the Northern Ireland industry, this highlights the need for management in seed potato sectors to more fully utilise the product life cycle concept, and to tailor NPD and marketing strategies accordingly.
- (ii) Changing export market requirements are identified by the management of IPM Ltd as the main challenge now facing the industry. Of particular importance are requirements for earlier deliveries, and more added-value in terms of size grades, tuber counts per bag, and guaranteed physiological age of seed. The sluggishness of the Irish seed producers in adapting their production and harvesting regimes to suit these new requirements is compounding the decline of the industry.

- (iii) Undisciplined producers, who fail to make full use of a central grading and storage facility, can undermine the best designed central management system.
- (iv) In an attempt to further develop export markets, and to remove unproductive conflicts and duplication of efforts from the marketing channel, it was the Irish merchants (like the Scots) who initially decided, voluntarily, to unite and form a more cohesive, integrated marketing channel.

4.5 THE FRENCH SYSTEM

The development of the French seed potato marketing system over the past few decades has many similarities to the development of both the Scottish and the Irish systems, just described. In particular:-

- (i) In responding to a market crisis, and a need to expand and diversify their export trade, it has been the French growers and traders themselves who have been the driving force in forming a disciplined, integrated, market-orientated industry.
- (ii) Despite being an industry which has declined over the past two decades (and again this has been due to one major factor:- the loss of the Algerian market for political reasons), the French industry has a commendable system of production and marketing integration, at both local and regional levels.
- (iii) The industry is managed along cooperative principles, with the growers and traders having an equal say in the management process.

A review of how such a system has evolved, and how it facilitates the implementation of export strategies, provides many useful indicators for the Northern Ireland industry.

4.5.1 The Development of the French Marketing System

Faced with the need to increase production and to improve health standards at local level during the 1920s, French seed potato growers took the initiative in setting up local selection 'syndicats' (associations). This was assisted by the French Ministry of Agriculture which defined regional 'centres of selection' in 1921 in those areas of the country judged to be most favourable for seed production. By a process of multiplication and then amalgamation these regional centres of selection have evolved to their present number of about twenty, each with between 100 to 1000 members, depending on concentration of production. In Brittany, all the separate syndicats united in 1927 to form the Federation des Syndicats Bretons (FSB). Currently, there are fourteen Syndicats in Brittany, covering the three Departments of Finistere, Cotes du Nord and Morbihan. These group together 2,600 growers, cultivating about 10,000 Ha, and marketing about 150,000 tonnes of seed each season.

As well as belonging to one of the larger regional syndicats (centres of selection), growers also belong to their immediately local syndicat, consisting of about 10 - 15 growers. The regional syndicats in

Brittany, assisted by the Federal body, the Federation des Syndicats Bretons, are concerned with defending the interests of producers and the technical aspects of production; health, yield, storage, etc.

On the marketing side, the local syndicats are organised into a regional producer-controlled marketing organisation. There are three of these in France; one for each production region, as shown below:-

Brittany ----- 'G.O.P.E.X.'

North East ----- 'Le Comite du Nord'

Massif Central ---- 'GROCEP'

A further central coordinating body exists to develop the activities of seed growers at national and international level; the Federation National Plants des Producteurs de Pommes de Terre (FNPPPT).

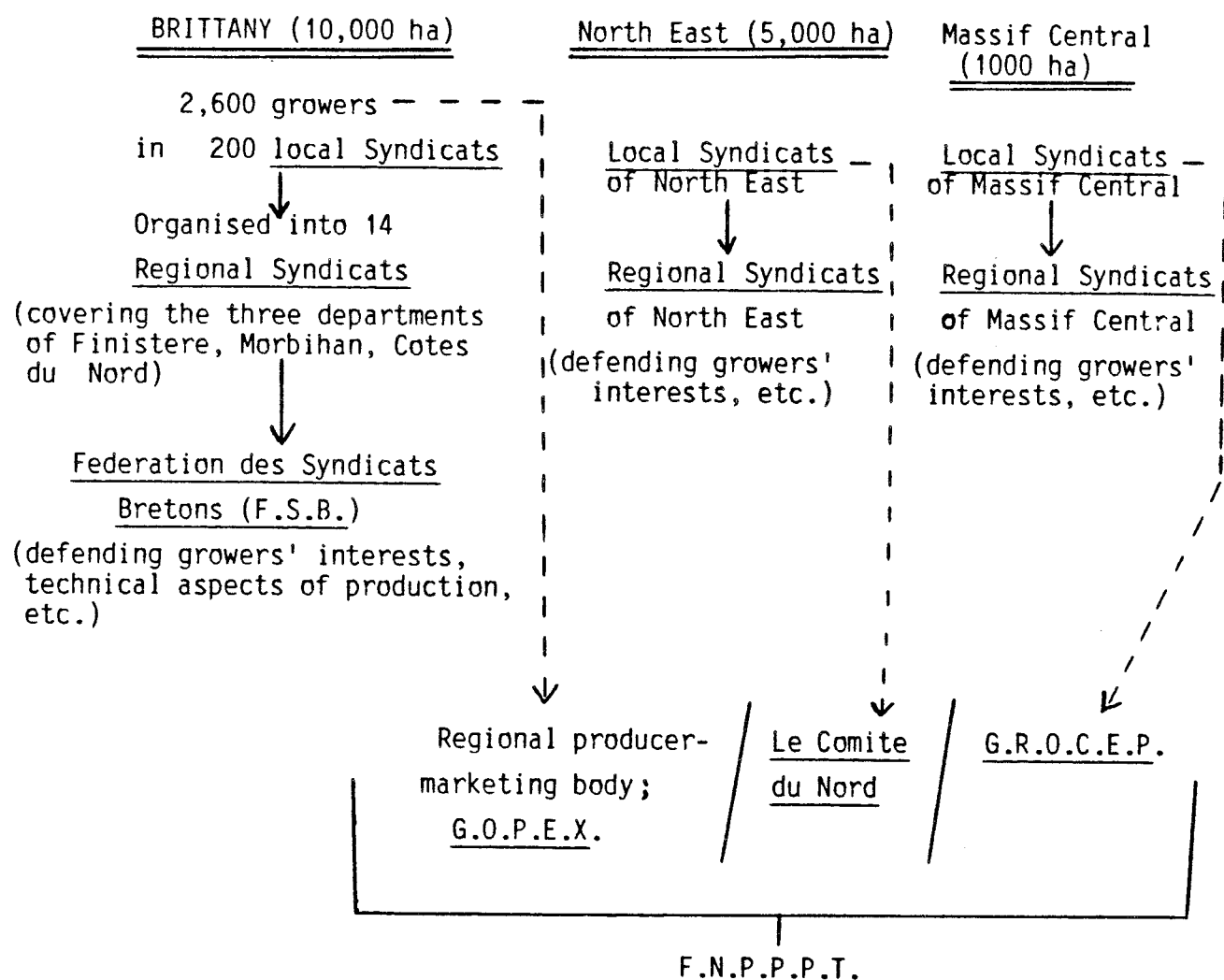
The structure of the French seed potato industry is shown in Figure 24.

Each of the twenty regional syndicats has an executive committee, an office and a Secretariat. The role of the syndicats and of their Federation is:-

- a) The genetic improvement of varieties of potatoes. To this end the Brittany Federation set up its own small breeding station in 1942, followed by a much larger one in 1970 at Kerloi, Ploudaniel, near Landerneau, in collaboration with private breeders. The organisation responsible for the breeding work is the Association des Createurs de Varietees Nouvelle de Pomme de Terre (ACVNPT). Its work involves crossing of existing varieties, while more basic scientific breeding work is carried out at the nearby station of the Institute Nationale des Recherches Agronomiques (INRA). Any varieties produced by INRA are handled commercially by ACVNPT.
- b) Production of basic seed material. This is done on rented land by the permanent staff of the syndicats. They own appropriate planting and harvesting machinery and their own store.
- c) Supervision of the presentation of stocks for inspection. The inspectors are, in fact, officials of the syndicats who have been concerned with all aspects of the production of the stock and who have an intimate knowledge of its progress throughout the year.
- d) Technical advice to the farmers, both indirectly through circulars, meetings, etc. and directly in the course of their supervisory and inspection work.
- e) Allocation of the proportion of different varieties to be grown by producers in a syndicat after the syndicat has been allocated its quota by G.O.P.E.X., GROCEP or Comite du Nord (the relevant regional marketing organisation).

Figure 24: The Organisational Structure of the French Seed Potato Industry

Three main production areas:-



(Federation National Plants des Producteurs de
Pommes de Terre)

(National Seed Potato Producers Federation)

The National Seed Potato Producers Federation, set up in 1934, has the following functions:-

- Responsibility from the producers side for the inspection scheme
- Diffusion of technical information
- Representation of the interests of seed potato producers with government
- Production of V.T. material for the establishment of clonal stocks; this is done from the Federation's laboratory at Landerneau. Virus testing of lower grade material is also carried out at this laboratory.

4.5.2 Strategy and Organisation for Export Marketing

Not only have French seed potato farmers taken the initiative to organise themselves very strongly at local level for production and technical reasons, but they have also maintained control over marketing functions, and achieved a high degree of production/ marketing integration.

Historically, harvest fluctuations and the resulting market price speculation led French producers to organise themselves into producer-controlled regional marketing organisations.

The first such marketing organisation to be established was GOPEX, set up in Brittany in 1962. It achieved the position of being a statutory body in 1966 under the auspices of the Comité Economique Régional Agricole Fruits et Légumes de Bretagne (CERAFEL) whereby if the majority of producers growing a major part of a crop in a designated region are in agreement with the formation of a marketing group, then membership of the group becomes statutory.

The structure of these marketing bodies are based on:-

- The producers, the membership of the body, (i.e. farmers elected by farmers)
- The producers, with the exception of a few producer-sellers, are also linked to collectors (cooperatives and merchants)
- these collectors are themselves linked to the body by an Agreement (currently there are 17 collectors in Brittany)

Thus the growers and the traders are working together through their involvement with these marketing bodies, and the traders are involved in binding agreements with these organisations.

Within this marketing structure, the responsibilities of producers are as follows:-

- Producing seed to a quota and putting it through various tests
- Respecting the rules of selection; seed renewal, treatment, haulm removal, sorting, grading and storage

- Paying appropriate dues

The collector (merchant or cooperative) is responsible for:-

- Paying the producer an agreed minimum price
- Collecting dues on behalf of the marketing organisation
- Marketing of the organisations products, both in the domestic market and abroad

The marketing organisation (GOPEX, etc.) has four main functions:-

- Direction and management of production
- Market support and management
- Promotion of varieties and extension work
- Development of exports

Although not the only marketing organisation of its kind, GOPEX is the largest of the seed potato marketing organisations, handling up to 80% of all French export production.

It is instructive therefore to look at how GOPEX carries out its various functions and responsibilities.

Direction and Management of Production

GOPEX fixes a joint Production Plan for Brittany and the other producer regions (North East and Massif Central) affecting varieties common to all three of them, and a separate plan for Brittany with respect to other varieties.

Collectors are given a quota for each variety and it is their job to allocate this amongst farmers, and to secure supplies with legally binding contracts.

Market Support

GOPEX fixes a minimum crop price which takes account of costs of production, available tonnage, marketing costs and market demand.

It also manages market support operations; including regulatory contracts (at national level), market purchases of quantities for human and animal consumption, indemnifying producers for unsold stocks and managing a "stabilisation fund".

Promotion, Extension and Development of Exports

GOPEX carries out promotional activities and sets up demonstration fields to develop Brittany seed in France and abroad. This is done for all new Breton varieties, irrespective of who the breeder is.

The promotion of exports is given very high priority by GOPEX. It is trying energetically to develop export markets, and has excellent

facilities in the form of stores cooled by refrigeration at the dock-side in the port of Brest. All exports are registered with GOPEX, and handled at the port by its personnel.

Promotion of French seed abroad is by:-

- Experiments and trials to find the varieties best suited to conditions in the various countries
- Personal contact with foreign experts and seed importers
- Arrangement of visits to Brittany for prospective customers
- Absolute priority of supplies for exports, even in a year of shortage and high prices on the home market

GOPEX has been engaged therefore, for over twenty years, in organising, disciplining and supporting a market for which there exists no EEC regulation. As a result, French seed potato growers can be congratulated on taking upon themselves the financial and administrative burden of integrating their production and marketing activities.

As in the Dutch and Scottish industries, the high degree of integration in the organisation of the French industry facilitates the pursuit of export marketing strategies based on:-

- Customisation and product diversification
- A market-orientated N.P.D. process, with good integration of marketing and breeding
- A strong central promotional body, conducting extensive trialling abroad
- The handling of the seed product by an agency for which seed potato exporting is a central business activity, and not just a peripheral one.
- The exercising of supply/demand control, through a market-led quota system and a surplus-buying scheme.

4.5.3 Indicators for the Northern Ireland Industry

The main indicators for the Northern Ireland industry are as follows:-

- (i) In responding to a need to develop and diversify their export trade, it has been the French seed growers and traders (collectors) who have provided the impetus in forming a disciplined, cooperative marketing channel.
- (ii) The French industry is managed on cooperative principles, with the growers belonging to local production cooperatives (syndicats) and a regional marketing cooperative.
- (iii) Supply-demand regulation is achieved by the allocation of local quotas, formulated by the regional marketing organisation in

relation to market conditions.

- (iv) Regional marketing organisations do not compete in export markets with the same varieties, because each region has its own exclusive portfolio, developed at its own breeding station.
- (v) As market development, market research, extension, and breeding work are all controlled by the regional organisation, then for each region the marketing/new product interface is well developed.
- (vi) Relationships between the growers, the collectors and the regional marketing organisation are regulated by a proper contractual economy, and enforced by legally binding agreements. Included in this is an undertaking by the collectors to pay growers minimum prices, and an obligation to market their contracted producer's crops.
- (vii) Growers are further supported by a market support scheme, administered by their regional marketing organisation.

4.6 THE CANADIAN SYSTEM

Although the major part of Canada's "export" trade is to the captive, nearest neighbour market of the U.S.A., the Canadians are also now exporting to (mainly Arab) countries in the Mediterranean Basin, including Algeria, Egypt, Lebanon, Morocco and Jordan.

However, it is clear that in trying to further develop its export trade beyond the U.S.A., the Canadian industry is facing major organisational limitations. Just what these limitations are, and how they are being resolved by the Canadians, provides some useful lessons for the Northern Ireland industry.

4.6.1 The Development of the Canadian Marketing System

In each of the three industries previously modelled (the Dutch, Scottish and Irish) a recurring feature has been the high degree of centralised management and integration which has been developed in order to facilitate the pursuit of appropriate export strategies. By way of contrast, the Canadian system is analogous with the Northern Ireland system in that the export trade is still handled by a fragmented merchanting sector. Whilst this merchanting sector is by no means as fragmented or intracompetitive as that in Northern Ireland, it is nevertheless seen in Canada as an increasing impediment to the coordinated development of export strategies. Black (1984) reports that there has long been a lobby of Canadian producers and producer groups who wish to have all export marketing conducted through a single organisation. This is seen as being particularly necessary to counter the bargaining strength of the large Dutch cooperatives in the world's seed potato markets.

With increasing pressure being exerted on the Canadian government to take a hand in rationalising export marketing, it is clear that the Canadian industry's organisational structure is in a state of change. Just what the proposed changes are, and how they will influence the

industry's exporting capabilities, is of particular interest in the context of proposing organisational improvements to the Northern Ireland industry.

4.6.2 Strategy and Organisation for Export Marketing

The Canadian National Farm Products Marketing Council was established in 1972 under the Farm Products Marketing Act, to supervise agencies set up to administer national and regional agricultural marketing plans. The Act allows producers of farm products (other than industrial milk or wheat) to develop national or regional marketing plans, and to thereby take a more vertically and horizontally integrated approach to the disposal of their produce.

There are now three national marketing agencies, for eggs, turkey and chicken.

Such a national or regional agency is established by Proclamation, and, except for an initial pump-priming sum of \$100,000 (Canadian) from the federal government, is funded through the collection of levies on product marketed. The agency is responsible for implementing and operating a national or regional marketing plan, which, when incorporating supply management, is designed to regulate and control production and marketing of the product through a quota system. A plan without supply management co-ordinates marketing of the product, and permits the agency to negotiate minimum producer prices, and to make licencing regulation governing the wholesaling, transporting inter provincial movement and export of the product.

In 1984 the National Farm Products Marketing Council held public hearings to enquire into the merits of establishing a seed potato marketing agency for Eastern Canada, a region comprised of Ontario, Quebec, New Brunswick, Nova Scotia and Prince Edward Island, and containing the country's seed potato export production. Such an agency was proposed as a solution to the organisational problems facing the industry in export development.

Previously, in 1981, a task force set up by the federal and provincial Ministers of Agriculture of the five eastern provinces, identified further problems facing the seed potato producers in the region:-

- the 'boom bust' price cycles, with the attendant risk falling almost exclusively on the shoulders of the farmers
- the inequality of access to market which faces many producers

At the direction of the Federal Minister of Agriculture, the National Farm Products Marketing Council commenced public hearings in 1984, to receive and study submissions from interested groups. The basis for these hearings was a proposal for the formation of an Agency put forward by the Eastern Canada Potato Producers Council. The proposal was for an Agency with the power to set provincial marketing quotas, to set minimum prices, and to control and develop international marketing.

As a measure of the merit of establishing such an agency, the Council was required to satisfy itself that, firstly, the formation of an agency would be an appropriate response to the industry's

problems, and secondly, that a majority of producers would support the proposal.

More than 400 individuals attended the hearings and a total of 55 briefs were received, of which 47 were formally presented. The submissions may be categorised as follows:-

Producer/farm organisations	22
Producer/dealer, dealer, broker, processors	9
Consumer and social action groups	8
Government and government sponsored	3
Political	3
Academics	2

Based upon the submissions and responses to oral questioning by National Farm Products Marketing Council members at the hearings, the Council concluded that -

"the present export marketing system for seed potatoes, particularly in the Maritime provinces, has neither adequately served nor protected the interests of producers. It is clear that the present system shifts almost all of the marketing risks onto the backs of producers, and when returns are low or marginal, it is the farmers who suffer. In addition, the fragmented nature of the trading sector represents an impediment to export development."

A further impediment to marketing improvements was seen to be the lack of strong provincial grower organisations to provide leadership, market information and advice to growers. "This has resulted in inadequate co-operation between producers in a province and a dependence on middlemen as their sole contact with the market."

The National Farm Products Marketing Council therefore recommended to the Minister of Agriculture that an Eastern Canada Potato Marketing Agency be established for the provinces of Quebec, Ontario, New Brunswick, Nova Scotia and Prince Edward Island, under Section 18 of the Farm Products Marketing Agencies Act, with all the powers contained in Section 23 of the act, except that related to fixing and determining the quantity of potatoes to be marketed in export trade.

On the basis of this recommendation, the Council is now proceeding with the development of an export marketing plan for seed potatoes in Eastern Canada in co-operation with the Eastern Canada Potato Producers Council and the provincial governments of Ontario, Quebec, New Brunswick, Nova Scotia and Prince Edward Island.

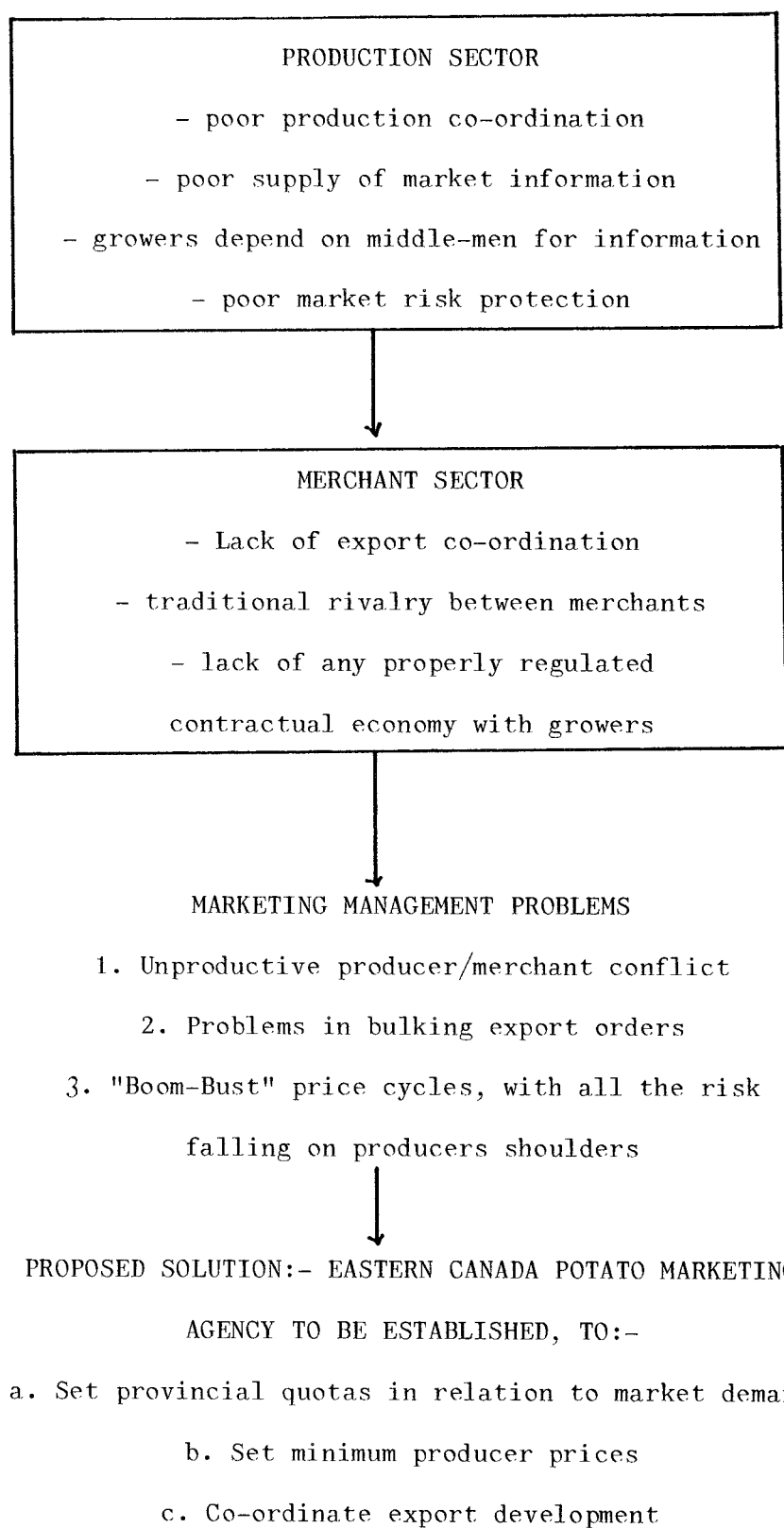
In the development and implementation of this plan, progress, as anticipated, has been slow, and tends to confirm the Council's view, expressed in the public hearings, that it was necessary to permit the industry to become familiar with the proposed functions and responsibilities of an agency, and for the producers and traders to gain experience in working together in the seed potato industry, rather than on a competitive basis.

Thus, the final position in relation to this new proposal for a co-ordinated and controlled marketing effort in exporting Canadian seed potatoes is unclear. However, it is the hope of the Farm Products Marketing Council, and the Eastern Canada Potato Producers Council that a centralised agency will be set up, and that the Board of Directors of this agency will be comprised of ten producers (two from each province) and two members representing other sectors of the industry and consumers.

Thus, in the export marketing of seed potatoes from Canada, it has been identified that problems in organisation and strategy do exist, and that as a result of the domination of the trade by middlemen and merchants, the interests of growers are not being served nor protected. The government machinery which exists (in legislation) to protect the interests of growers has thus been set in motion, and it is hoped that a new Marketing Agency will emerge which will play a central, grower-controlled, role in controlling the marketing process.

Figure 25 is a model of the Canadian seed potato industry highlighting the marketing problems and proposed solutions.

FIGURE 25 A MODEL OF THE CANADIAN SEED POTATO INDUSTRY



4.6.3 Indicators for the Northern Ireland Industry

The main indicators for the Northern Ireland industry are as follows:-

- (i) The production sector in Canada has traditionally suffered from the same problems which beset the Northern Ireland growers; viz:-
 - poor levels of co-operation and production planning
 - little or no direct contact with market information
 - no proper contractual economy with merchants, in order to spread marketing risks
- (ii) The Canadian merchanting sector, although not as fragmented as the Northern Ireland one, is characterised by intra competitiveness and a lack of co-ordination which is seen as a major impediment to export expansion.
- (iii) Unproductive conflicts exist between growers and merchants (as in Northern Ireland), resulting in a lack of integration in the marketing channel.
- (iv) In seeking to institute a more integrated, export market-orientated Canadian industry, it is proposed that a central marketing management agency be established, with a remit similar to GOPEX (and other regional marketing organisations) in France.

CHAPTER 5

INTERNATIONAL MARKETS
DEMAND LEVELS AND PRODUCT/SERVICE REQUIREMENTS

5.1 DEMAND LEVELS

As was detailed in section 3 of this thesis, the current world market for seed potatoes (excluding GB) is about 700,000 tonnes, having increased by about 26% over the past 15 years.

Within this overall growth, however, two main trends are emerging:-

- (i) Potato consumption and acreage grown, and thus seed requirements, are growing rapidly in the tropics and sub-tropics.
- (ii) Potato consumption per capita, and thus seed requirements, have stabilised in Western Europe and North America.

Presently the top 20 world seed potato markets, accounting for 80% of total world trade in seed potatoes, are as follows

- France	118,000 tonnes
- Italy	85,000 tonnes
- Portugal	45,000 tonnes
- Egypt	32,000 tonnes
- West Germany	32,000 tonnes
- Belgium	32,000 tonnes
- Venezuela	26,000 tonnes
- Spain and the Balearics	25,000 tonnes
- Morocco	22,000 tonnes
- Cuba	19,000 tonnes
- Brazil	16,500 tonnes
- Argentina	16,000 tonnes
- Iraq	15,000 tonnes
- Canary Islands	15,000 tonnes
- Greece	15,000 tonnes
- Uruguay	13,000 tonnes
- Tunisia	11,000 tonnes
- Hungary	10,000 tonnes
- Cyprus	8,200 tonnes
- Angola	7,700 tonnes
	<hr/> 563,400 tonnes

5.2 PRODUCT/SERVICE REQUIREMENTS

The interim market research report number 4 (See appendix 1) entitled "A Report on Key World Markets for Seed Potatoes", provides a comprehensive analysis of the product and service requirements of 27 key world seed potato markets. This analysis includes traditional markets in the Mediterranean Basin, such as Egypt, Portugal, Spain, Cyprus, Syria, Lebanon and Malta, with which Northern Ireland has traded for several decades, and also newly emerging markets in the tropics and sub-tropics which are mostly trading with the Netherlands.

Two things are clear from this analysis, with regard to product and service requirements:

- (i) Northern Ireland's traditional markets are becoming increasingly sophisticated in their product and service requirements.
- (ii) Influenced at the outset by Dutch product and service promotional efforts, the newly-emerging and growing markets in Africa, Asia and South America are also highly sophisticated with regard to their product and service needs.

With a knowledge of the increasing sophistication of world customers, in regard to product and service demands, and in view of the rigorous customisation strategies followed by the Dutch (who are rapidly becoming market leaders in virtually every world market), it is vital that the Northern Ireland industry be enabled to develop similar customisation strategies, rather than proceed with its globalisation approach.

In attempting to provide appropriate customised products and services for world seed potato markets, it is clear that market segmentation and marketing mix strategies should be based on the following facts:-

- (i) Increasingly, seed potato importers are requiring their supplies to be delivered in **single bulk loads** from a single supplier, rather than in several part-loads from diverse suppliers.
- (ii) Related to point (i) above, importers are increasingly demanding that consignments of seed potatoes should be of a **consistent guaranteed physiological age**. This ensures rapid and even growth of the crop upon planting, and reduces the amount of physiological preparation which has to be done after delivery. The trend is towards the delivery of physiologically mature seed in October or earlier.
- (iii) As more importers are educated (mostly by the Dutch) as to the benefits of planting **finely graded seed**, then suppliers must be able to provide grades for a wide range of size-specific market segments, rather than producing and exporting the traditional 35-60mm grade of seed only.
- (iv) As importers more fully understand the economic benefits of having optimal numbers of tubers per bag (again an important part of Dutch overseas extension work) then **guaranteed tuber counts** per bag are being increasingly demanded, both by traditional markets such as Egypt, Portugal and GB, and by newly emerging markets in Africa and South America.

5.3 CHALLENGES FOR THE NORTHERN IRELAND INDUSTRY

Information from the 27 key markets analysed, reveals that not only are the Dutch virtually the sole suppliers to the newly-emerging tropical and sub-tropical markets, but that they have also now assumed the position of market leader in most of Northern Ireland's traditional markets (markets in which the Dutch were doing no trade in 1970).

It is clear that the success of the Dutch industry in supplying newly emerging markets, and in so successfully challenging Northern Ireland in its long-held traditional markets, is largely due to its ability to base its market segmentation and marketing mix strategies on the four product/service factors just outlined, ie:-

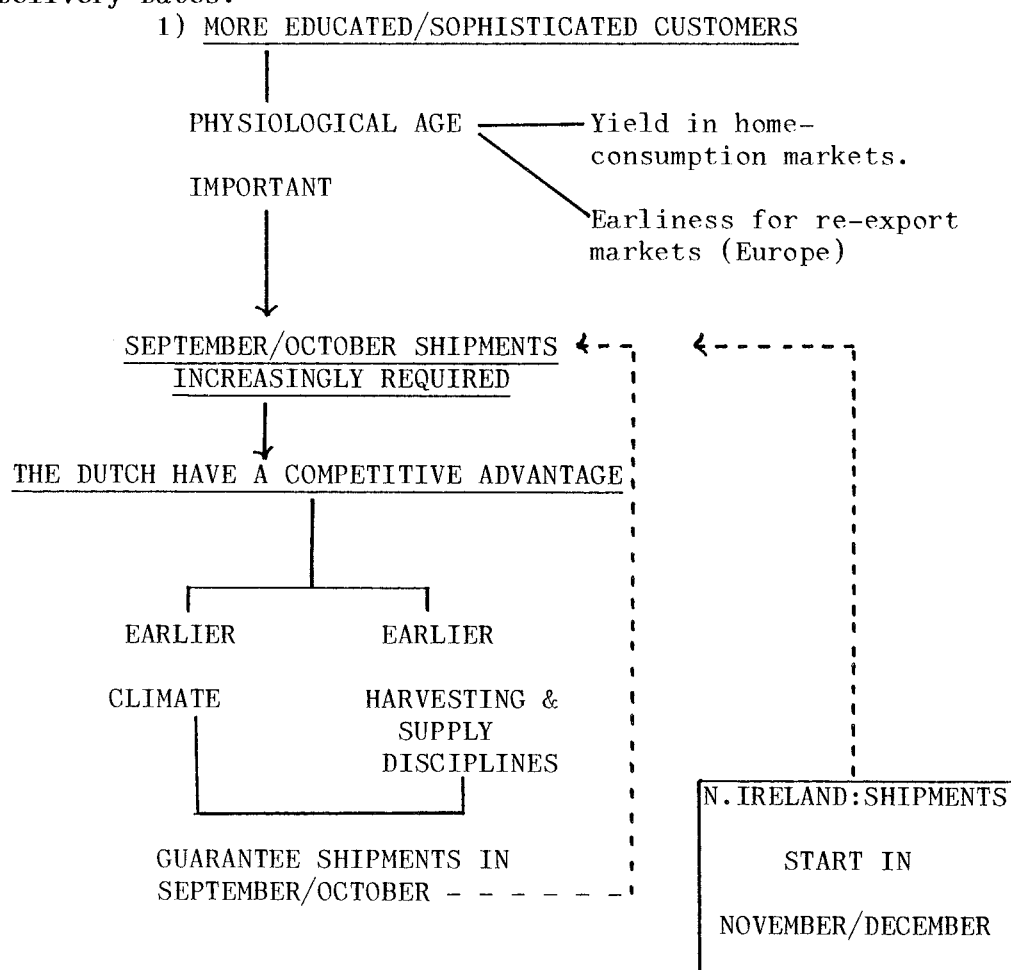
- single bulk deliveries
- early delivery of physiologically mature seeds
- offering a range of size grades
- guaranteed tuber counts per bag

Conversely, it is equally clear that the failure of the Northern Ireland industry to successfully penetrate any of the newly-emerging markets, as well as its loss of position as market leader in traditional markets, is due in large part to the industry's inability to respond to the growing sophistication of these markets, in terms of product and service requirements.

Northern Ireland's problems with regard to market delivery requirements are illustrated in Figure 26. Its problems with regard to the provision of product-specific services are illustrated in Figure 27.

FIGURE 26: NORTHERN IRELAND'S DELIVERY REQUIREMENT PROBLEMS IN RELATION TO EXPORT MARKETS

(i) Delivery Dates:



(ii) SIZE OF SUPPLIES (AND GUARANTEES)

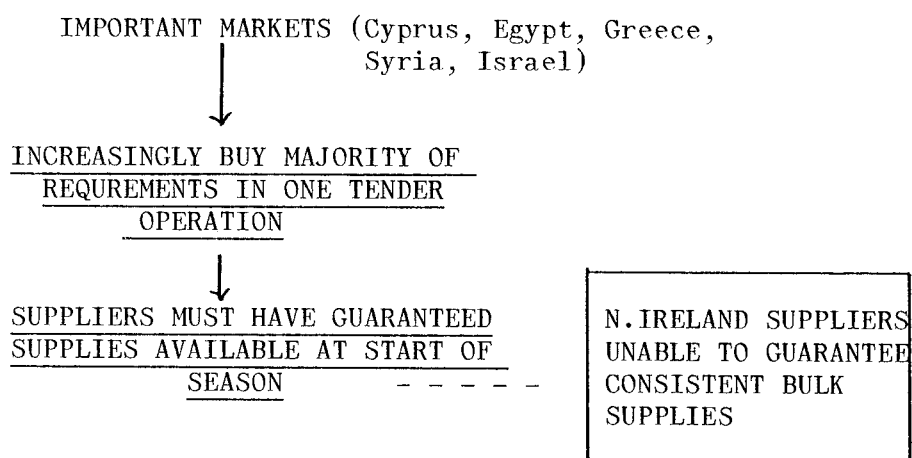
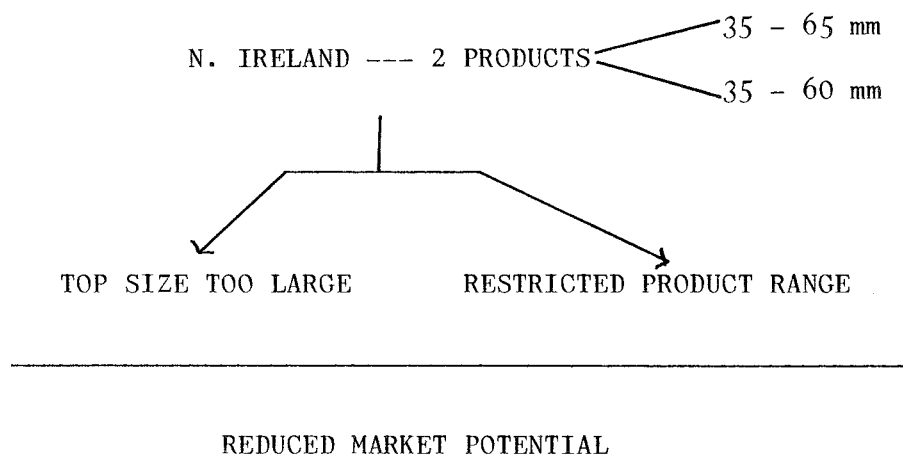


FIGURE 27: N. IRELANDS' PROBLEMS WITH PRODUCT-SPECIFIC SERVICES TO EXPORT MARKETS

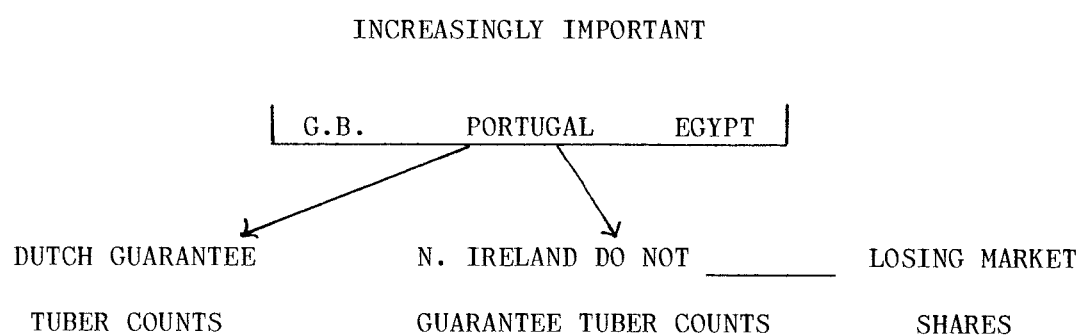
SIZE-GRADING:



DUTCH:- WIDE RANGE OF SIZE-SPECIFIC SEGMENTS

25 - 28 mm
 28 - 35 mm
 35 - 45 mm
 45 - 55 mm
 55 - 65 mm

TUBER COUNTS:



In summary the product and service requirements of international seed potato markets are changing rapidly, and making more precise demands on suppliers. The success of the Dutch industry in responding to these changes, is due in large part to its integrated structure, which enables appropriate customisation strategies to be pursued. Any recommendations regarding the attainment of a competitive advantage by the Northern Ireland industry must include the institution of a well integrated production/marketing system, able to pursue customisation strategies as well. It is clear that the strategy of globalisation, pursued for so long by the Northern Ireland industry, is no longer appropriate to the changing requirements of world seed potato markets.

CHAPTER 6

THE GREAT BRITAIN MARKET DEMAND LEVELS AND PRODUCT/SERVICE REQUIREMENTS

Over the past decade a growing proportion of Great Britain's seed potato requirements have been supplied from outside the United Kingdom. In particular, Northern Ireland's share of this nearest neighbour market has suffered due to competition from the Dutch (and also from the Scots). Criticism has been voiced by GB buyers against some of the UK suppliers, suggesting that they have been slow to adapt their production and marketing strategies to suit the changing product and service requirements of the potato growers within GB.

Within the overall context of improving the Northern Ireland industry's marketing performance, therefore, it is important to investigate the nature of this large nearest-neighbour market, and to determine how the Northern Ireland industry can establish a competitive advantage in this market. This section therefore reports the findings of an investigation into the product and service requirements of GB growers and merchants, and the strengths and weaknesses of each of the major suppliers to GB.

6.1 DEMAND LEVELS AND SUPPLIERS

The current annual requirement for seed potatoes in GB is about 310,000 tonnes. The three major suppliers are Scotland, Northern Ireland and the Netherlands.

6.1.1 Scottish Supplies to GB (England and Wales)

Whilst the demand for seed potatoes in England and Wales has dropped significantly over the past decade, supplies from Scotland have remained constant. Scotland, therefore, has successfully managed to increase its share of the market, still securing deliveries of over 280,000 tonnes of seed to England and Wales. This represents over 90% market share.

6.1.2 Northern Ireland's Supplies to GB (England and Wales)

Over the past 30 years, seed supplies to Great Britain from Northern Ireland have declined by 84%. Out of the total GB seed requirement of about 310,000 tonnes on average, Northern Ireland accounts for about 3% only of the British seed market. Its nominal share is being slowly eroded still further by strong Scottish and Dutch competition.

6.1.3 Dutch Supplies to GB (England and Wales)

The Dutch already undertake 36% of the total international trade in potatoes (by value). Although they have developed export markets for seed potatoes in over 70 countries, the greater part of their trade is within the EEC, and as such they consider it right and proper to have access to Britain.

NIVAP (the organisation for promotion of Dutch potatoes) has undertaken official seed trials and test marketing of Dutch potato varieties in Britain since regulations preventing imports were withdrawn in 1975.

The Dutch have gained a very competitive foothold in the British market, adopting a thoroughly professional marketing strategy, since their market entry in 1975. They have successfully identified and exploited a niche in the GB market for Dutch supplies. Within 8 years of first entering the market, the Dutch managed to export more seed to Britain than Northern Ireland achieved (see Figure 28). Since then, supplies from the two countries have commanded a similar proportion of the mainland market.

6.2 GREAT BRITIAN GROWER'S PRODUCT REQUIREMENTS

A major aim of the structured mail questionnaire which was sent to 1,000 GB potato growers (Appendix 8), was to determine the level of importance to growers of a range of seed potato product features and to compare the level of product satisfaction achieved by the major supplying industries.

The major factors surveyed were varietal choice, quality and seed size (grading).

Figure 28: Imports to G.B. (1973-86) from Northern Ireland and from The Netherlands

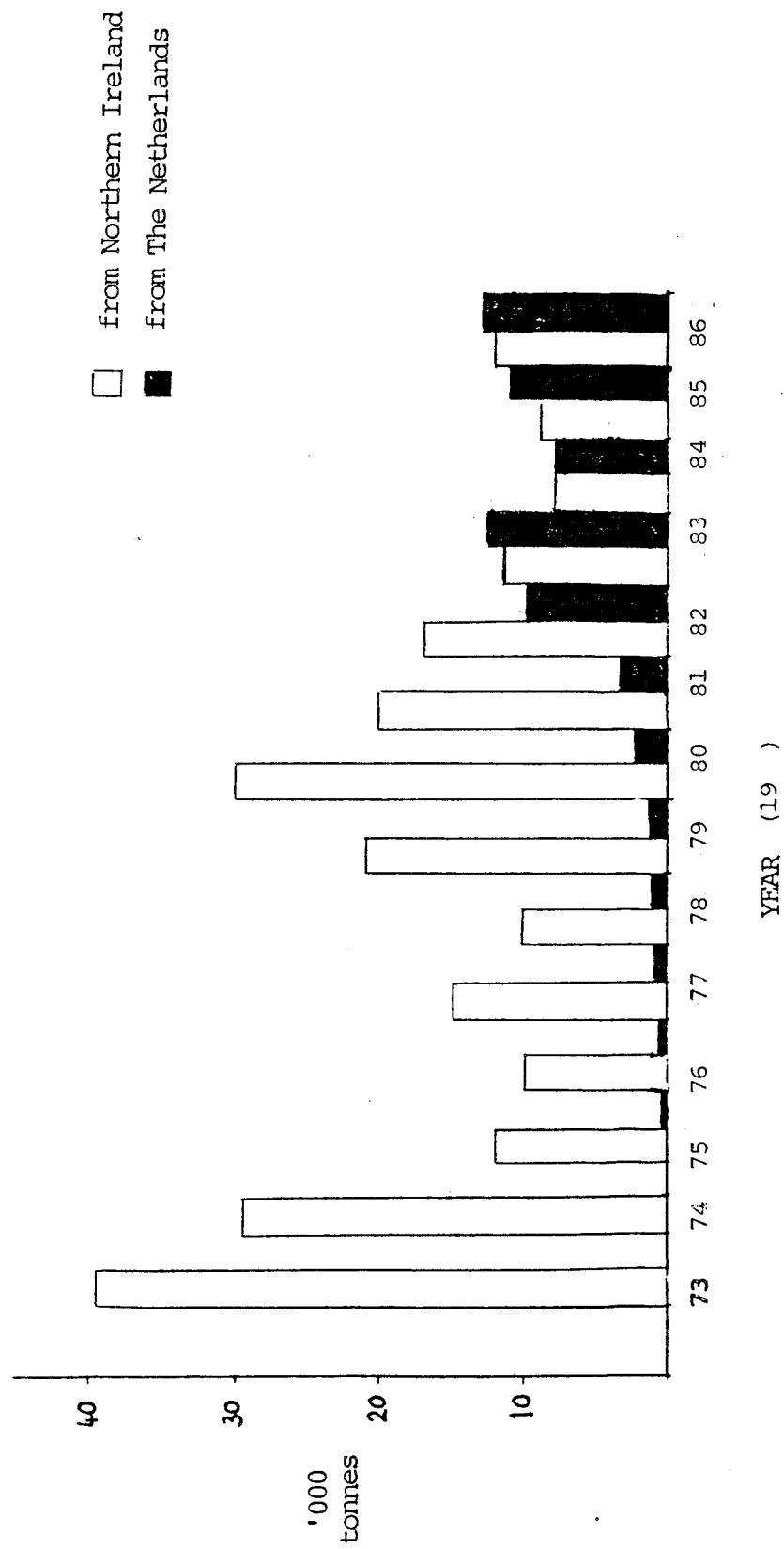


Figure 29: Farmer Levels of Satisfaction/Dissatisfaction Regarding the Varieties Available from Supply sources.

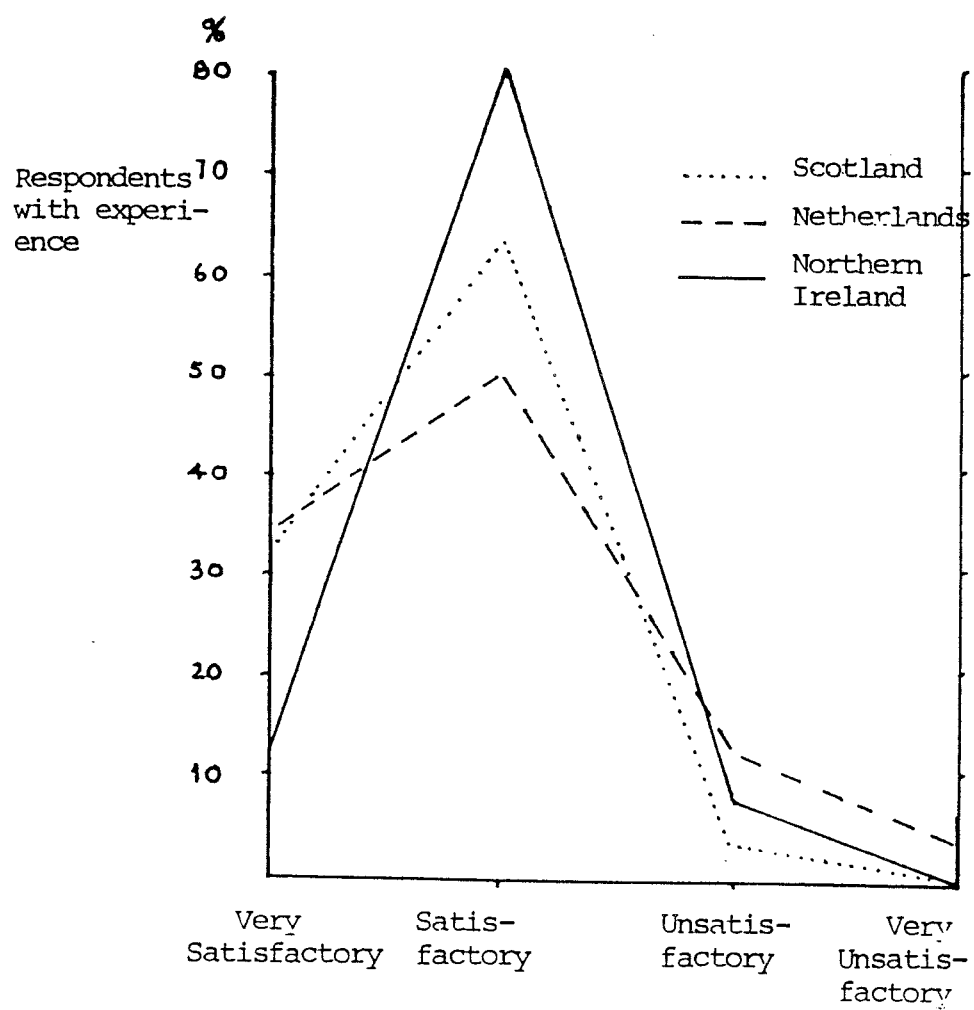


Figure 30: Perceived Quality of Seed Health from Major Suppliers.

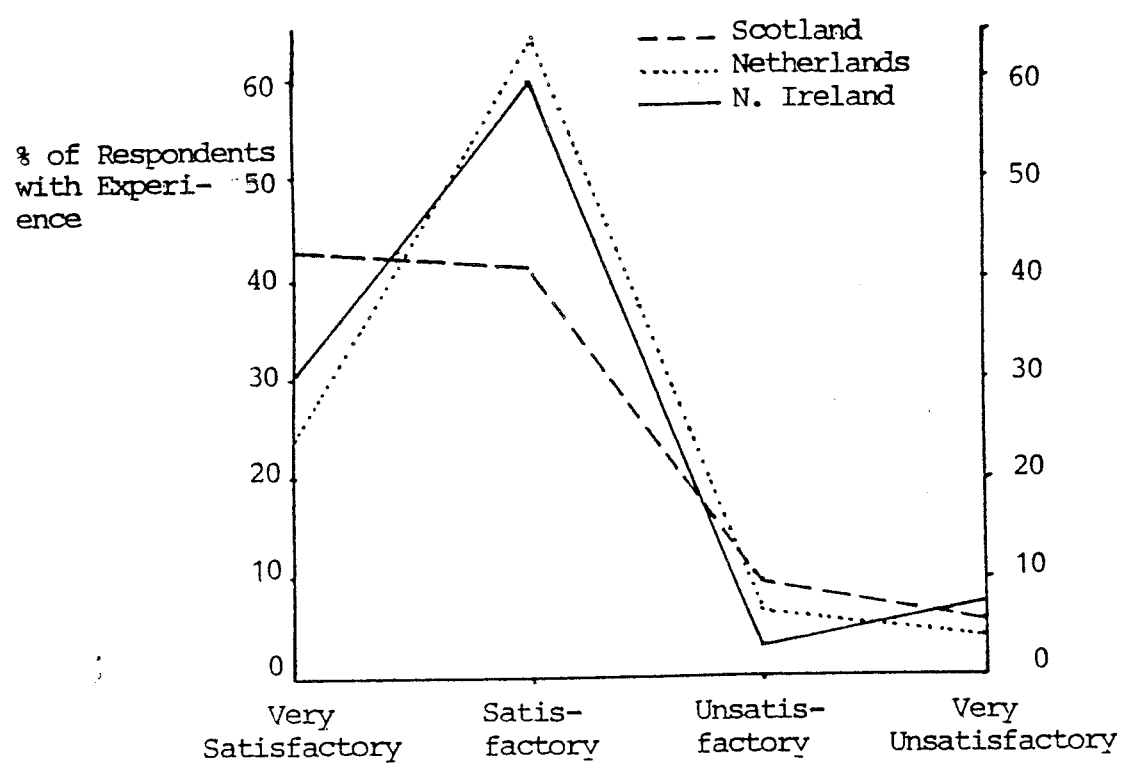


Figure 31: Size of Bought-in Seed Delivered On-Farm Compared to Ideal Size of Seed Desired.

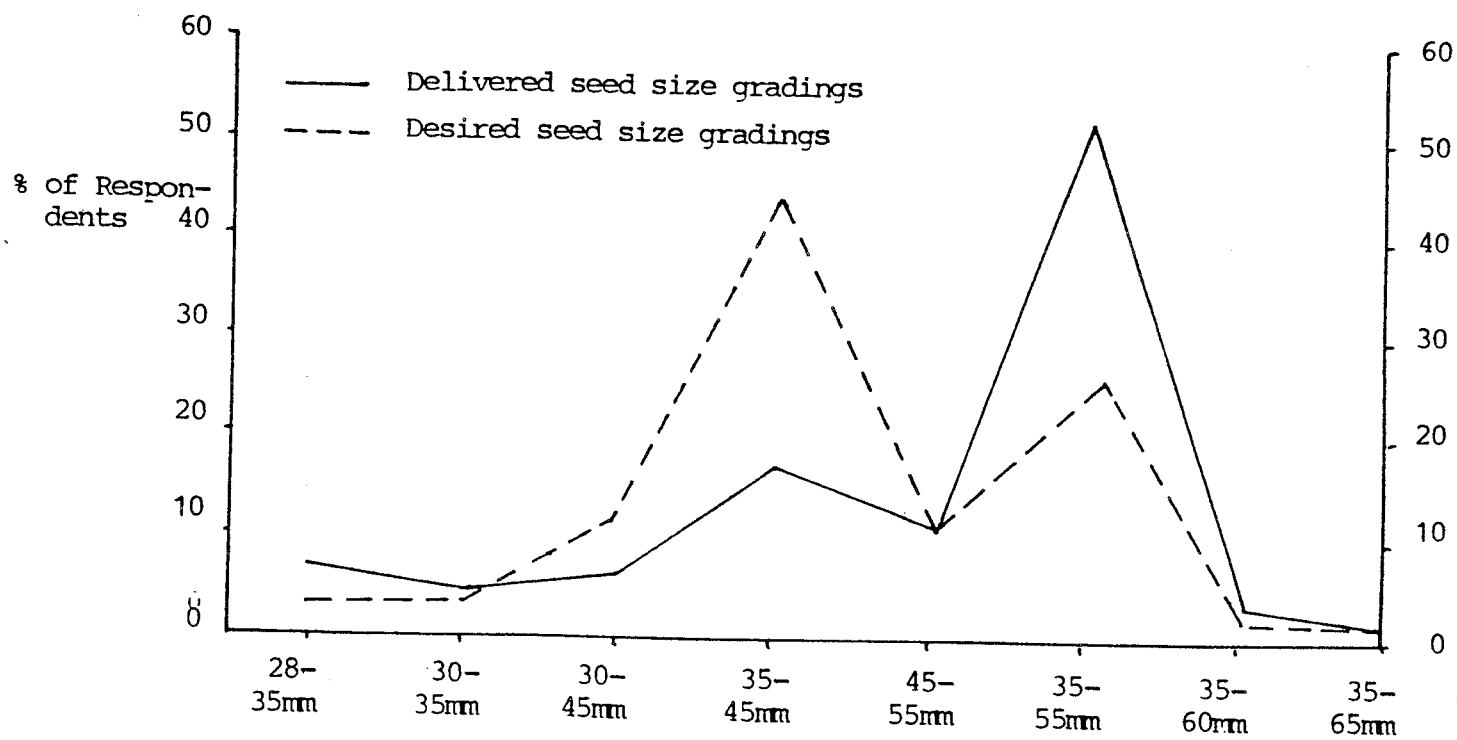
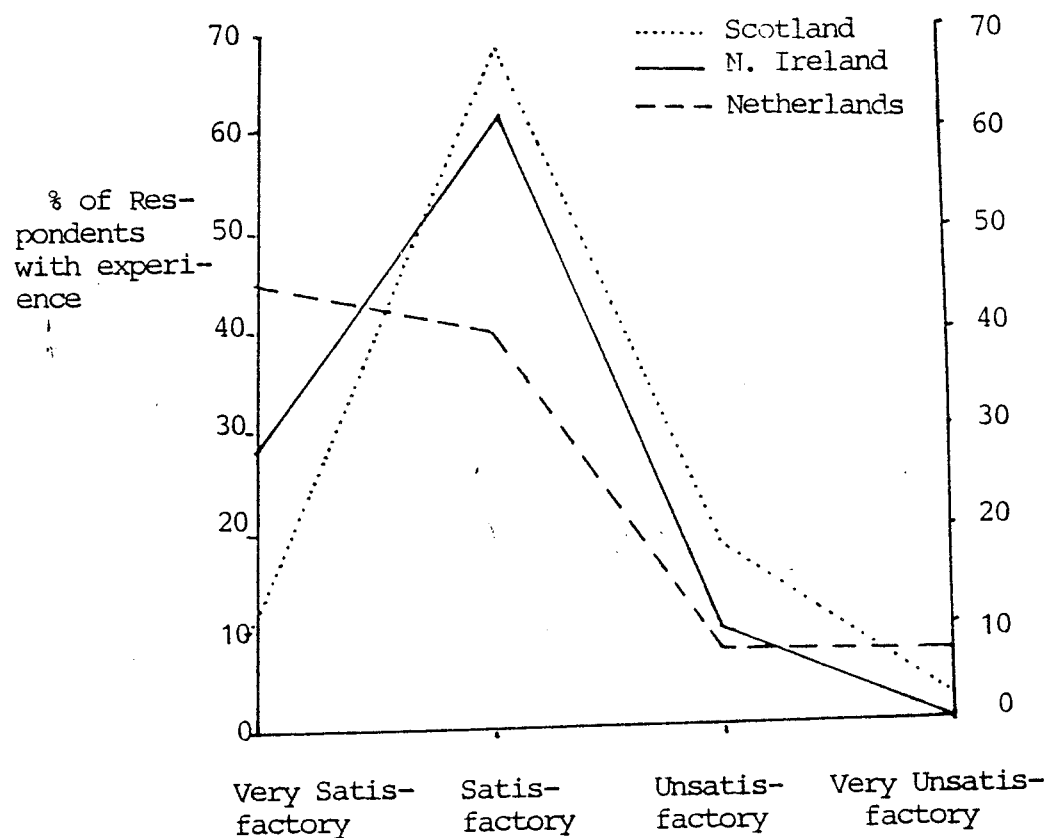


Figure 32: Level of Satisfaction Associated with the Size of Seed from the Major Supplying Countries.



VARIETAL CHOICE

Figure 29 shows that very few of the growers voiced any level of criticism against the varieties available from Scotland, and the same holds true for Northern Ireland, though a greater proportion of farmers described the varietal choice from Northern Ireland as acceptable rather than outstanding.

This is in contrast to the views held about Dutch supplies, which received both the widest acclaim with some growers, but also registered the most discontent from others. The explanation is straight forward. The Dutch offer a wider range of varieties, but priced at a premium. Consequently, the view that growers hold over varietal availability largely depends on which factor they consider more important: greater varietal choice or purchase at a more competitive price. This disadvantage which the Dutch have with regard to price of seed, is borne out by figures showing that GB growers are most dissatisfied with the price of Dutch seed.

When taken together, the varietal availability and price characteristics of the suppliers help to explain the volume of GB trade which each supplier commands. Scotland receives the least amount of criticism, so gaining the greatest market share, whilst Northern Ireland and the Netherlands hold separate advantages over one another: the Dutch offer an appealing choice of improved varieties, but supplies from Northern Ireland attract less criticism over price.

QUALITY

Figure 30 shows that Dutch supplies are generally acknowledged to be of higher quality than either Scottish or Ulster seed. There is very little to distinguish the supplies from the latter two countries, though, if pressed, English growers may marginally favour seed from Northern Ireland.

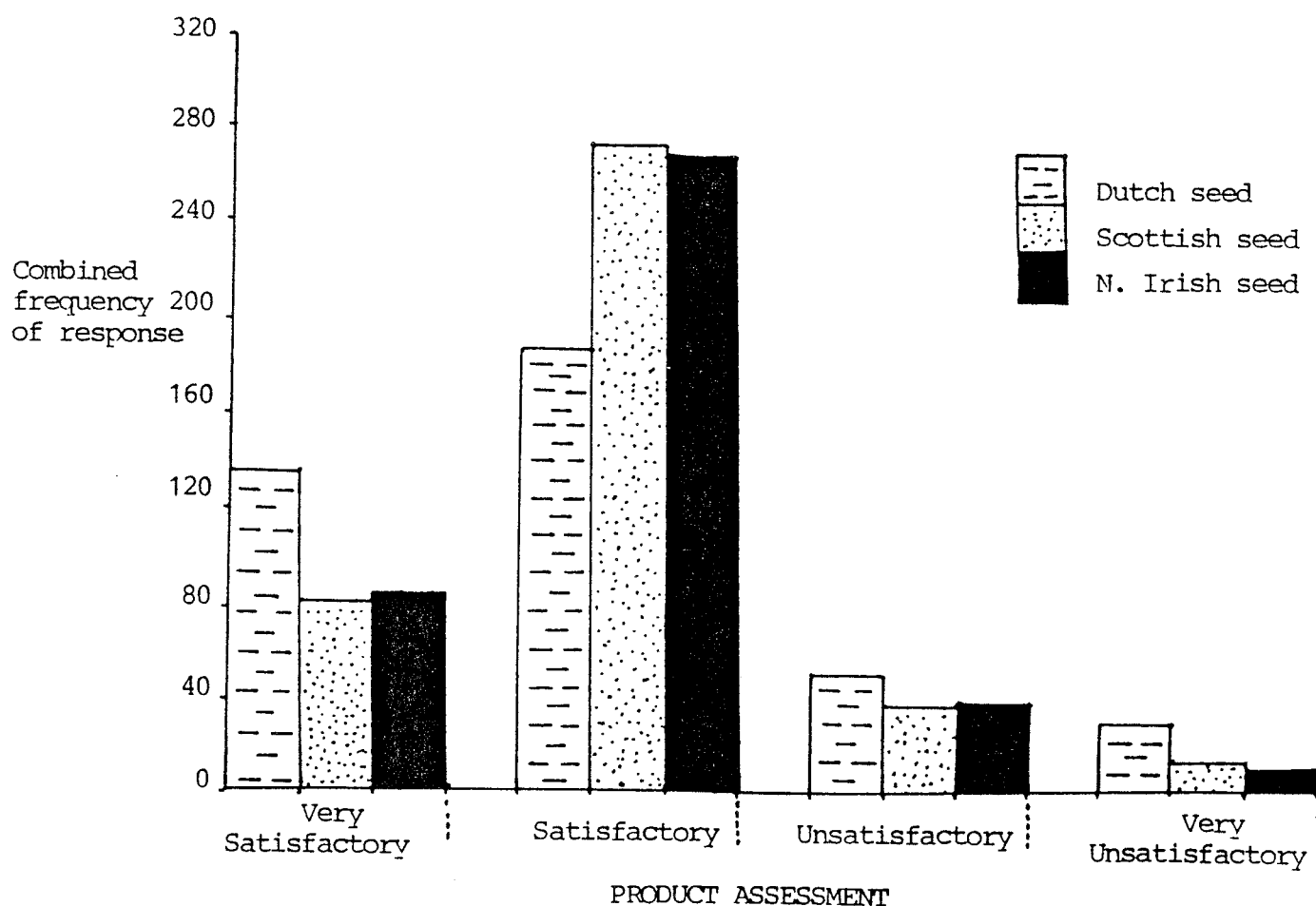
SEED SIZE

One of the most interesting points to emerge from the study concerns the difference between the size of seed which GB farmers receive from their suppliers, and the sizes they ideally desire to optimise planting efficiency. The discrepancy between "desired" and "actual" seed size is shown in Figure 31. According to the survey, Scotland is the most guilty party in providing seed of unsatisfactory sized grades. The majority of Scottish seed falls in the 35-55mm size category, thus not fully propitiating English growers. The Dutch have begun to address the need to supply 35-45mm graded seed and this is reflected in their better standing in Figure 32 above. Once again, the view concerning supplies from Northern Ireland follows the lead of Scottish seed, rather than the more preferred image of Dutch seed in this respect.

When an equal weighting is attached to the three variables (health of seed, size and varieties available) it is possible to provide a product assessment of the seed on offer from Scotland, Northern Ireland and the Netherlands (see Figure 33). It demonstrates that there is very little difference in the English growers' opinion between the product offered by Scottish and Northern Irish supplies. Certainly the margin is not wide enough to justify or explain the disparity in market share that

exists, suggesting there to be other factors at play. The following section pursues this issue by studying the service needs of growers and comparing the success of the suppliers in meeting these requirements.

Figure 33: A Simplistic Product Assessment of Seed from Major Suppliers as Perceived by the English Grower.



6.3 GREAT BRITAINS GROWER'S SERVICE REQUIREMENTS

In recent years service factors have become an increasingly important marketing mix component in the marketing of seed potatoes.

Focus group discussions with GB potato growers identified six separate service factors as being important in their buying decision process.

- Competitive price
- Husbandry/variety information
- Efficient complaints procedures
- Quality guarantees
- Guaranteed minimum tuber counts per bag
- Delivery punctuality

The relative importance of each of these factors was analysed from the questionnaire returns, using an interval scale derived from Thurstone's "Case V Model" method. The results are shown in Figure 34.

Figure 34 The Importance of Service Factors to GB Growers

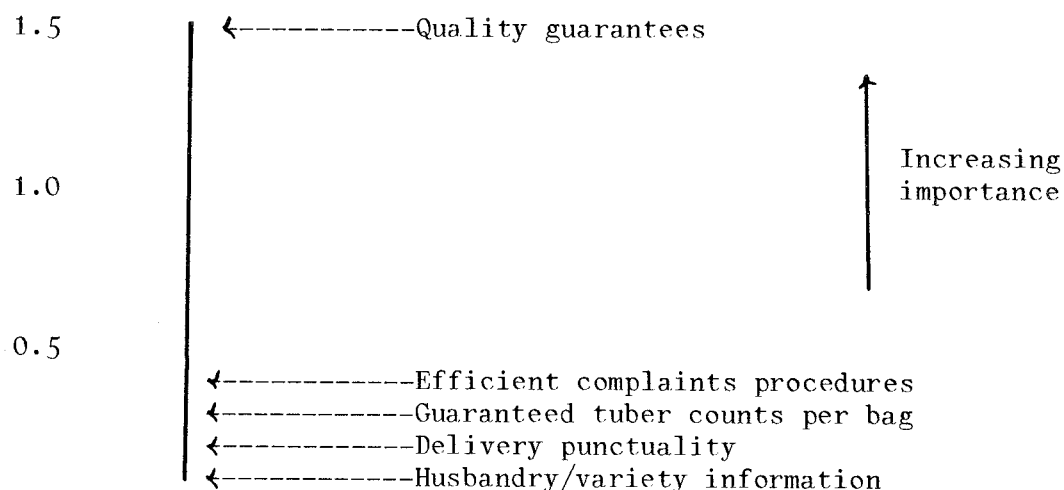


Figure 34 demonstrates the primary importance of quality guarantees and competitive prices, followed by an efficient complaints procedure. It is interesting to note this relatively high ranking of complaints procedures. It probably reflects the perceived general respect with which suppliers treat their customers, and their willingness to provide that growers attach to reverse communication along the marketing channels.

The results of a comparison of the levels of satisfaction achieved by the major suppliers in relation to the main service factors are illustrated in Figures 35 to 38.

Figure 35: Grower Satisfaction with the Complaints Investigation Provided by Major Suppliers.

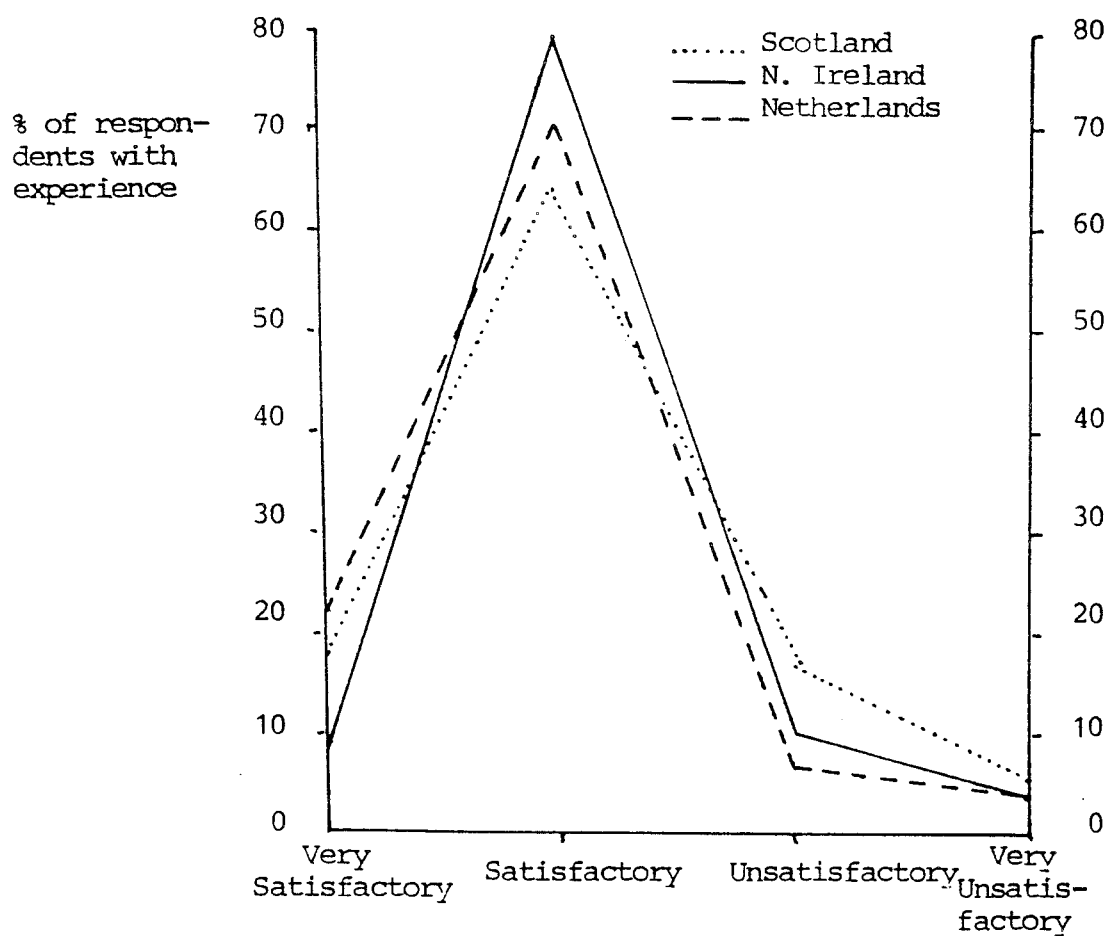
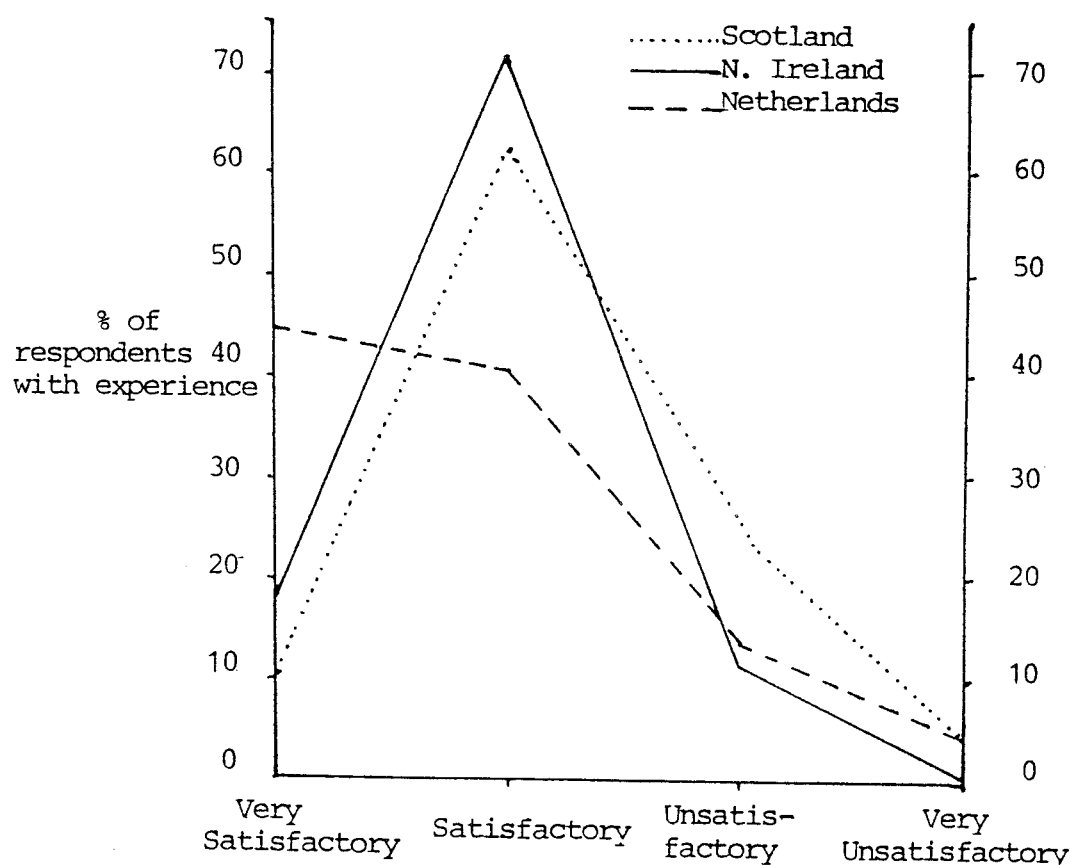


Figure 36: Level of Satisfaction Offered by the Major Seed Suppliers with Respect to Guaranteed Tuber counts.



Complaints Procedures:-

The survey reveals that growers see the Dutch as providing the best complaints investigation procedure, though the variation between the three major suppliers is not outstandingly great, as shown in Figure 35.

Tuber Counts Per Bag:-

The guaranteeing of tuber counts per bag complements the reasoning behind the demand for more precise size grades, in that it provides the grower with a more efficient means of ensuring that there is no

shortage or surplus of seed after planting is complete. Anything that helps to streamline potato production is welcomed by the GB grower, and guaranteed tuber counts are no exception. As can be seen from Figure 36 the Dutch are perceived to be leading the way in providing a good tuber counting service.

Delivery:-

By taking early delivery of bought seed, the potato grower prevents the occurrence of any delivery problems or delays that might arise. Furthermore, the grower has direct control of the conditions under which the seed is stored prior to planting, giving him the opportunity to take appropriate measures for aphid control, frost protection, rot prevention and chitting. However, there are obvious costs associated with on-farm storage.

Alternatively, by purchasing late (ie just before planting) the grower transfers much of the responsibility and attached costs to the seed grower or merchant. Against this, he risks possible delivery problems, the consequences of storage disease from elsewhere, the danger of frosting in transit and the probability of higher prices. These risks have been lessened to a certain extent more recently by the introduction and subsequent uptake of storage preserving chemicals (such as TBZ). According to the survey, winter delivery of seed is more important and desirable amongst GB potato growers for early crop seed. The majority of questionnaire respondents wanted delivery of seed during November, well in advance of planting the early crop in March/april. This is followed by a secondary demand peak of late delivered seed around February.

The most popular time for delivery of maincrop seed is during February/March.

Once again it is the Dutch who are best at meeting desired delivery times, though, suprisingly, punctuality is not considered a priority amongst the service requirements of potato growers. Compared with supplies from Northern Ireland and Scotland, a further 16% of respondents credited Dutch suppliers with very satisfactory delivery dates, further to the 18% who were very satisfactory with delivery dates from the domestic suppliers. Almost no difference in opinion existed between supplies from Scotland and Northern Ireland.

Besides delivery dates, potato growers were also invited to comment on their level of satisfaction concerning methods of seed delivery from their suppliers. Though the general issue of distribution is one that was subsequently explored more thoroughly with seed merchants (findings of which are reported in the next section), it was felt useful to gauge the growers' reaction to methods of delivery from Scotland, Northern Ireland and the Netherlands.

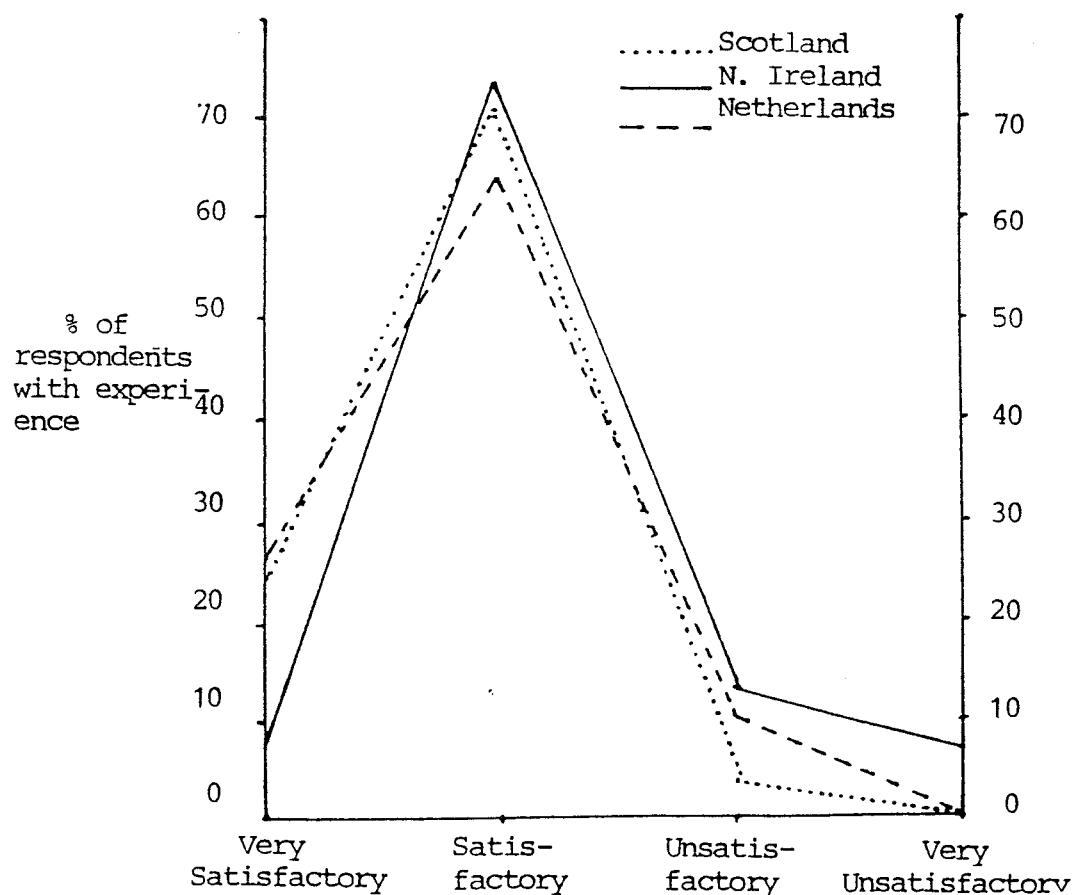
It was expected that Scotland would hold an advantage, since - being part of the mainland - ease and flexibility of transportation would count in its favour. It was also thought that Northern Ireland might be at the greatest disadvantage; not only do consignments have to be shipped across the Irish Sea, but they then have to be transported over land to the eastern half of the mainland, where the majority of seed merchants and potato growers are located.

The results of the survey do, indeed, reflect the handicap that Northern Irish suppliers have in this respect. About 20% of English growers who took part in the survey and who had experience of seed from Northern Ireland expressed some level of dissatisfaction with delivery method. However, more suprising than this, is the high regard that growers have towards Dutch delivery methods, which were seen by growers to be superior to Scottish methods. 34% of those who had received Dutch seed supplies regarded delivery methods to be very satisfactory, in comparison with 20% of English growers who have received Scottish seed.

The success of seed distribution strategies is reflected in the grower's perception of the availability of seed. Within the survey farmers were asked to indicate the precise source from which they purchased their bought-in seed and the results clearly demonstrate that English growers have wider access to Scottish seed than either Northern Irish or Dutch seed. Although the majority of Scottish seed is still bought through the English/Welsh seed potato merchant, a significant proportion of trade is picked up through alternative distribution channels, thus increasing the likelihood of purchase. From the merchants' point of view this is not necessarily desirable, and the consequences of this will be raised in the next section.

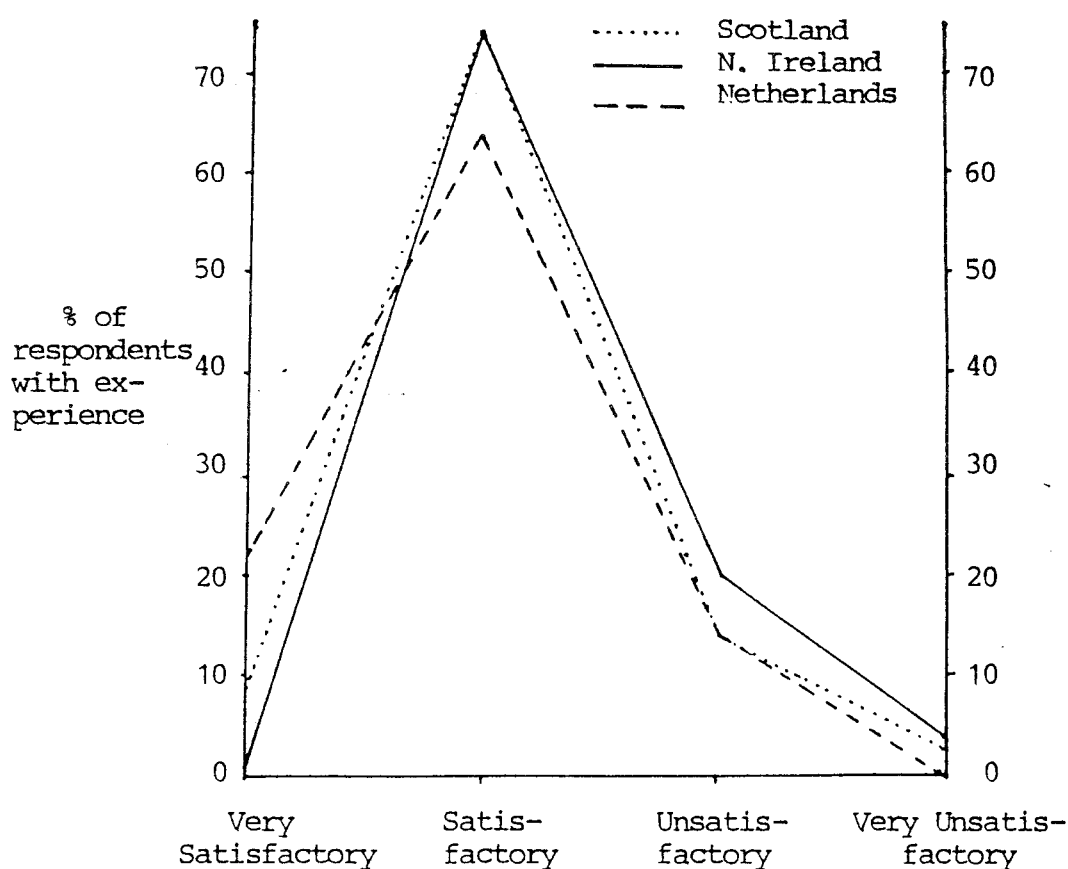
However, purely from the English growers' stand-point one would expect the least amount of criticism, regarding seed availability, against Scottish supplies. This is, indeed, the case (see Figure 37), though, surprisingly the Dutch distribution strategy receives greater support than might be expected.

Figure 37: Level of Satisfaction Amongst English Growers Regarding Seed Availability.



HUSBANDRY/VARIETAL INFORMATION

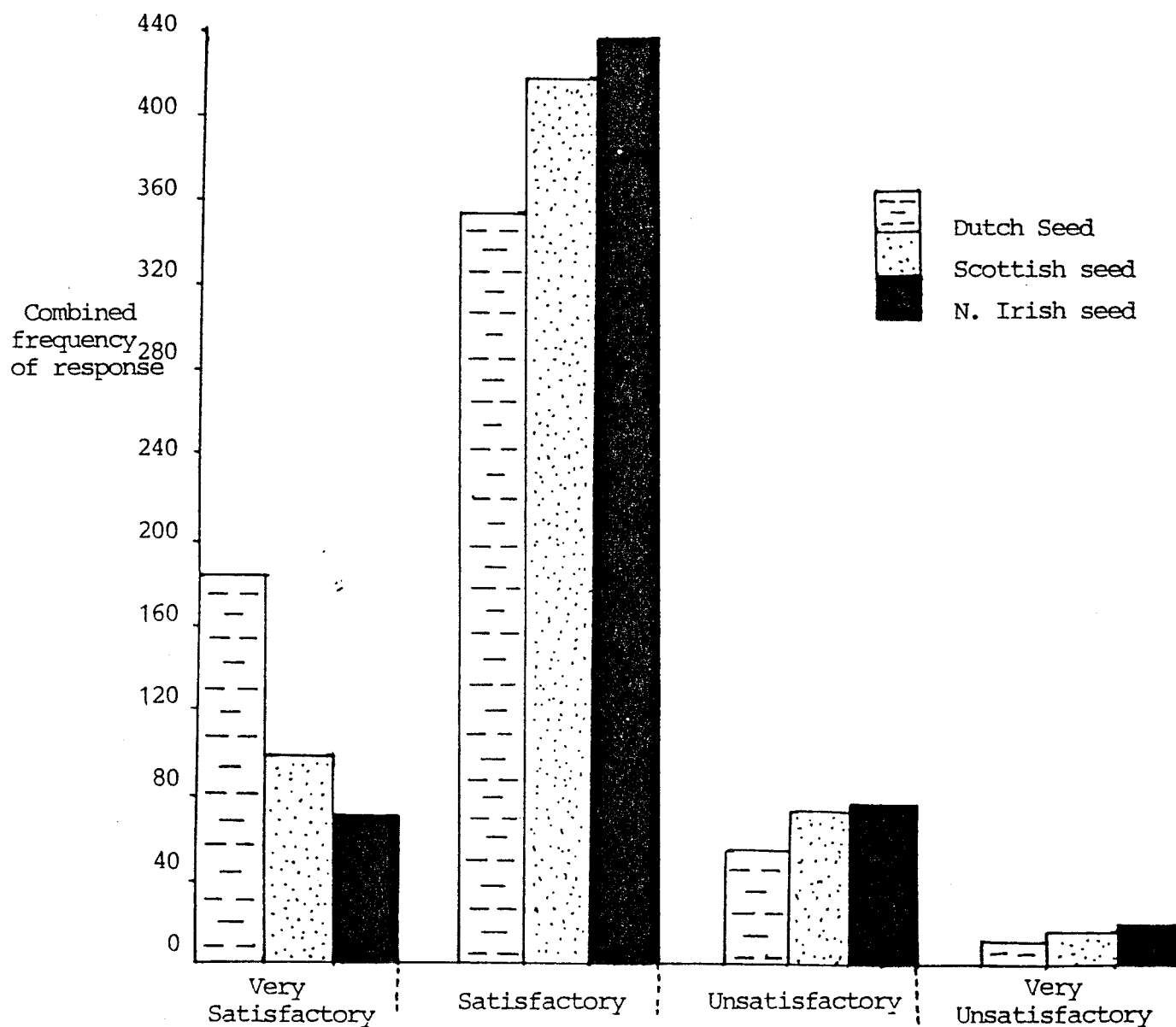
Of the service factors under consideration, farmers attached least importance to the provision of information support for the grower. Certainly the preference to buy from one source as distinct from another will not depend on this support function. Nevertheless all of the product and service variables combine to generate the overall image that is associated with a major supplier, and for this reason the service in question should not be ignored. According to the survey amongst potato growers, the Dutch treat the provision of husbandry and varietal information seriously, alongside the other service supports, whilst the remaining suppliers fail to match the success of the Dutch. The level of satisfaction for Northern Irish supplies in this respect is particularly poor by comparison (see Figure 38).



An assessment of the services provided by the main suppliers is given in Figure 39 formulated using the same methods adopted in the construction of the product evaluation (Figure 33).

The bar chart reveals the successful service support that the Dutch offer to the English grower, as recognised by respondents to the survey. Their superiority in this area must help account for the remarkable in-roads that Dutch seed has made into the UK market since 1975. The chart also demonstrates the advantages that Scottish seed suppliers hold over the Northern Irish in terms of the support services provided. The better image that Scotland enjoys over Northern Ireland must have some bearing, ultimately, on the market share captured by each.

Figure 39: A Simplistic Service Assessment Supporting the Product Offered by the Major Suppliers.



6.4 GB MERCHANTS PRODUCT AND SERVICE REQUIREMENTS

Regardless of whether the potato grower decides to buy Scottish, Northern Irish or Dutch seed, the majority of seed is still purchased through an English seed merchant. Hence the second phase of the GB research programme focussed around a series of telephone interviews with regional representatives of English seed merchants, to find their reaction to seed suppliers, and gauge their product and service needs.

The interview schedule with English seed merchants quickly confirmed the dominant position of Scottish seed within the GB market. Without exception, the merchants in question traditionally buy in excess of 80% of their seed from Scotland. In comparison, the volume of seed supplied from Northern Ireland and the Netherlands assumes secondary importance. In quantity terms, demand for both are seen to be currently very much on a par. However, when asked to comment on any trends that have occurred in supply sources over the last 5 years, the merchants felt that there has been a swing away from demand for Northern Irish seed in preference to more seed from Scotland but also to Dutch seed.

The remainder of this section explores the reasons - put forward by English seed merchants - behind the changing market composition and assesses the strengths and weaknesses of the 3 major supply sources.

6.4.1 The Supply of Scottish Seed

The main findings were as follows:-

- Scottish suppliers are able to offer English merchants the varieties that are widely desired by the grower but also have depth in their varietal range.
- They provide flexible delivery arrangements, not only being in the position to satisfy bulk orders of popular varieties, but also much smaller volume demands (ie 20 tonne loads, frequently as low as 5-10 tonne loads).

Road haulage from Scotland by itself is an obvious advantage over supplies coming from beyond the mainland. Cost wise, the transport system is very competitive; prices have not increased to any extent since 1982.

The introduction of load palletisation by some Scottish suppliers has been welcomed by English merchants, again providing a level of flexibility in delivery to the grower not offered by others. The system is of benefit so long as the potato grower can exchange pallets on delivery.

- Seed is more competitively priced than from the alternative sources of supply, aided by simpler and cheaper transportation systems.
- Quality standards have recently improved. 20 years ago, Northern Irish seed sold at a premium, because their growing standards were so much better than those of the Scots. As a result, the Scottish Ministry introduced a quality control scheme, whereby all growers could be identified by individual producer numbers. Consequently, seed quality has risen significantly and the Northern Ireland

advantage has disappeared , despite the fact that only a small sample of Scottish seed is Ministry inspected.

Nevertheless, some merchants commented on the unfortunate attitude of some Scottish merchants that a minimum tolerance wastage of 5% volume is still acceptable to trade and so some suppliers still suffer from poor presentation of quality. In part, this has detracted from the efforts made by the majority of Scottish growers.

It is clear that English seed potato merchants have high regard for Scottish seed - their traditional major supply. The product and supply service profile associated with Scottish seed is justifiably formidable to any competitor, and it seems unlikely that Scotland's share of the GB market is going to weaken significantly over the next few years. However, there is one note of caution and concern amongst English merchants. Scottish suppliers have started to deal direct with potato farmers in England and Wales, which is unpopular obviously with the English merchant trade. The only way that the merchants can compete for that same custom is to offer something that the Scots cannot provide. To date this has been the offering of different/better varieties from the Netherlands. So, by dealing direct, Scotland may inadvertently be forcing English merchants to trade with other suppliers and so erode their strong market position.

6.4.2 The Supply of Dutch Seed

To the English merchant, the Dutch offer a very comprehensive service. Many merchants commented on the well organised nature of their production and marketing system, specifying the following strengths and weaknesses:-

- The Dutch offer some good varieties that, to date, are unobtainable from within the UK, which are of interest to some customers (for example, Marijke and Marfona).
- They work on a split grading/pricing system, offering more exact sizes (eg 35-45mm) which the British grower is looking for, as described earlier. One of the disincentives to other suppliers to follow their example is that they would have to rely on the ware market to dispose of the less popular grades (ie 55mm).
- Tuber counts of 700 per bag are guaranteed, so helping farmers to gauge their exact requirements. The Dutch maintain a strict level of tolerance for oversize tubers, which is highly acceptable to the trade.
- Growing conditions in the Netherlands are not ideal. Humidity levels can encourage virus infestations to develop, but the Dutch have turned this technical disadvantage into a marketing opportunity. The seed producers burn off early, to prevent virus infestation, so inducing higher tuber counts and smaller seed.

Aided by split grading and good quality control procedures, the Dutch have been able to capitalise on the market trend towards smaller, quality seed.

- There is little doubt that English seed merchants and their clients find Dutch seed to be expensive. The better support service that is offered to growers is associated with a price premium to help finance the system.
- English merchants feel that the delivery of Dutch supplies are fairly inflexible on two accounts. Firstly, deliveries are not palletised and secondly the minimum purchase orders (in volume) are considered high.

Overall, merchants who buy some of their seed from the Netherlands are impressed with the product and service on offer. It is the culmination of worldwide experience and success in the seed potato export business. Since their entry into the GB market in 1975, the Dutch have expanded their volume sales and share consistently and have established their presence forcefully. If left to continue to provide a higher level of service than the other major suppliers offer, their importance could continue to grow.

6.4.3 The Supply of Northern Irish Seed

In the eyes of English seed merchants there are several reasons for the decline in their trade with Northern Ireland's seed potato industry:-

VARIETIES

English merchants believe that Northern Ireland's varieties (such as Home Guard, Ulster Sceptre and Arran Banner) are generally no longer suitable for the UK market. Where current varieties are being offered, they are not available in sufficient volume to attract purchase. The British market wants varieties such as Maris Piper, Desiree, Wilja and Record, which Scotland and the Dutch can supply in sufficient volume.

English merchants expressed a feeling the Northern Ireland gives priority to its export markets such as Portugal, Egypt and the Canaries at the expense of domestic market. It was suggested that they are more geared up to provide the needs of these other markets than the needs of the UK.

SEED QUALITY

Until quite recently, Northern Ireland enjoyed the reputation of growing the highest quality seed. Now it seems that there are proportionately more quality problems and complaints with Northern Irish seed amongst English merchants than with Scottish seed (though numerically there are more for Scottish seed). The merchant's image of Northern Ireland's seed has suffered over recent years, as a result of particular quality problems and variability with Ulster Sceptre (especially gangerene).

This has meant that growers wanting Ulster Sceptre tend to ask for Scottish seed in preference to supplies from Northern Ireland. There are other specific instances of blatant shortcomings in quality control. For example, leaf roll has been found on the lower half of plants, grown from Northern Irish seed. As the disease does not affect the lower half until the second year of tuber growth, the seed crop must have been diseased in Northern Ireland, remained undetected and then

shipped.

Whilst Northern Ireland's quality reputation with merchants (if not growers) has been dented over the last decade, Scotland's standards have continued to improve from a weak standing. English merchants can more easily travel to Scotland to inspect large volumes of seed during harvest - to satisfy any quality doubts - than to Northern Ireland, where farms and individual fields are smaller.

TUBER SIZE

Though Ulster suppliers generally meet the 3% oversize tolerance limit, English merchants consider that they receive an unacceptably large number of oversize tubers from Northern Ireland, particularly in comparison with the Dutch. The criticism voiced by growers towards Scottish supplies in this respect was not evident amongst the merchant trade.

The tuber count for seed from Northern Ireland is too low, with too many tubers around the 50mm upper grade level. Certainly 60mm seed potatoes are too large for the GB market. The Dutch guarantee 700 tubers per bag; Northern Ireland achieves 500-550.

Smaller tubers and guaranteed counts allow more precise ordering, easier mechanical handling and generally lower tonnages of seed per hectare.

The lack of a split grading system puts the Northern Irish seed industry at a disadvantage. However, specifying tighter riddle sizes in Northern Ireland may be difficult, where farms are small and investment in new cleaning and grading equipment may not be financially viable.

VOLUME THRESHOLD AND DELIVERY METHODS

Referred to in (1) above, English merchants require a minimum threshold of supply sustained over a length of time to justify cost effective management and use of storage space. Ulster supplies often fall short of the threshold. Usually deliveries from Northern Ireland are only available in 20 tonne loads (ie container loads), when the need is increasingly for 5-10 tonne quantities (ie lorry loads). Flexibility in the size and frequency of deliveries is lacking.

Pandora are the only known main-line seed haulage firm from Northern Ireland. They stipulate the maximum number of sites to which they will deliver at any time to be 3, provided that they are within the same county, or in similar proximity, English merchants see these demands as inflexible and are made even less happy by having to provide the hauliers with the names of their clients directly.

SEED AVAILABILITY AND DELIVERY PUNCTUALITY

Criticism was levelled by English merchants against seed not being made available early enough from Northern Ireland. 70% of the merchants trade is completed by July - through forward trading - so there must be surety among suppliers of availability at harvest by April-May. Merchants notice this is lacking with Ulster suppliers.

Further more there is difficulty with deliveries not arriving on time. Bookings made in April/May for October/November delivery frequently fail to arrive before January/February, which is unacceptable. The situation is made worse by the fact that Ulster Sceptre (which still constitutes one of Northern Ireland's leading export varieties) must be delivered even earlier - between September/early October - otherwise "green-ness" of the seed sets in. The suppliers are simply failing to meet this requirement, according to the English trade. Merchants in England feel that the Northern Irish industry is too preoccupied with satisfying export orders, rather than meeting mainland bookings. It is not altogether clear, however, that the blame should be wholly apportioned prior to the point of despatch. Ministry Inspectors of seed in Northern Ireland are unwilling to inspect loads on lorries that would otherwise go out over the weekend. This causes logistic irregularities and much frustration as all seed in Northern Ireland has to be inspected before shipment. Containers are known to be held up en route with some regularity.

PRICE

Carriage across the Irish Sea and the associated costs, do not help the price competitiveness of the Northern Irish seed. The channel of distribution is confined to sea crossings made by the P & O Shipping Company. As the corporation is about to raise its prices again, the competitiveness of seed from Ulster will suffer still further, given that intense competition amongst Scottish road hauliers has kept their seed transport prices down to 1982 levels.

Taking the extra transport costs into account and combining them with the smaller production units and lack of scale economies in the Northern Ireland industry, it can translate into a £30-£40/tonne price disadvantage over Scottish seed. To many potato growers planting cost per hectare is all important, so the advantage of lower prices cannot be overemphasised.

To put the above comments about Northern Ireland's seed industry in perspective, the representatives of English seed potato merchants selected were asked for their reasons behind the decline of the Northern Irish industry in addition to their overall level of satisfaction with their suppliers. In the case of Scottish and Dutch seed general attitudes were simply sought. This was to enable positive, constructive criticism to be voiced about the state of Northern Ireland's industry. They, in turn, have been used and refined to develop progressive recommendations over the future for the seed potato industry in Northern Ireland, which are expounded in the final section.

6.5 INDICATORS FOR THE NORTHERN IRELAND INDUSTRY

A rising proportion of the seed grown for potato production in Great Britain originates from outside the UK. Whilst Scotland has managed to compete effectively and successfully both against other seed supplying nations and the dynamic nature of market demands, Northern Ireland has not fared as well. Since the entrance of the Dutch into the market in 1975, they have rapidly expanded and now hold as large a share in the market as Northern Irish suppliers. Left unchecked, this could result in the demise of the seed potato trade from Northern Ireland to England and Wales.

This final section suggests ways in which problems specific to the GB market can be tackled. The recommendations are based on the product and service requirements found to be important to both the British potato grower and merchant, together with the perceived strengths and weaknesses of the major sources of supply.

The first step that the Northern Irish industry must take if it is to remain a major supplier to Great Britain's potato industry is to make a collective and conscious decision confirming that it wants to compete for a share in the GB market. The industry must decide whether it is better equipped or more able to concentrate on supplying some of its other traditional markets such as Egypt and the Canaries rather than compete ineffectively in the GB market.

Assuming that the industry wants to make a concerted effort to improve upon its present GB market standing, there are a number of clear recommendations to be made:-

- (i) Northern Irish seed growers must provide the GB market with the varieties that are currently in greatest demand and those for which future demand looks brightest, in particular: Maris Piper, Desiree, Wilja, Record, Pentland Squire and Estima.
- (ii) Tuber sizes must be reduced. To achieve this, seed producers must be encouraged to increase their plant populations, burn off earlier and enable earlier dressing. The optimum tuber size for the GB market currently stands at 35-45mm. This should be the target size set. The proportion of oversize tubers (ie > 45mm) must be reduced.
- (iii) An incentive scheme should be considered to encourage growers to produce smaller seed. The most obvious and simplest means of accomplishing this is to follow the example of the Dutch and the French, by operating a split grading/pricing system.

The market pays more for the grades that are in greatest demand (ie 35-45mm and 28-35mm) and less for the larger grades (ie. 45-55mm). One would hope that this system would deter too many oversize seed potatoes from reaching the market. The ware market would act as the only probable outlet for the oversize supply.

- (iv) With regard to seed quality, Northern Ireland's suppliers have recently suffered a few setbacks to their previously unblemished standards. Excellent quality control is crucial to

the future success of the Northern Irish industry and it may take a few seasons to recapture the quality image that it had taken so long to establish.

Further to these product-based recommendations, there are a number of suggestions addressing the service/supply functions, in which this study has shown the Northern Ireland industry to be particularly weak in comparison with the competition:-

- (v) It is strongly recommended that Northern Irish suppliers deal with mainland merchants and under no circumstances try to shorten the distribution channel by trading direct with mainland growers. Some Scottish suppliers are dealing direct with potato farmers; their action is strongly repudiated by the merchant trade. Northern Ireland's industry does not have the strength to face the prospects of losing the support of mainland merchants by trying to sell directly.
- (vi) Delivery timing and reliability must be improved. Ulster suppliers should be in a position to forward trade in April-May for delivery in October-November. The survey amongst English growers showed that there are two demand peaks for delivery of seed on farm: one in October-November, the other in February-March. The Northern Irish industry cannot afford to ignore the first. English merchants feel that the Northern Irish have been guilty of this in the past, and seem unconcerned that shipments ordered for the October-November period have failed at times to arrive before January. It might be helpful also for the industry to draw to the attention of the Ministry Inspectorate that by failing to make inspections on loads ready for shipment at the weekend they are compounding the delivery reliability problem.
- (vii) Northern Ireland's seed potato suppliers should try to find ways of providing a more flexible delivery service. It is evident that the minimum bulk order of 20 tonnes is too large for many seed merchants in England and Wales, who are increasingly managing to be supplied with 5 and 10 tonne loads. Merchants need the flexibility to order lorry loads as well as container loads, and this is one of the major benefits that Scottish road hauliers can offer. Though cost-effectiveness must always be taken into account in these matters, it is also felt that Pandora - the main-line haulage firm operating from Northern Ireland - might profit from providing a more versatile service, for example by reviewing its policy of making no more than three deliveries per lorry in any one county.

Scottish suppliers have introduced load palletisation, seen to be of great benefit to the grower. It is strongly recommended that shipments from Northern Ireland follow their lead to remain competitive.

- (viii) Instigation of guaranteed tuber counts per bag by Northern Irish suppliers would certainly add to the appeal of their product on offer to the GB market. However, tuber counts would need to be raised from an estimated average of 500-550 tubers

per bag to a minimum of 650 for it to become a positive attribute. (The Dutch already guarantee counts of 700 per bag). This would require possible alterations to husbandry practices as already outlined.

There would obviously be a cost associated with the introduction of minimum tuber count guarantees. No doubt the Northern Irish industry would be willing to provide the service as long as English growers would be willing to pay for it.

The associated costs with all these recommendations (but particularly the last one) must be balanced with the overall competitiveness of Northern Ireland's pricing strategy. There is little doubt that the cost of planting a hectare of potatoes is still a very significant consideration in the grower's decision as to his preferential source of seed. This fact is borne out by the market performance of Dutch seed. In terms of the service they offer to English growers the Dutch are very competitive. However, the price premium that they must charge to finance their high standards of service limits their market potential in the UK.

In summary, the growing acceptance of Scottish seed by English and Welsh merchants and the increasingly competitive, customer orientated marketing strategy adopted by the Dutch will only result in Northern Ireland's present small share of the GB market being further eroded unless the industry can match the requirements of GB growers and merchants more satisfactorily.

CHAPTER 7

RECOMMENDATIONS: EXPORT MARKETING STRATEGIES FOR THE NORTHERN IRELAND SEED POTATO INDUSTRY

7.1 THE EXPORT MARKETING PROBLEMS: A SUMMARY

The export marketing problems facing the Northern Ireland seed potato industry can be classified into two types:-

- (i) Those arising from the external market environment (external factors).
- (ii) Those arising from within the industry itself (internal factors).

A SWOT analysis of the Northern Ireland industry reveals that two external factors pose major threats:-

- a. Export market requirements are changing, and the Northern Ireland industry has been unable to adapt to the new product and service requirements. This is true for both Northern Ireland's traditional Mediterranean markets, where the Dutch are rapidly becoming market leaders, and for newly emerging growth markets in Africa and Asia, which the Northern Ireland industry has been unable to penetrate successfully.
- b. The major competitor in virtually every world market is the Dutch industry. This represents a formidable, aggressive, well-organised competitor for the much smaller, and much more fragmented, Northern Ireland industry to tackle.

Internally, the major problem facing the industry is the weakness of its organisation for export marketing. A major hypothesis of this thesis, as expounded in the introduction, is that in export marketing it is important to have both a strategic focus and the organisational back-up to carry out the strategic tasks. It is clear from the Dutch system that in a seed potato industry, where the production sector usually consists of many small fragmented units, a strongly integrated organisational structure is a necessary prerequisite to the successful execution of strategic tasks. This concurs with the findings of Cravens (1986) and Gluck, Kaufman and Walleck (1980), that the linking of formal planning to vigorous and efficient operational execution, is the key to export success. Furthermore, since the Dutch organisational structure is based upon marketing cooperatives, the findings of this study also confirm the work of Foxall and Bailey in the field of agricultural marketing cooperation. Foxall (1984) identifies a positive relationship between the success of agricultural marketing cooperatives and their ability to plan; implement plans; have export responsibility; and exercise production-marketing integration. Bailey (1985) argues the case for such cooperative integration in improving both domestic and export marketing performances. A major conclusion of this study is that a prerequisite to the development of appropriate exporting strategies for the Northern Ireland industry is that it must resolve its internal organisational problems.

Specifically, the organisational weaknesses in the Northern Ireland system are as follows:-

- A general lack of horizontal and vertical integration.
- A 'politically' divided industry with an 'us and them' philosophy existing between producer and merchant sectors.
- Lack of a proper contractual economy between producers and merchants.
- The availability of Northern Ireland product to speculative traders from competitor industries.
- Within Northern Ireland, seed potato exporting is often a peripheral activity for traders, rather than a central one.
- Poor production - control and planning exist, because growers may grow what they want in terms of varieties and quantities.
- Producers agronomic decisions are often not founded on reliable, market-led considerations.
- Exporters often have to 'sell first' and 'buy later'.
- No market-support scheme exists to spread growers risks.
- Placement of new stocks in the production channel is not market-led.
- Cheating of the quality control process can, and does, occur.

The cause and effect relationship between such organisational inadequacies and the Northern Ireland industry's inadequate strategic position is clear. The major strategic difficulty facing the Northern Ireland industry is that, due to the organisational constraints just described, the industry is forced to adopt a globalisation strategy. Furthermore, it is evident from the diverse requirements of world customers, and from the strategies being pursued by the French, Scottish and Dutch industries, that customisation, rather than globalisation, is appropriate as an international strategy in seed potato marketing. Indeed, the author would argue that a strategy of globalisation can rarely, if ever, be appropriate in international marketing, as its basic tenets are directly contrary to the concept of 'customer sovereignty'. Levitt (1983) has said

"If the price is low enough, customers will take highly standardised world products, even if these are not exactly suitable."

This may well have been true of seed potato marketing in the 1930's and 1940's when there were only a few varieties to be offered in world markets, and when markets were unsophisticated with regard to grading, packaging, tuber-counts, delivery times, and physiological age. Now, however, such a hard sell approach is no longer appropriate. Despite this change, however, the Northern Ireland industry has become constrained to using an archaic globalisation approach. Indeed, the Northern Ireland industry recognises this problem, as summarised by the merchant who said:-

"Our competitors are successful because they supply exactly what each customer wants. We Northern Ireland merchants are forced to try and persuade customers to accept what we have on offer, whether it is exactly what they want or not; and often at reduced prices."

In addition to the major problem of pursuing an inappropriate globalisation strategy, several other strategic problems beset the Northern Ireland industry, including:-

- Distribution strategy weaknesses:- Inefficient transport routing; multiple handling of product; inadequate regional port facilities;

high export shipping costs; resistance to use of containers.

- Pricing strategy weaknesses:- Based on intracompetition on the basis of price.
- Export promotional strategy weaknesses:- Inability to use a 'product diversification' message; Duplication of seed trialling efforts; inadequate trial coverage in key markets.
- Market research:- Lack of overall strategy for industry; duplication of efforts; NPD institute ill-supplied with market information; producers ill-informed about market conditions; accurate market information not available for placement of new stocks in the production chain.
- NPD strategy:- State breeding very late in developing its international orientation; private sector is little involved in NPD (weak marketing/NPD interface); little use of product life cycle-related strategies.

Any recommendations for regaining and maintaining a competitive advantage for the Northern Ireland industry in world markets, must, therefore, a priori, deal with the internal organisational problems which have plagued the industry for so long. Only then will the industry have a strong organisational base from which to pursue appropriate strategies. Subsequent strategy recommendations must be concerned with two issues:-

- (i) How to remove the industry's dependence on cut-price globalisation, and replace it with a more market-orientated customisation strategy.
- (ii) How to strengthen the other areas of strategic weakness, in an attempt to challenge the Dutch supremacy in key markets.

This proposal for key market concentration, rather than market spreading, is based on two considerations. Firstly, it is in the key markets of Portugal, Egypt, Cyprus and Spain (representing over 95% of all Northern Irish exports) that the Dutch represent the greatest threat. Secondly, in comparison to the Dutch, who are pursuing a market-spreading strategy, the Northern Irish industry is relatively financially poor. Michael Porter (1985) proposes a matrix of alternative generic strategies, as shown in Figure 40 below.

FIGURE 40: Porter's Generic Strategy Matrix

		COMPETITIVE ADVANTAGE	
		Lower Cost	Differentiation
COMPETITIVE SCOPE	Broad Target	1. Cost Leadership and market spreading	2. Differentiation and Market spreading
	Narrow Target	3. Cost Leadership and Key Market Concentration	4. Differentiation and Key Market Concentration

Presently, the Northern Irish industry is following strategy 3, winning business in a relatively small number of traditional key markets in the Mediterranean, on the basis of a low price globalisation approach, rather than on the basis of value-added, differentiated products and services. The Dutch, on the other hand, are pursuing strategy 2. Because the Northern Irish industry is not a particularly low cost producer (something which is compounded by its organisational inefficiencies, and its geographical location), the adoption of a strategy based on cost leadership has persistently given very poor returns to the industry. It is recommended, therefore, that the industry moves towards strategy 4, based on differentiation rather than cost leadership. Strategy 4 would still involve key market concentration, rather than market spreading. This is justified because of the costs involved in market spreading, as previously described, and also because the Northern Irish industry already has the advantage in its key markets of being an established supplier. This key market concentration strategy could be used to maintain present export tonnages, and subsequently utilising this consolidated position as a base for future expansion.

7.2 PROPOSED EXPORT MARKETING STRATEGIES FOR THE INDUSTRY

As explained in the previous section, the necessary prerequisite to the implementation of successful strategies is an appropriate organisational structure for exporting.

7.2.1 Organisation for Exporting

In seeking to resolve the internal organisational problems facing the Northern Ireland industry, the models of the Dutch, Scottish, Irish, French and Canadian systems provide many indicators, and present several structural options. The Dutch and French industries are based on strong marketing cooperatives, utilising the strengths of production-marketing integration linked to export market planning. The Irish system is similar to the old Northern Ireland Seed Potato Marketing Board, and is based on the statutory imposition of production-marketing integration, central planning and price control. The Scottish system is similar to the present Northern Irish system in that the SSPDC and SPP are both inter professional export development organisations, charged with a limited degree of central control and planning. However, the essential difference is that the SSPDC in Scotland has been able to encourage a high degree of voluntary cooperation and production-marketing integration within the Scottish industry, so that in many respects it resembles the Dutch and French industries. The Canadian industry, of all the systems modelled, most closely resembles the Northern Irish system because of its lack of integration and centralised development of exports. In an attempt to resolve this organisational problem, the Canadians have instituted a statutory control mechanism, similar to the IPM organisation in the Republic of Ireland and similar to the old Northern Ireland Seed Potato Marketing Board.

In all these systems, the recurring theme is the need for strong horizontal and vertical integration within a seed potato industry, linked to strong centralised export development and export marketing management. To this extent, any of these systems would represent an improvement to the present Northern Ireland system. However, caution must be exercised in proposing to completely transfer organisational concepts from (say) France or the Netherlands to Northern Ireland. Firstly, it would be extremely costly to radically reorganise the Northern Irish industry, and secondly (as is proved by the Irish Republic's system), even the most thoroughly planned and academically sound marketing system can be rendered impotent by undisciplined, uncommitted producers. It has been argued that the Northern Irish industry should not spread meagre resources over too many markets by pursuing a strategy of market spreading. Similarly, and although organisational change is a priority for the industry, the industry would be ill-advised to introduce any radically new, costly system of organisation. Rather, the author recommends that a more pragmatic policy of improving existing organisational structures, and in particular strengthening the existing positive elements, should be pursued.

In attempts to improve existing organisational structures, with a view to introducing more horizontal and vertical integration into the industry, the Department of Agriculture for Northern Ireland has

often in the past exhorted the Northern Ireland merchant trade, and particularly its representative body, the North of Ireland Potato Marketing Association, to take a lead in reorganisation. Such exhortations have called for the introduction of elements such as a proper contactual economy between growers and merchants, and the formation of a merchant cartell, or trading cooperative, in order to reduce price competition in export markets. However, time after time the merchants have refused to institute such changes. Indeed, the author, having been invited by Lord Lyall (Minister with responsibility for Agriculture in Northern Ireland) to present the findings of this research to an audience of grower-representatives, merchants, and agri-marketing academics and administrators in Northern Ireland in 1987, met with the same intransigence from the merchant sector.

Whilst not wishing, therefore, to preclude the Northern Irish merchants from any future developments, it is clear to the author that it is impossible to secure their agreement to proposals for reorganisation on the basis of improved horizontal and vertical integration. By way of contrast, the one very positive and progressive trading element encountered within the Northern Ireland industry is the existing seed potato marketing cooperative, Expotato Ltd. As has been detailed in previous sections of this thesis, Expotato has already begun, in a small way, to introduce the recommended organisational improvements in terms of horizontal and vertical integration, and to pursue appropriate export strategies.

The main organisational recommendation of this thesis is, therefore, that Expotato should be utilised by policy makers in N.Ireland as a catalyst for positive change in the Northern Ireland industry. The cooperative should be supported as a 'pilot scheme' for improved export marketing of seed potatoes, and enabled to develop its present organisational and strategic aims, along with its membership.

Already the cooperative has a 10% share of total seed potato exports from Northern Ireland, and a membership of 150 growers (7½% of all Northern Irish producers). Obviously the cooperative does not possess the same economies of scale as the large Dutch cooperatives (each handling over 100,000 tonnes of export product from over 1,000 growers), nor does it have the financial resources to immediately introduce competitive strategies. However, it is the authors contention that a steady growth of Expotato, from its present base until it secures a majority of the Ulster export product from a core group of dedicated, disciplined producers, represents the best, if not the only, way forward in resolving the industry's problems.

7.2.2 Export Strategies

Having specified the cooperative, Expotato Ltd, as the principle vehicle for future improvement of the Northern Ireland industry, the strategic recommendations detailed in this section relate primarily to what export strategies should be developed by Expotato.

It is recommended, therefore, that the strategic development of Expotato be based on six main elements:-

- (i) The maintenance of their status as a single-product trader, so that seed potato exporting remains the central business function, and does not become a peripheral one. Much of Expotato's approach to seed potato marketing, and its attitude to the seed potato industry in the Province, stems from the fact that seed potato exporting occupies a position of centrality in its business portfolio, and not one of peripherality.
- (ii) A strategy of key market concentration should be pursued, in order to consolidate the cooperative's position in existing key Mediterranean markets. This base can be used as a platform for market expansion, as membership of the cooperative grows, and as new products are developed.
- (iii) The cooperative should continue to pursue its aim of customisation in export marketing, rather than globalisation.
- (iv) The cooperative, in managing its existing and future portfolio of products, should more thoroughly exploit the product life cycle concept, and tailor marketing management strategies accordingly.
- (v) The cooperative should pursue its strategy of basing export promotions on more potent 'product-diversification' messages, and also on the basis of guaranteed supplies of exclusive varieties.
- (vi) The cooperative should continue to develop its in-house new product development capacity.

These six strategic elements can be summarised as follows:-

- 1 - Centrality of the seed potato export function.
- 2 - Key market concentration.
- 3 - Customisation rather than globalisation.
- 4 - Utilisation of product life cycle analysis.
- 5 - Market-orientated export promotions.
- 6 - Market-orientated new product development.

In terms of implementation of these strategies, the cooperative is well advanced in some, but requires considerable development in others. In the new product development field, for example, the cooperative now has its own in-house breeding programme, with new varieties being developed in close consultation with customers in key markets. In addition, as an interim measure, the cooperative is buying-in viable new products from other breeding programmes. Full implementation of the other strategies will largely depend on two things:-

- (i) Financial resources being made available to the cooperative:- (to develop, for example, a better agronomic advisory service to advise members on producing customised seed; to introduce central grading and packaging; and to reduce multiple handling by purchasing its own transport fleet).
- (ii) An expansion of membership of the cooperative:- Only by commanding control of a majority of the Northern Ireland export product will Expotato be able to make available reasonably large supplies of its new varieties, and its newly customised products.

In seeking financial resources for a 'pilot scheme for improved seed potato exporting', as proposed, it is recommended that the Department of Agriculture for Northern Ireland should now enter into discussions with Food From Britain, the Ulster Agricultural Organisation Society Limited and the management of Expotato Limited, to see how funding could be secured for key functions and personnel.

In seeking to increase the cooperative's membership, it is recommended that the Ulster Farmers Union, in conjunction with U.A.O.S. and Expotato, should embark on a Province-wide educational and recruitment campaign, to convince producers of the export marketing benefits of having a strong, well-managed, seed potato marketing cooperative.

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APPENDIX 1: A LIST OF SECONDARY INFORMATION SOURCES UTILISED IN CONSTRUCTION OF THE INDUSTRY MODELS

Northern Ireland

- Department of Agriculture for Northern Ireland Journals;
 - Record of Agricultural Research
 - Agriculture in Northern Ireland
 - Annual Report on Research and Technical Work
 - Northern Ireland Advisory Services leaflets
 - Statistical Review of Northern Ireland Agriculture
 - Register of Basic Seed Crops
 - Register of Licensed Merchants
 - Northern Ireland Farm Management Survey
- Northern Ireland Agricultural Press;
 - Farm Week
 - Farmers Journal
 - Farming Life
 - Ulster Farmer
- G.B. Agricultural Press;
 - Farmers Weekly
 - Farming News
 - Arable Farming
 - Crops Weekly
 - Farm Business
 - Grower
- U.K. Journals;
 - The Seed Potato
 - Fruit Trades Journal
 - Potato Research
 - Arable Crops Research
 - Agriculture
 - Agronomy Journal
 - Field Crops Research
 - Journal of Agricultural Research

Canada

- Eastern Canada Potato Producer's Council
- Mr T.Turner, Chief Executive, 'Potatoes Canada' (Promotional Organisation).
- Mr R.W. Anderson, Chief, Horticulture and Special Crops Unit, Marketing and Economics Branch, Canadian Department of Agriculture.
- Mrs J. Menzies, National Farm Products Marketing Council.
- Mr E. Keizer, New Brunswick Division (Seed Potatoes), Department of Agriculture.
- Mr A. Wilmot, Economic Analyst, Marketing and Economics Branch, Canadian Department of Agriculture.

APPENDIX 2: DETAILS OF KEY INDIVIDUALS, AND INSTITUTIONS,
INTERVIEWED DURING CONSTRUCTION OF THE INDUSTRY
MODELS

Northern Ireland

- The Breen Advisory Committee; this committee, composed of Department of Agriculture and Seed Potato Promotions officials, determines what varieties and quantities of high-grade, pre-commercial seed to release into commercial production each year through micropropagation.
- The V.T.S.C. (Virus Tested Stem Cutting) Grower's Association; this association represents the VTSC growers who receive the very high-grade basic seed from government for initial multiplication.
- The Plant Pathology Division, Department of Agriculture; this Division conducts the micropropagation of new material for release to the industry, and the on-growing of these micropropagated stocks at Breen Pre-Basic Propagation Centre, in North Antrim.
- The Northern Ireland Plant Breeding Station; this institute is concerned with the breeding and testing of new varieties of potatoes for the industry and represents the new product development function of the industry.
- The Potato Husbandry Advice Unit, Greenmount Agricultural College; this unit carries out research on potato husbandry, and disseminates husbandry recommendations to growers.
- The Potato Inspection Service; Regional potato inspectors are responsible for the classification of seed potato crops in Northern Ireland, and for the enforcement of burning down and harvesting dates.
- Seed Potato Promotions Ltd; this company is responsible for the promotion of Northern Ireland's seed potatoes in export markets.
- Expotato Limited; Expotato is the only seed potato marketing cooperative in Northern Ireland, having been set up following the collapse of the Seed Potato Marketing Board.
- Potatoes, Plant Health and Marketing Division, Department of Agriculture; this Division is responsible for the statutory regulations governing seed potato marketing.
- The Industrial Development Board for Northern Ireland; The Marketing and Trade Support Division of the I.D.B. is concerned with the incorporation of a better marketing orientation into the Northern Ireland agri-food sector in general.

The Netherlands

- H.van der Naar, Seed Potato Department, N.A.K. (National Seed Inspection Service), Ede, Near Wageningen.

- D.J. Meijer, General Manager, 'Hettema Zonen', Emmeloord: 'Hettema Zonen' is a major seed potato exporting company, operating on cooperative principles, and handling 25% of all Dutch seed potato exports.
- A. Brunsting, Managing Director, 'Agrico', Emmeloord: Agrico is one of two major seed potato marketing cooperatives in the Netherlands, and currently handles about 30% of all Dutch seed potato exports.
- Mr Schwegman, 'Agrico': A field officer (agronomist) with Agrico, providing husbandry advice to the cooperative's growers.
- Mr P.A. Klaver, 'Agrico': A marketing executive with Agrico.
- Messrs Frank Curtis and Peter Duffield, Agrico: These two Englishmen manage the marketing of Agrico's seed potatoes into the G.B. market.
- Mr Dobbelaere, V.E.C.O. Secretary: V.E.C.O. (The Union of The Netherlands' Seed Potato Marketing Cooperatives) is a member of the National Cooperative Rood (Council) for agriculture and horticulture; 'the NCR'. The N.C.R. has a similar role to Food From Britain, being an umbrella organisation for all agricultural and horticultural cooperatives in the Netherlands.
- Mr Gebuiz, Secretary of the N.C.R., Den Haag (The Hague).
- Mr A. Vermeer, Seed potato grower, and current chairman of N.I.V.A.P. and S.T.O.P.A.: N.I.V.A.P. is the Dutch seed potato promotional organisation, and S.T.O.P.A. is the surplus buying agency for the Dutch seed potato industry.
- H. Waalkens, seed potato grower, Tollenbeek, North East Polder.
- Various seed potato growers and 'hobby breeders', met at an Agrico breeding (new product) exhibition in Emmeloord.

Republic of Ireland

- Mr Kevin Burke, General Manger, Irish Potato Marketing Ltd, Dublin. This producer's marketing cooperative markets all the republic's seed potatoes.
- Messrs H. Kehoe and L. Dowly, the Agricultural Institute, Oak Park, Carlow. This institute is responsible for new product development activities in the Republic's industry.
- Mr M. Bannigan, Secretary, Irish Potato Merchant's Association.
- Professor A. Cunningham, Marketing Department, University College, Dublin.
- Messrs F. O'Neill and C. Cowan, Marketing Department, the Agricultural Institute, Dublin.

**APPENDIX 3: LIST OF INTERIM RESEARCH REPORTS PUBLISHED DURING THE
PERIOD 1985-1987.**

1. 'The Seed Potato Industry of Northern Ireland.'
2. 'The Seed Potato Industry of The Netherlands.'
3. 'The Seed Potato Industries of Scotland, Eire, France and Canada.'
4. 'A Report on Key World Markets for Seed Potatoes.'
5. 'The G.B. Market for Seed Potatoes.'

These reports were published by the Marketing Services Unit, Silsoe College, Cranfield Institute of Technology. (Cranfield Press).

APPENDIX 4 : PRESS REPORTS, ILLUSTRATING THE EXTENT OF NORTHERN IRELAND
MERCHANTS' TACTICAL PRICE CUTTING IN RECENT YEARS

'Seed-Price Scuppered'

Despite the shortage of seed potatoes this year, producers returns from export markets could be considerably less than the £200 a tonne they have been hoping for.

This stems from what in the past has been called 'reckless competition' between those involved in selling the Northern Ireland crop in a number of important Middle East markets.

This competition - at the opening of the selling season - forces down prices. Last year it was said to have cost growers throughout Northern Europe many millions of pounds.

Last year the first major contract was placed in Malta. Despite the shortage of potatoes, the merchants involved agreed to re-tender - initial prices being as high as £350 a tonne delivered - and the contract was eventually divided between two suppliers at £270 a tonne.

If, as now seems likely, this price becomes the norm for exports, growers can realistically expect £160 to £170 a tonne ex-farm - although some merchants may seek to establish credibility by offering up to £200 for small quantities. One of the suppliers of this crucial Malta order is Dairy Farm Foods - a Belfast-based firm of brokers specialising in selling butter.

The involvement in the new potato arm of this business of the two previous directors of a major potato exporter which went into liquidation last year has caused consternation in the potato trade. Before going into liquidation last year, this company took the Malta contract at such a low price that the Ulster Farmers' Union called special meetings to protest on behalf of potato growers. The company's reaction at that time was to threaten both the UFU and journalists reporting the meeting with legal injunctions.

The UFU is concerned that a company should enter the export markets with few - if any - contracts with growers as it is this form of selling which creates the conditions for reckless competition. With potatoes in short supply there may be calls for producers to think long and hard before encouraging this trade by supplying potatoes.

The impact of the Malta price is already influencing other markets - competition amongst merchants for the big Egyptian order is severe and with the government there facing financial difficulties it is likely to take full advantage of any merchants' efforts to secure the order by further reducing prices.

Ulster is first in the main crop export market because of its preponderance of early King Edwards and Arran Banner.

'Ulstermen Blamed for Seed Hiccups'

Scottish seed potato exporters are angry and annoyed for the second time in two months at the disruption being caused in the international seed market by Ulster-based traders. In September the problems surrounded the sale of seed in Malta. Now the troubles are affecting much more significant Scottish markets elsewhere in the Western Mediterranean. In both cases one trader - not the same one - stepped out of line with the other exporters in quoting an extremely low selling price. The September experience was bad enough, but the latest move has put potential orders for up to 20,000 tonnes of Scottish seed at risk. 'Negotiations were progressing smoothly until they ran into this obstacle', said Mr. John Bethell, chief executive of the Scottish Seed Potato Development Council. It is claimed that the Ulster trader named a price for a relatively small quantity of seed of £20 or £30 a tonne below this season's ware price. That immediately destroyed the negotiating stance of all other traders in the market. Last year, for example, Scottish seed was exported to the Mediterranean for £180 a tonne delivered. This year the shortage of supplies meant that farmers have been hoping for prices between £200 and £250 a tonne. The disruption being caused in the market is threatening to drag the price down towards £120 or £130 a tonne. Sources in Northern Ireland candidly say that it comes as no surprise to find Ulster merchants again accused of forcing down prices in a major market. One leading exporter said: 'This has gone on for many years and will probably continue for many more. As quickly as people go out of business doing it there is always someone else ready to step in.'

'Call for Special Debate'

Once again the seed potato market in Ulster is in a total shambles. As on so many occasions since producers failed to support their Seed Potato Marketing Board the return to farmers has fallen - fast.

According to Assemblyman Raymond McCullough, a Rathfriland grower, two merchants prominent in Seed Potato Promotions helped make a bad position even worse.

When an Ulster party of merchants were flying out to Egypt to deal with buyers there was a 'gentleman's agreement' regarding the price they would all quote.

Once in the room with the Egyptians, according to Mr. McCullough, these two SPP gentlemen dropped £6 a tonne off their quote. Thus Mr. McCullough feels that the situation can only get worse and has called on the government to prepare a stockfeed system.

He also wants an emergency debate in the Assembly.

Sources: Northern Ireland Agricultural Press - various

APPENDIX 5

"COPY OF A REQUEST FOR TENDER OF SEED POTATOES FROM THE
MALTESE DEPARTMENT OF AGRICULTURE (1983), INCORPORATING
A "20% PERFORMANCE BOND CLAUSE."

Your Ref.
Telephone: 24941
Cable Address: Agrifish, Malta.



DEPARTMENT OF AGRICULTURE
AND FISHERIES
14, Mikiel Anton Vassalli Street,
Valletta.

22nd July 1983

Dear Sirs,

You are invited to submit a firm offer, by not later than noon on Tuesday, 30th August, 1983; for the supply of around **1400** metric tons Alpha seed potatoes C & F Malta (with a FOB offer if possible). The exact quantity required will be known by the end of August, 1983, when requests by farmers would have been submitted. Shipments are to be made during November, 1983,

Offers may be submitted for the supply of the whole quantity or part thereof. If of Dutch Origin the quoter must indicate from which area the seed potatoes originate.

Your attentions is drawn to the Carriage of Goods by Sea (Regulations) Order 1980, in terms of which the conveyance of cargoes to Malta is restricted to the authorised carriers stipulated in the said regulations. For further information regarding these regulations, you are advised to contact Sea Malta Co. Ltd. (Attn. Mr. Godwin Xerri), Sea Malta Building, Flagstone Wharf, Marsa, Malta. Tel: 29881, 29782, 25431, Telex: MW 1321 and MW 1210, Cables: SEAMALTA.

The seed potatoes must be Class 'A' Certified and between 35/60mm in size. The consignments must also be supported by certificates as indicated in the attached extract from Act XXXIX of 1966. Furthermore, the seed potatoes must be certified to be the produce of plants which on inspection during the growing season, the proportion affected by *Erwinia caratovora* var. *atroseptica* did not exceed 2%. The seed potatoes must be packed in new jute 50Kg bags and certified as the produce of crops inspected during the growing season by authorised inspectors of the country of origin and found to be true to type and of a standard of purity of not less than 97%.

Payment will be made by letter of credit. However, the successful quoter, will be requested to establish a Bank Guarantee as a performance bond, in favour of the Director of Agriculture and Fisheries, Malta, for 20% of the value of the quantity offered.

Yours faithfully,

AGRICULTURE
f/DIRECTOR

APPENDIX 6

" THE NORTHERN IRELAND SEED POTATO COOPERATIVE (EXPOTATO LIMITED) MEMBERS AGREEMENT CONTRACT."

Source: Expotato (Northern Ireland) Ltd.



Member's Agreement

THIS AGREEMENT is made the _____ day of _____ 19____
between _____ ("the Grower")
of _____, of the one part
and Expotato (Northern Ireland) Limited ("the Society") the principal
office of which is at 11 Lower Crescent, Belfast BT7 1NR of the other
part.

It is hereby agreed as follows:

Definitions

1. (a) In this Agreement, unless the context requires otherwise
"potatoes" means potatoes which are grown by the Grower on
land in his occupation to produce a crop to be supplied by him
to the Society pursuant to this Agreement;
- (b) In this Agreement and the Schedules hereto unless the context
requires otherwise:
 - (i) "agreement" means this Agreement or any agreement in
similar terms except that the minimum quantities may be
different;
 - (ii) "certification" includes classification as undertaken by an
Agricultural Officer of the Department in accordance with
Schedules 1 and 2 of the Seed Potatoes Regulations
(Northern Ireland) 1981 S.R. 1981 No. 243 and "certified"
shall be construed accordingly;
 - (iii) "Department" means the Department of Agriculture for
Northern Ireland;
 - (iv) "Directors" means the Board of Directors for the time
being of the Society;
 - (v) "Marketing period" means such period as the Board of
Directors of the Society for the time being shall declare to
be a marketing period pursuant to Regulation 7(a) of the
First Schedule hereto;
 - (vi) "Member" includes the Grower and means a shareholder
in the Society who has an agreement with the Society;
 - (vii) "Minimum quantity" in respect of any variety means the
quantity shown against that variety in Clause 2(b) of this
Agreement;

(viii) "sale contract" means any contract entered into by the Society pursuant to Clause 7(c) of this Agreement.

Commitment

2. (a) In each year in which this Agreement is in operation the Grower, having made reasonable provision of seed potatoes for home planting on his own land, shall sell through the agency of the Society, which shall sell on behalf of and as agent for the Grower, the following proportions of his crops of the varieties shown in the table in paragraph (b) of this Clause:

- In – at least 50 per cent of his certified crop
- In – at least 75 per cent of his certified crop
- In – 100 per cent of his certified crop.

(b) The Grower shall plant sufficient acreage in each of the years and for the production of seed potatoes to produce at least the following quantities of potatoes within the riddle size 35 × 60mm or within any such other riddle size as the Society shall from time to time specify and shall sell those quantities through the agency of the Society whether or not they exceed the relevant proportion specified in paragraph (a) of this Clause:

Variety	Quantity (Tonnes)	Percentage of crop

(c) Unless the Grower and the Society otherwise agree, if in any year of operation of this Agreement the Grower supplies to the Society a total quantity of potatoes of any variety which is less than the minimum quantity, there shall nevertheless be payable to the Society such charges as would have been payable if the minimum quantity had been supplied, but where the Grower supplies less than the minimum quantity for reasons beyond his reasonable control the Society shall endeavour to replace the shortfall with potatoes grown by other members and shall apply any additional charges received thereby in reducing the liability of the Grower under this paragraph.

(d) The Society may at the sole discretion of the Directors and on such terms and conditions as it may decide release the Grower from his commitment under paragraph (a), (b) or (c) of this

Clause provided that any such release shall apply for not longer than twelve months at any time provided also that the Grower shall keep records of all sales made by him otherwise than through the Society, shall provide the Society with such information as it shall reasonably require in respect of such sales and shall if the Society so requires pay charges as if no release had been granted.

Certification

3. (a) The Grower shall, not later than 30th April in the year in which any potatoes will be harvested on land occupied by him and supplied by him to the Society under this Agreement:
- (i) send to the Society an application form from the Department for certification of seed potatoes;
 - and
 - (ii) notify to the Society in writing all particulars to be entered on that form, of land which has been or is to be planted by him with seed potatoes to be supplied to the Society under this Agreement.
- (b) The land of which particulars are notified to the Society pursuant to sub-paragraph (ii) of paragraph (a) of this Clause in respect of any variety which is referred to in paragraph (b) of Clause 2 hereof shall be of sufficient area to yield in a normal year at least the quantity of potatoes shown against that variety in that paragraph and shall consist of complete fields.
- (c) The Grower shall take all necessary steps to enable the Society to apply successfully for certification in the name of the Society and shall reimburse the Society for all costs relating to such certification.
- (d) The Society shall, following compliance by the Grower with paragraph (a) (i) and (ii) of this Clause and when it is in a position to do so, apply to the Department to have the potatoes certified in the name of the Society.
- (e) The Grower shall reimburse the Society for all payments of royalties made by the Society on his behalf.
- (f) Where the whole or part of the Grower's potatoes fails to reach certification standard:
- (i) after growing crop inspection or any tuber inspection to which sub-paragraph (ii) of this paragraph does not apply, the Society may release the Grower from his commitment under this Agreement in respect of the whole or, as the case may require, that part, of his potatoes but Clause 2(d) and paragraphs (c) and (e) of this Clause shall apply;

- (ii) on a check inspection at delivery of the Grower's potatoes to a port of shipment, designated store or other premises, the Grower shall be responsible for the costs of removing from such premises the potatoes which have failed to reach certification standard provided that:
 - (aa) if in the opinion of the Society the reasons for that failure were beyond the Grower's reasonable control, the Society may bear the costs of removal;
 - and
 - (bb) if the potatoes are to be removed for re-dressing and then re-presented for certification the costs of removing, re-dressing and re-presenting the potatoes shall be borne by the Grower.
- (g) Where certification is withdrawn after potatoes have passed a check inspection at a port of shipment, designated store or other premises the Society may bear the costs arising from withdrawal if, in the opinion of the Society, the reasons for withdrawal arose from causes which were beyond the Grower's reasonable control.
- (h) The Grower shall immediately inform the Society if he has reason to believe from his own knowledge and experience, or from information from the Department, that any growing crop of his potatoes is unlikely to be certified.
- (j) The Grower shall take all the necessary steps which could reasonably be expected to have been taken by a prudent potato grower in Northern Ireland to ensure that his potatoes will comply with the Department's requirements for certification, including those requirements specified in the Seed Potato (Northern Ireland) Regulations 1981 S.R.1981 No. 243.

Compliance with Legislation

- 4. (a) The Grower shall comply with the provisions of the Seeds Act (Northern Ireland) 1965 and any Regulations made thereunder and the Society may terminate this Agreement or any part of it if the Grower is convicted or has judgement entered against him under that Act.
- (b) The Society in exercise of its functions of selling potatoes on behalf of members shall comply with the provisions of the Marketing of Potatoes Act (Northern Ireland) 1964 and any Regulations made thereunder and in particular the Society shall ensure that the conditions of any potato shipping licence issued by the Department are observed.

Grower to Fulfil his Obligation under this Agreement

5. The Grower shall fulfil his obligations under this Agreement in a diligent and workmanlike manner and shall ensure that the potatoes are harvested, dressed, bagged, inspected and sealed in time to allow the Society to apply for the certification and to fulfil orders for shipment.

Information

6. The Grower shall give the Society in writing such information, estimates and forecasts concerning his potatoes as the Society may reasonably require from time to time.

Marketing Arrangements

7. (a) Nothing in this Agreement shall place any obligation on the Society to sell any potatoes under a description for which in all the circumstances they are not of a suitable quality and in the event of potatoes offered by the Grower under any description being not so suitable the Society may, at its sole discretion and without consulting the Grower or compensating him, sell those potatoes under a description for which they are of a suitable quality.
- (b) The Grower shall at all times ensure that potatoes sold or to be sold hereunder are stored and kept in a marketable condition.
- (c) The Society shall negotiate on behalf of and as agent for the Grower contracts with buyers for the sale of the potatoes and, in the event of such a contract containing provisions as to methods of husbandry, the Society shall supply to the Grower details of such provisions and the Grower shall accept and comply with all such reasonable provisions and the Grower shall indemnify the Society against any loss, claim or expense arising from any failure by the Grower to ensure such compliance, in addition to paying to the Society any compensation due pursuant to paragraph (e) of Clause 12 hereof.
- (d) The Society may delegate any of its functions under this Agreement to its own agent but may not delegate to the Grower as its agent.

Common Fund

8. The Society is hereby authorised to receive on behalf of and as agent for the Grower all payments from buyers in respect of the prices of potatoes sold by the Society as agent for the Grower. Those payments shall be treated as contributions from the Grower to a common fund which shall be applied in the manner provided in the

First Schedule hereto and the Society and the Grower shall at all times observe and act in accordance with the Regulations set out in that Schedule.

Production Policy

9. (a) The Grower agrees to present to the Society only potatoes that have been properly cultivated, sprayed, burnt-down, treated, harvested, matured, graded, dressed and bagged in accordance with the Society's instructions and are of a standard acceptable to the Department and in compliance with the Seed Potatoes (Northern Ireland) Regulations 1981 S.R. 1981 No. 243.
- (b) The Society shall be responsible for supplying bags, labels and twine, issuing sealing instructions and where applicable arranging transport from the premises of the Grower and the Society may appoint any person as an agent to undertake such functions on the Society's behalf.
- (c) On receiving sufficient notice the Grower shall allow any accredited representative of the Society to inspect his potatoes both before and after harvest and to take representative samples and the Grower shall comply with all reasonable instructions which any such representative gives in respect of the potatoes.
- (d) The Grower shall be responsible for ensuring that any chemicals applied to the potatoes are so applied in accordance with the manufacturer's recommendations and the Grower shall indemnify the Society against any loss, claim or expense arising from failure by himself or any employee of his to ensure such compliance.

Shareholding

10. (a) If he has not already done so the Grower shall subscribe forthwith for one hundred shares in the Society and shall retain at least one hundred such shares during the currency of this Agreement.
- (b) In the event of the Grower failing or ceasing to comply with paragraph (a) of this Clause this Agreement shall terminate forthwith.

Operating Rules

11. The Society and the Grower undertake at all times to observe the Regulations as to collection and handling of potatoes supplied to the Society by the Grower under this Agreement which are contained in the Second Schedule hereto. The Society may from time to time make further rules governing the operation of its services and such rules shall be binding on all members.

Property and Risk

12. (a) Whilst in the possession of the Society or its haulier the potatoes shall remain the property of the Grower but subject to Clause 3 hereof and to paragraph (c) of this Clause the risk of loss or damage to the potatoes shall be on the Society.

(b) (i) If in the opinion of the Society the claim was due to the Grower's failure to comply with any term of this Agreement or any requirements of the Society or the Department in respect of his potatoes the Society will recover from the Grower all or such part of the payment made to the Buyer as the Society in its sole discretion considers to be fair and reasonable;

or

(ii) If the Grower has complied with the terms of this Agreement and any requirements of the Society or the Department and the claim was made by the Buyer because potatoes were discovered to have a latent inherent defect such as gangrene, skin spot, dry rot or any other defect of which the Grower, the Society and the Department could not reasonably have been expected to be aware, the Society will where necessary bear all costs arising from the claim; but shall reserve the absolute right to recover from the Grower, such costs and payments made in respect of the claim, as the Society in its sole discretion considers to be fair and reasonable in the circumstances;

and

(iii) where the Society in the exercise of its discretion as aforesaid decides that the Grower shall not be responsible for payments made to the Buyer in respect of a claim then the Society will, where necessary, bear all costs arising from the claim and will take account of payments made to the Buyer which are not recovered from the Grower under sub-paragraphs (i) and (ii) of this paragraph in fixing charges pursuant to Regulation 6 of the First Schedule hereof; or shall charge such payments made to the Buyer which are not recovered from the Grower to the appropriate price pool referred to in paragraph 7(a) of the First Schedule hereof;

(iv) if the Grower is responsible for meeting all or part of the costs or payments arising in respect of a claim from the Buyer in terms of paragraphs 12(b)(i) and (ii) hereof, the

Society may use such sums held by it (if any), being sums equivalent to the price received by the Society in respect of sales of the Grower's crops, to pay or reduce the amount of the claim.

- (c) Any liability of the Society arising under this Clause shall not exceed the amount recoverable by the Society under any insurance policy which it may have pertaining to the potatoes in question and details of any such policy shall be made available to the Grower on request.
- (d) The Society shall ensure that the terms of sale of any potatoes which are held in any store and which it sells on behalf of the Grower shall provide for property to pass to the Buyer on a date not earlier than the date of removal from that store.
- (e) Where the Grower is in breach of any guarantee or warranty, whether statutory or otherwise, given by him under this Agreement, then the Society may in its absolute discretion reject potatoes supplied by the Grower and may require the Grower to compensate the Society for any loss sustained by the Society in respect of any such breach of guarantee or warranty.

Termination

- 13. (a) Subject to the other provisions for termination contained in this Agreement, this Agreement shall continue to operate from the date hereof for a period of not less than three years and may be terminated thereafter by either party giving to the other party not less than twelve months' notice in writing to that effect to expire on the thirty-first day of March in any year.
- (b) Any termination of this Agreement shall be without prejudice to any liabilities (whether or not such liabilities have been quantified) of either party which may have arisen prior to such termination.
- (c) Following the termination of this Agreement for any reason and by any method the Society shall pay to the Grower any credit balance allocated to him in the records which it is required by Regulation 6(a)(iv) and (b) of the First Schedule to maintain at such time or times as the Society shall decide but in any case not later than five years after the date of termination provided that if the Directors, with the concurrence of the auditor to the Society or the Central Council for Agricultural and Horticultural Co-operation, decide that to make that payment within that period would unduly favour the Grower at the expense of members of the Society they may postpone the payment as seems to them equitable.

Assignment, Death, Loss of Farm

14. (a) This Agreement shall not be assignable by either party.
- (b) If the Grower, being a sole trader, shall die during the currency of this Agreement then his personal representatives shall assume the whole benefit and burden of the Grower hereunder for a period not exceeding twelve months from the date of death but during that period either party may terminate this Agreement by giving to the other party not less than six months' notice in writing to that effect.
- (c) If for any reason beyond his control the Grower loses possession of so much of his land and buildings as makes it impracticable for him to fulfil his obligations hereunder then this Agreement may be terminated at any time after such loss by either party giving to the other not less than three months' notice in writing to that effect.

Bankruptcy, Liquidation, etc.

15. (a) Either party may terminate this Agreement by written notice to that effect at any time after the occurrence of any of the following events, namely:
- (i) an execution or distress is levied against any property of the other party and is not withdrawn or removed within twenty-one days thereafter;
 - (ii) an incumbrancer takes possession or a receiver is appointed of the whole or any part of the property or undertaking of the other party;
 - (iii) the other party makes any composition or scheme of arrangement with his or its creditors;
 - (iv) the other party, being a sole trader, is adjudicated bankrupt;
 - (v) the other party, being a body corporate, enters into liquidation by the making of an order or the passing of a resolution for winding up or the signing of an instrument of dissolution.
- (b) If the said other party is a partnership then the partners thereof shall be deemed to be bound jointly and severally to implement the terms of this Agreement and no right to terminate shall arise simply on the dissolution of the partnership unless such dissolution is caused by the insolvency, liquidation or receivership of any member of the partnership or the partnership as such. Where the constitution of the partnership changes either through an existing partner

ceasing to be a partner or through the assumption of a new partner then the newly constituted partnership and all partners thereof shall continue to implement this Agreement for so long as it would have remained in force had no change in the partnership occurred.

Breach

16. Without prejudice to any other remedies available in law or equity to either party on the breach hereof by the other party, if either party commits a breach of this Agreement the other party may give notice in writing to the party in default requiring that breach to be remedied or warning against the commission of a similar breach in the future, whichever is appropriate, and if the party in default fails to remedy the breach within a reasonable period or commits any further breach of a similar nature, as the case may be, the other party may terminate this Agreement forthwith by notice in writing to that effect.

Modification of Agreement

17. At any time the Society may give written notice to every member of its intention to modify the terms of this Agreement and the corresponding agreements with members other than the Grower and requiring each member to notify the Society in writing of his acceptance or refusal of the modifications within such period as shall be stated in the notice being not less than twenty-one days and if the modifications are not so rejected in writing by at least one-third of the total number of members then:

- (a) if the Grower is one of the members who duly accepts the modifications this Agreement shall be modified accordingly;
- (b) if the Grower is not one of the members who duly accepts the modifications the Society may give the Grower written notice informing him that less than one-third of the members have rejected the modifications and requiring him to signify in writing his acceptance of the modifications within such period as shall be specified in the notice being not less than one month and if the Grower fails to so signify his acceptance then the Society may terminate this Agreement forthwith by giving the Grower written notice to that effect.

Force Majeure

18. If default in the performance of any obligation under this Agreement is unavoidably caused by industrial action or restrictions imposed by any Government authority, whether at local, national or European Community level, or weather conditions or fire or flood or act of God or by any other occurrence which the defaulting party is unable to prevent by taking reasonable measures and the defaulting

party gives the other party written notice thereof as soon as is reasonably practicable after the occurrence then the defaulting party shall not be liable for any loss, damage or injury occasioned to the other party by the default.

Rules of the Society

19. In the event of any inconsistency between the terms of this Agreement and the registered Rules of the Society existing at the date of this Agreement becoming apparent both parties shall be bound to observe and act in accordance with such Rules.

Arbitration

20. Any dispute hereunder shall be referred to arbitration in accordance with the Rules of the Society.

Clause Headings

21. Clause headings in this Agreement are for ease of reference only and do not form part of the Agreement.

The First Schedule

1. In this Schedule, "potatoes" means any potatoes sold by the Society as agent on behalf of any member.

2. In selling potatoes on behalf of members the Society shall act in such manner as, in the opinion of the Directors, is in the best interests of the membership as a whole and shall not favour one member at the expense of another member.

3. The Society may become a member of any association whether incorporated or unincorporated with a view to obtaining assistance in marketing potatoes and any levy or subscription payable shall be a proper part of the costs of the Society.

4. If after making every reasonable effort to obtain payment from a buyer in respect of potatoes the Society fails to obtain payment in full the Society shall pay to the member or members concerned or credit to the appropriate pool the amount of any shortfall after deduction of the appropriate charge as estimated under paragraph (c) of Regulation 6 and the cost to the Society of so doing shall be a proper part of its costs, to be taken into account in determining charges.

5. The common fund made up of payments received by the Society in respect of sales of members' potatoes shall be distributed to the members in the manner provided in Regulation 7 after the deduction of the charges specified in Regulations 6 and 7 and the respective

members shall make such payments to the Society as may be required under Regulation 6.

6. (a) The amounts of the charges shall be decided by the Directors who shall not discriminate unfairly between one member and another, and who shall consult and take into account any advice offered by the auditor to the Society and, unless paragraph (b) of this Regulation applies, shall make full provision for:

- (i) the costs incurred by the Society in fulfilling all its obligations under Agreements and its administrative and overhead expenses, and
- (ii) depreciation of property of the Society on a fair and reasonable basis, and
- (iii) contingencies, including bad debts, on a prudent basis, and
- (iv) the need for other reserves to safeguard the future stability and security of the Society and to provide for its anticipated financial commitments, any such allocation to reserves being attributed among members in proportion to the charges payable by them and being recorded as having been so paid.

(b) If in any year the Directors, having taken into account any advice offered by the auditor to the Society or the Central Council for Agricultural and Horticultural Co-operation, decide that it would not be in the best interests of members as a whole or of the Society to make full provision for the costs and reserves provided for in paragraph (a) of this Regulation then the Directors may with the approval of the Central Council fix charges for that year at such lower level as they may so decide and any resulting deficit shall be attributed among the members in the same manner as allocations to reserves are to be attributed under paragraph (a) of this Regulation.

(c) Before the thirtieth day of June in each year the Directors shall estimate the amounts of the charges either as a percentage of sale prices, or as a fixed sum per tonne of potatoes sold, whichever they think fit.

(d) As soon as is reasonably practicable after the end of each accounting year of the Society the Directors shall determine the amounts of the final charges in respect of potatoes sold on behalf of the members in that year and

- (i) if the final charges are less than the amounts estimated for that year under paragraph (c) of this Regulation then the balance shall be distributed to members in proportion to

the total estimated charges paid by them respectively in respect of potatoes sold during that year but

- (ii) if the final charges are greater than the amounts so estimated then the Society, in the Directors' absolute discretion, shall raise the balance either by imposing on all members a levy in proportion to the total estimated charges paid by them respectively in respect of potatoes sold during that year or by making additional deductions from payments due to members in the next following year.
7. (a) Before the 30th day of June in each year the Directors shall decide which periods of time shall form the marketing periods for the purposes of this Agreement during the following accounting year of the Society and shall decide which categories of potatoes shall form price pools, if any, for each of the said marketing periods.
- (b) On a sale of potatoes not included in any price pool on behalf of a member either:
- (i) the Society shall pay to that member as soon as reasonably practicable after payment has been received from the Buyer a sum equivalent to that price after deduction of the appropriate charge as estimated under paragraph (c) of Regulation 6; or
 - (ii) Regulation 4 of this Schedule shall apply.
- (c) In respect of each category of potatoes included in a price pool the society shall deduct the appropriate charge as estimated under paragraph (c) of Regulation 6 from the total sum due from buyers of potatoes sold for delivery during each marketing period and shall distribute the balance to the members in proportion to the quantity of potatoes of that category delivered by each member during that period.
- (d) The Society shall make distributions in accordance with paragraph (c) of this Regulation as soon as possible after the end of each marketing period and, whenever possible, shall make such distributions within twenty-eight days after that date.
8. (a) The Society may arrange for members to receive payments in advance of the times at which payments would otherwise be made under paragraphs (b) and (d) of Regulation 7.
- (b) Insofar as arrangements to make advance payments to members render the Society liable for additional expenditure the Society shall recover that expenditure by making such deductions from the respective sums calculated under

paragraph (b) or (d) of Regulation 7 to be payable to the members who received advance payments as the Society shall decide.

- (c) When a payment becomes due to any member in accordance with paragraph (b) or (d) of Regulation 7 that payment shall be reduced by the amount of any advance payment or payments received by that member to the extent that that amount has not previously been set off against any other payments due to that member.
- (d) Every member who accepts one or more advance payments from the Society shall be taken to have agreed that in consideration of the Society making every advance payment to him the authority of the Society to sell his potatoes and receive proceeds of sale therefrom is irrevocable until such time as there is no excess of advance payments received by that member over the sums which, but for paragraph (c) of this Regulation, would be payable to him under Regulation 7.

The Second Schedule

Regulations as to Collection and Handling of Potatoes

1. The Grower shall co-operate fully with and shall comply with all directions of the Society in making arrangements for all potatoes supplied by him to the Society under this Agreement to be delivered to such dockside or such other premises as the Society may from time to time specify.
2. The Society or its agents shall be responsible for transporting the potatoes from the Grower's farm(s) to such port of shipment or other premises and at such times as shall be decided by the Society including (if applicable) the provision of insurance during transit. In the event of the Society rejecting part or all of the potatoes at such designated port or other premises, the Grower shall be responsible for removing such potatoes immediately from those premises, or for meeting the cost of such removal.
3. The Grower shall be responsible for the potatoes and the management thereof until they are loaded into a vehicle provided by the Society for their transportation from his farm or farms; thereafter the Society shall accept responsibility subject to Clause 3 and Clause 12 of the foregoing Agreement except for any potatoes rejected under Regulation 2 of this Schedule.

4. The Grower and the Society shall provide each other with information regarding each load of potatoes as shall be required.

SIGNED BY

The Grower in the presence of:

.....

.....

PRESENT when the Seal
of the Society was
affixed hereto:

.....

APPENDIX 7: CONTRACT TERMS FOR THE GUARANTEE ARRANGEMENTS
FOR SEED POTATOES (IN HOLLAND)

Translated from the original. Because this was written in commercial and/or legal language, the English translation may not be fully accurate. Nevertheless the translation gives some insight regarding the rules relating to the sale of seed potatoes to the STOPA.

Clarification of the guarantee arrangements for seed potatoes.

Acting under instructions, the STOPA ("Foundation for consultation on potato matters") has established the "Contract Terms for the Guarantee Arrangements for Seed Potatoes, 1975 Harvest", which have been approved by the seed potato section of "The Agricultural and Commercial Council of Middlemen and Wholesale Potato Traders".

As in the contract terms of the previous season, payment of the prices stated in the contract arrangements, are guaranteed, except in cases mentioned in section eleven.

Further information with regard to the execution of the guarantee arrangements, including times of sale etc, will be given to the commercial sector in circulars distributed by the NAK (Dutch General Food Inspection Service).

It is intended that the Guarantee Arrangements for the 1975 harvest will maintain the system used in previous years.

The following changes have been made to the 1974 contract terms:

1. The guaranteed prices for surplus from the 1975 harvest have been increased with regard to the prices of the previous year by F1 1.50 per 100 kg and by F1 5.00 per 100 kg for class S, 35 mm and above. Other (not mentioned) varieties, which have been registered before 1.6.1975 will be guaranteed the prices described in Group II. The classification of the varieties within the framework of the pricing scheme, has taken place on the basis of a number of objective criteria; the result being some shifts from Group I to Group II, as well as the other way round.

2. Because of the good results with mercurial preparations for disinfection, the cut of F1 1.50 per 100 kg for disinfected lots, has been discontinued; as well as the restriction that after 1.2.76, no disinfected lots will be bought.

3. The STOPA will only buy, certified seed stock, provided the deliveries are of at least 500 kg for each variety and class, coming from one grower and one storage place.

If the original offered amount after cancellation or through other causes has become less than 500 kg for any variety and/or class etc the contract is cancelled and the STOPA does not buy the remainder. Even though in that case the contract is cancelled, the cancellation fine and/or the fine because of short delivery will be due for the difference between the offered quantity and 500 kg.

Supplementary terms and announcements about the rules regarding:

1. the prevailing prices and terms of the compulsory resale at a certain time,
2. the prescribed way of denaturing,
3. other information important to the seller, will be made known by circulars and be available at the Regional Offices of the NAK, the Regional Offices of the Agricultural Council and its District Offices, as well as at the Chamber of Commerce and Factories in The Hague.

Copies of the "Contract Terms of the Guarantee Regulations for Seed Potatoes, 1975 Harvest" are available at the Regional Offices of the NAK, where in due time any other changes will be displayed as well as the necessary forms being available.

CONTRACT TERMS

1. General

Only through the NAK the STOPA in The Hague will buy on 5-7 November 1975 and between 4.2.76 and a further agreed date; approved and Dutch produced seed potatoes of the 1975 harvest, provided:

- a. that the varieties, classes and sizes are as mentioned in Section 5 and that a price has been given for each,
- b. the quantity to be bought at any one time is at least 500 kg for each variety class, grower and storage place,
- c. the contract documents put at the sellers disposal are completely and accurately filled in and signed by the seller and are in possession of the Regional Office of the NAK in whose area the seed potatoes are stored, before a given time and date,
- d. the seed potatoes, which have not been disinfected at the time of offer for sale to STOPA, will not be disinfected after the time of offer by the seller.

2. Quantity and Weight

- a. The quantity for each variety, class, size and soil-type are contracted separately and should be delivered in full; neither should the delivered quantity be more than the contracted quantity.

Total or part cancellation of deliveries is only allowed if the Regional Office has been notified in the prescribed manner, before the Friday at 16.30 pm and that the cancellation concerns only those seed potatoes that have been offered for sale during the week previous to that Friday. In case of cancellation, the STOPA must be paid F1 2.50 per 100 kg of cancelled seed potatoes. If cancellation has not been requested, the seller has to pay the STOPA an amount of F1 3.00 p 100 kg if there is any short delivery (for the difference between the contract and the delivered amount), except when it is a question of bad faith, in which case Section 8, item 5 will be applied.

If through cancellation or short delivery the finally offered quantity for each variety, class, grower and storage place is less than 500 kg the contract will be cancelled on the grounds of Section 1, sub-section b, but the seller must nevertheless pay the aforementioned cancellation compensation or fine due to short delivery for the difference between the offered quantity and 500 kg.

These stipulations are also valid for disinfected lots.

If at the time of delivery, sizes of one variety and class are still mixed, a reasonable amount of transfer from the recorded weight of one size to another is allowed.

To enable the NAK to determine the amount to be delivered, the seller must have the potatoes bagged up and ready for inspection, the sacks to be provided by the seller and filled to the same weight.

The weight will be determined by the NAK at the time of inspection by weighing a sufficient number of bags as indicated by an official of the Regional Office of the NAK. This weight will be rounded off downwards to the nearest 10 kg for each size.

In case the seller asks the STOPA to be allowed to deliver the seed potatoes out of boxes, containers or loose from a cold store, the STOPA or the NAK for the STOPA, may accept this request on condition that it is possible to check sufficiently for quality and weight, or it may refuse the request.

b. Seed potatoes from the 1975 harvest for sale to the STOPA in November 1975, will be treated slightly differently from a. in that:

i. the offered quantity of the variety, class and size concerned must be delivered in full,

ii. total or part cancellation of the delivery is not allowed and in the case of short delivery, the seller will owe the STOPA a fine of F1 7.00 per 100 kg for the difference between the offered and the delivered quantity.

c. Total or part cancellation of the offered quantity is allowed for the second sale period without the above mentioned compensation(a.) having to be paid. If after cancellation the remaining quantity is less than 500 kg for each variety, class, grower and storage place, the contract will be cancelled on the grounds of Section 1, sub-section b.

3. Liability

The risks of quality and weight loss and of physical loss of the delivery are and will be the sellers liability, as well as the risks involved in incorrect denaturing and/or colouring.

4. Quality

At the time of inspection by the NAK the seed potatoes must meet the quality demands of the NAK and be sorted as mentioned in Section 5.

Seed potatoes approved on grounds of Art. 18.13.1 of the inspection rules of the NAK are not regarded as meeting the demands set for sale to the STOPA.

5. STOPA Prices Per 100 kg Exc. VAT

(GROUP I)

CLASS

GRADE

28/35 mm	f21,-	f21,-	f20,-	f19,-	f17,50
35/45 mm	"25,-	"21,-	"20,-	"19,-	"17,50
35/50 mm	"22,-	"18,-	"17,-	"16,-	"-,-
45/50 mm	"19,-	"15,-	"14,-	"13,50	"-,-

Admirandus	Eba	Radosa
Alcmaria	Eersteling	Record
Allerfr. Gelbe	Emergo	Rector
Alpha	Exodus	Red Pontiac
Amigo	Frila	Renova
Ari	Gineke	Resy
Arka	Hohe Allerfr.	Rode Eersteling
Arran Banner	Gelbe	Saskia
Arran Consul	Humalda	Sientje
Avenir*	Jaerla	Sirtema
Baraka	Kennebec	Spartaan*
Bea*	Ludwig	Spunta
Blanka	Majestic	Ulster Sceptre
Carina	Marijke	Urgenta*
Climax*	Mirka	Vanessa
Commandeur	Multa	Vivaks
Daresa	Ostara	Wilja
Desiree	Patrones*	
Draga	Primura	

(GROUP II)

CLASS

GRADE

28/35 mm	f21,-	f21,-	f20,-	f19,-	f17,50
35/45 mm	"25,-	"21,-	"20,-	"19,-	"17,50

Adonis	Goliath	Prominent
Ajax	Hydra	Proton
Aladdin	Irene*	Provita
Amalfy	Katahdin	Prunex
Amaryl	Koning	Rebus
Amex	Koopmans	Recent
Aminca	Blauwe	Redbad
Apollonia	Kromanta	Remedy
Ardino	Kronia	Rental
Arnica	Krosetta	Resident
Arran Banner	Krostar	Resonant
Precosa	Krotellus	Rode Daresa
Atica	Kroto	Rode Star
Aurora	Lekkerlander	Rosalie
Avanti	Libertas	Rosanna
Barima*	Maja	Rosita
Bellona	Manna	Sapora
Bevelander	Mara	Saturna
Bintje	Meerlander	Sebago
Blauwe	Meliora	Sieglinde
Brio	Mentor*	Simson
Burmania*	Monitor	Sinaeda
Cardinal	Nicola	Siro
Civa*	Noordeling	Stania
Colmo	Norchip	Surprise*
Corine	Opperdoezer	Tanja
Dalco	Ronde	Thekla
Donata	Pandora	Thola
Dore	Parel	Thyra
Eclata	Patawi	Ultimus
Edzina	Pentland	Vasko
Ehud	Crown	Vekaro
Eigenheimer	Pentland Dell	Vesta
Element	Pieta	Vindika
Elvira	Pimpernel*	Vittorini
Estima	Pommerant	Vokal
Fatima	Prefect*	Voran
Favorita	Pretor	Vroegop
Frigga	Prevalent	Winda
Furore	Preziosa	Witte Desiree
Gloria	Probaat	Woudster*
Goldstar	Procura	Usselster

In price Group I, prices for size 40/50 mm will be the same as for 35/50 mm.

Lots of seed stock in the sizes 28/50 mm (Group I) or 28/45 mm (Group I and II) must be separated and will only be bought by the STOPA in the sizes 28/35, 28/40, 40/45, 35/45, 35/50, 40/50 and 45/50 mm.

For starred varieties there is a general arrangement in operation; on the sale of overstocked amounts of these varieties to the STOPA, the ware producer refunds part of the license compensation (90% of the F1 2.00 per 100 kg) to the STOPA and the STOPA passes this amount onto the seed producer who sold these potatoes to the STOPA. Above prices apply to bagged potatoes, regardless of the contracting date; all costs, such as for sorting, storing etc are inclusive. The levy of the Agricultural and Commercial Council of Middlemen and Wholesale Potato Traders is also included in the price; this levy will not be refunded.

6. Resale and Denaturing

The contracted seed potatoes are bought by the STOPA, after certification by the NAK and simultaneously resold to the seller for the prices and on the conditions established by the seed potato section of the Agricultural and Commercial Council of Middlemen and Wholesale Potato Traders. Article 7 applies for disinfected lots.

The weight of the seed potatoes, bought by the STOPA and fixed by the NAK at the time of inspection, will also be the weight of the resold quantity. Regardless of Article 3, the ownership of the seed potatoes, bought by the STOPA, passes to the STOPA with certification by the NAK as intended in Article 2, and passes back to the seller at the moment of denaturing mentioned below.

By instruction of the STOPA, the seller will be charged for and is obliged to have the seed potatoes treated in such a way, as to make them unfit for planting and if necessary also for consumption (denaturing). This must happen under supervision of the NAK according to STOPA regulations.

For denaturing with anti-germinating preparations, and if necessary also for colouring, the necessary chemicals will be distributed, free of charge, by the Regional Inspection Offices of the NAK.

Denaturing at a later date than that of the inspection by the NAK is allowed in principal (except for seed potatoes offered for sale in November 1975).

7. Destruction

Disinfected lots will not be resold, but must be destroyed after denaturing, by the seller under supervision of the NAK in such a way that they cannot be used for human consumption or by animals.

Damage resulting from failing to fulfil, or insufficiently fulfilling, this obligation will be charged to the seller. The costs of destruction will be charged to the seller. In case of transportation costs to the place of destruction, for which evidence should be shown, STOPA will cover the cost up to a maximum of F1 0.40 per 100 kg.

8. Fines

The seller forfeits the amount of F1 30.00 per 100 kg to the STOPA in the following cases:

1. unsound denaturing through intention or gross negligence;
2. direct or indirect attempt to stop the action of denaturing;
3. resale of denatured potatoes for seed purposes;
4. sale of denatured potatoes to a buyer whose purpose is, or is suspected to be to use or resell the potatoes as seed potatoes, or to sell them for another purpose than that for which the potatoes have been rebought, when in the latter case a higher resale price would have been in force;
5. irregular withdrawal of part or all seed potatoes sold to the STOPA.

The seller is at all times responsible for damage resulting directly or indirectly from faulty denaturing, or from incorrect use of denatured seed potatoes, as well as for damage resulting because the seller commits irregularities or does not give his full support in the execution of the contract.

9. Payment

The payment of the balance takes place 30 working days after the STOPA has received the denaturing report (or the destruction statement) from the NAK unless irregularities have been found.

The seller authorises the STOPA to subtract the unpaid levies the seller owes, from the amount payable to him in relation to:

- a. the Levy Regulations for Seed Potatoes 1966 and/or 1975 of the Agricultural Council,
- b. the Levy Regulations for Seed Potatoes 1966 of the Commercial Council for Middlemen and Wholesale Potato Traders.

10. Supervision

It is the sellers duty to give complete co-operation to the STOPA in the supervision of the seed potatoes contracted by him.

11. Miscellaneous

These conditions and supplements will be announced in a way stipulated by the STOPA. They will be published by circular and be available at the Regional Inspection Office of the NAK, the Regional Offices of the Agricultural Council and its District Offices as well as at the Chamber of Commerce and Factories in The Hague.

Immediately and for as long as any part of the ground or air space of Holland is involved in war, war violence or conditions similar to this (to the judgement of the STOPA) it has the right to cancel the contracts partly or completely, or change the conditions or to pay different prices to the ones mentioned in Section 5. In this case prices will be settled in consultation with the Commercial Council of Middlemen and Wholesale Potato Traders.

12. Disputes

1. Disputes about the quality of the seed potatoes resulting from these contract conditions will be settled in accordance with NAK regulations.

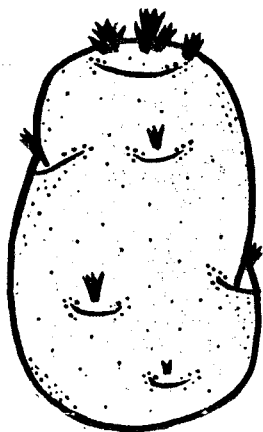
2. All other disputes which may result from a contract concluded on these and/or supplementary conditions will be settled by arbitration (with the exclusion of the usual judge), that is, disputes between the STOPA and:

- a. a seller, who with regard to seed potatoes, acts only or mainly as a dealer; according to the arbitration rules of the "General Trading Conditions for Seed Potato Dealers", lodged at the Record Office of the Arrondissement Court in The Hague;

b. a seller, who with regard to seed potatoes acts only or mainly as a grower, according to the arbitration rules of the "General Trading Conditions for Seed Potatoes (Grower-Dealer)," lodged at the Record Office of forementioned Court on 3.3.1969.

The address of the Secretariat of both Arbitration Commissions is at 31, van Stolkweg, The Hague.

APPENDIX 8: A COPY OF THE MAIL QUESTIONNAIRE SENT TO G.B. POTATO
GROWERS (Incorporating a graph showing response
rates).



"SEED POTATO REQUIREMENTS OF
G.B. POTATO GROWERS"

A survey of informed opinion

SECTION 1

In this section I should like to ask you some questions about the type of farming you carry out, and about the place of potatoes within your farm system.

1.

Which of the following best describes your farm type? (Please indicate by ticking ONE box only)

MARKET GARDEN

☐

ARABLE

☐

MIXED ARABLE/GRAZING

☐

ARABLE, PIGS AND POULTRY

☐

GRAZING LIVESTOCK

☐

OTHER (Please state)

2.

Within your potato enterprise which 'type' of potato grower do you primarily regard yourself as? (Please indicate by ticking ONE box only).

EARLY CROP GROWER

☐

MAINCROP GROWER

☐

BOTH EARLY AND MAINCROP GROWER

☐

3.

(a) Please indicate in which years between 1975 and 1982 you have or have not grown potatoes on your land.

(If potatoes were grown tick YES, if potatoes were not grown tick NO)

	YES	NO	CANNOT REMEMBER
1975	☐	☐	☐
1976	☐	☐	☐
1977	☐	☐	☐
1978	☐	☐	☐
1979	☐	☐	☐
1980	☐	☐	☐
1981	☐	☐	☐
1982	☐	☐	☐

(b) In which year did you start growing potatoes on this land?

19

SECTION 2

In this section I would like to ask you about recent trends in the potato varieties you have grown and about the end usage of your potato crops.

4.

Please list the three most important varieties of potato which you grew in each of the years 1983, 1984 and 1985, and indicate the approximate acreage or hectareage of each variety grown.

1983

ACRES or HECTARES

Most important variety "....."

Second most important variety "....."

Third most important variety "....."

1984

ACRES or HECTARES

Most important variety"....."

Second most important variety"....."

Third most important variety"....."

1985

ACRES or HECTARES

Most important variety"....."

Second most important variety"....."

Third most important variety"....."



5.

For the varieties which you grew in 1985 please indicate below the end use to which each variety was put (if known). If a particular variety had more than one use, please indicate this by ticking more than one box for that variety.

VARIETY	U S A G E					
	WARE FOR Retailing		PROCESSING	LIVESTOCK FEED	SEED	NOT KNOWN
	'BAKERS'	NORMAL RETAIL SIZE				
OTHER USE (PLEASE STATE)						
A. ARRAN BANNER						
ARRAN COMET						
ARRAN CONSUL						
ARRAN PILOT						
B. BINTJE						
BLANKA						
C. CARA						
COLMO						
CRAIGS ALLIANCE						
CROFT						
D. DESIREE						
DRAYTON						
DUKE OF YORK						
DUNBAR STANDARD						
DUNLUCE						
E. ESTIMA						
F. FAMOSA						
G. GOLDEN WONDER						
H. HOME GUARD						
K. KENNEBEC						
KERRS PINK						
KING EDWARD						
M. MAJESTIC						
MANNA						
MARTS BARD						
MARTS PEER						
MARTS PIPER						
P. PENTLAND CROWN						
PENTLAND DELL						
PENTLAND HAWK						
PENTLAND IVORY						
PENTLAND JAVELIN						
PENTLAND LUSTRE						
PENTLAND SQUIRE						
R. RECORD						
RED CRAIGS ROYAL						
REDSKIN						
ROMANO						
S. SHARPES EXPRESS						
SIRTEMA						
SPUNTA						
STORMONT ENTERPRISE						
SUTTONS FOREMOST						
U. ULSTER CHIEFTAIN						
ULSTER PREMIER						
ULSTER PRINCE						
ULSTER SCEPTRE						
UP-TO-DATE						
V. VANESSA						
W. WILJA						
OTHER VARIETIES (PLEASE STATE)						
"-----"						
"-----"						

6.

Looking to the future of your potato enterprise (over the next 2 - 3 years) please indicate below (by ticking the appropriate box(es)), the outlet(s) for which you are likely to be growing potato crops.

Also indicate the percentage of your potato crop likely to be grown for each relevant outlet.

LIKELY OUTLETS?	% OF CROP LIKELY TO BE GROWN FOR OUTLET					
	0%	Less than 20%	20-40%	40-60%	60-99%	100%
Normal size ware for Retailing	☐	☐	☐	☐	☐	☐
'Bakers'	☐	☐	☐	☐	☐	☐
Processing	☐	☐	☐	☐	☐	☐
Seed	☐	☐	☐	☐	☐	☐
Export	☐	☐	☐	☐	☐	☐
Others (Please state.....)	☐	☐	☐	☐	☐	☐
Outlet not known ☐						

SECTION 3

The questions in this section refer to your established potato husbandry practices, and in particular how these practices effect the type of seed potato input you require.

7.

Please indicate the soil type or types you normally use for potato production on your farm. (Please tick the appropriate box or boxes).

Soil type

Warp	☐
Clay	☐
Silt	☐
Skirt	☐
Heavy Loam	☐
Medium Loam	☐
Light Loam	☐
Sand, gravel, brash	☐
Limestone/chalk	☐
Black fen peat	☐

8.

Please indicate below which type of planter you normally use to plant your potato crop. (Please tick more than one box if more than one type of planter is used).

Type of Planter

Hand planted

☐

1 row hand-fed planter

☐

2 row hand-fed planter

☐

3 row hand-fed planter

☐

4 row hand-fed planter

☐

2 row cup-fed planter

☐

3 row cup-fed planter

☐

4 row cup-fed planter

☐

2 row belt-fed planter

☐

4 row belt-fed planter

☐

2 row finger-fed planter

☐

4 row finger-fed planter

☐

9.

For your 1985 crop, what proportion of your "bought in" seed was delivered on-farm in each of the following size ranges?

Size of seed Delivered on-farm	% of total "bought in" seed requirement					
	0%	Less than 20%	20-40%	40-60%	60-99%	100%
28 - 35mm	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
30 - 35mm	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
30 - 45mm	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
35 - 45mm	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
45 - 55mm	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
35 - 55mm	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
35 - 60mm	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
35 - 65mm	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

If other sizes were delivered please state here:

Size

% of total "bought-in" seed

10.

- (a) Taking into account your method(s) of planting, what size of seed do you ideally require for efficient planting?
(If more than one size of seed is planted, please tick more than one box.)

Size of Seed

28 - 35 mm ☐

30 - 35 mm ☐

30 - 45 mm ☐

35 - 45 mm ☐

45 - 55 mm ☐

35 - 55 mm ☐

35 - 60 mm ☐

35 - 65 mm ☐

Other size mm
(Please state here)

- (b) Does your method of planting particularly require a specific shape of seed tuber?

Yes ☐ No ☐

(If Yes, what shape of seed do you ideally require?)

Round ☐

Short oval ☐

Long oval ☐

11.

At what time of year do you normally plant your potato crop(s)?

		EARLY CROP (Please tick appropriate box)	MAIN CROP (Please tick appropriate box)
JANUARY	- EARLY	☐	☐
	- MID	☐	☐
	- LATE	☐	☐
FEBRUARY	- EARLY	☐	☐
	- MID	☐	☐
	- LATE	☐	☐
MARCH	- EARLY	☐	☐
	- MID	☐	☐
	- LATE	☐	☐
APRIL	- EARLY	☐	☐
	- MID	☐	☐
	- LATE	☐	☐
MAY	- EARLY	☐	☐
	- MID	☐	☐
	- LATE	☐	☐
JUNE	- EARLY	☐	☐
	- MID	☐	☐
	- LATE	☐	☐

12.

At what time of year would you normally desire your seed delivered to the farm?

		EARLY CROP (Please tick appropriate box)	MAIN CROP (Please tick appropriate box)
OCTOBER	- EARLY	☐	☐
	- MID	☐	☐
	- LATE	☐	☐
NOVEMBER	- EARLY	☐	☐
	- MID	☐	☐
	- LATE	☐	☐
DECEMBER	- EARLY	☐	☐
	- MID	☐	☐
	- LATE	☐	☐
JANUARY	- EARLY	☐	☐
	- MID	☐	☐
	- LATE	☐	☐
FEBRUARY	- EARLY	☐	☐
	- MID	☐	☐
	- LATE	☐	☐
MARCH	- EARLY	☐	☐
	- MID	☐	☐
	- LATE	☐	☐
APRIL	- EARLY	☐	☐
	- MID	☐	☐
	- LATE	☐	☐
MAY	- EARLY	☐	☐
	- MID	☐	☐
	- LATE	☐	☐

13.

Please indicate (by ticking the appropriate boxes) which of the diseases below represent a particular threat to your potato crops, and which, therefore, oblige you to use some form of control/preventative measure (e.g. spraying, choice of resistant seed variety).

<u>Disease</u>	
1. Leaf roll	☐
2. Mosaic	☐
3. Spraing	☐
4. Blackleg	☐
5. Blight	☐
6. PCN (eelworms)	☐
7. Wart disease	☐
8. Scab	☐
9. Wet rot	☐
10. Gangrene	☐
11. Dry rot	☐
12. Skin spot	☐
13. Stem canker & black scurf	☐
14. Silver scurf	☐
15. Others(please state)	
.....	☐
.....	☐
.....	☐

Please state below (at(a) and (b)) which TWO diseases represent the greatest threat to your potato crops.

Listed below for each disease are several possible control/ preventative measures; if a particular control/ preventative measure is not used by you for the disease specified, please tick the appropriate NOT USED box.

For each control/ preventative measure which is used by you, please rate its effectiveness, in your opinion, by ringing the appropriate number value on the scale below: the scale runs from (1) = 'Ineffective' to (5) = 'Extremely Effective'.

(a) PLEASE STATE HERE THE MOST IMPORTANT DISEASE



.....

Control/Preventative Measures For This Disease	Not Used	Ineffective ← → Extremely Effective				
Insecticides		1	2	3	4	5
Fungicides		1	2	3	4	5
Nematicides		1	2	3	4	5
Use resistant variety		1	2	3	4	5
Correct harvesting times		1	2	3	4	5
Crop isolation		1	2	3	4	5
Selection of soils		1	2	3	4	5
Good storage		1	2	3	4	5
Non-cutting of seed		1	2	3	4	5
Use high quality seed		1	2	3	4	5
Irrigation/drainage		1	2	3	4	5

(b) PLEASE STATE HERE THE SECOND MOST IMPORTANT DISEASE



.....

Control/Preventative Measures For This Disease	Not Used	Ineffective ← → Extremely Effective				
Insecticides		1	2	3	4	5
Fungicides		1	2	3	4	5
Nematicides		1	2	3	4	5
Use resistant variety		1	2	3	4	5
Correct harvesting times		1	2	3	4	5
Crop isolation		1	2	3	4	5
Selection of soils		1	2	3	4	5
Good storage		1	2	3	4	5
Non-cutting of seed		1	2	3	4	5
Use high quality seed		1	2	3	4	5
Irrigation/drainage		1	2	3	4	5

SECTION 4

The questions in this final section are about the importance of service and other factors in your choice of seed potato supply, and about the advantages and disadvantages of various traditional sources of seed in providing the products and services you require.

15.

(a) Statistics from the P.M.B. show that the major "external" suppliers of seed to the English/Welsh farm market are Northern Ireland, Scotland and Holland.

Please indicate below what proportion of your total seed potato requirement in 1985 was from each of these sources.

Source of Seed	% of total 1985 Seed Requirement					
	0%	Less than 20%	20-40%	40-60%	60-99%	100%
Northern Irish	☐	☐	☐	☐	☐	☐
Scottish	☐	☐	☐	☐	☐	☐
Dutch	☐	☐	☐	☐	☐	☐
Country of supply not known	☐	☐	☐	☐	☐	☐

(b) What percentage (approximately) of your 1985 seed requirement was met by your "own grown" seed?

%

Below is a list of service factors which might be considered as being of importance to you when purchasing your seed potato supplies:

- 1) Delivery punctuality
- 2) Husbandry / variety information
- 3) Quality guarantees
- 4) Efficient complaints investigations
- 5) Guaranteed tuber counts per bag
- 6) Competitive prices

Please tick what you consider to be the most important service factor from each of the pairs listed below:

EXAMPLE: If you consider 'Delivery punctuality' more important than 'Quality guarantees', then:-

Delivery punctuality	☒
Quality guarantees	☐

Delivery punctuality	☐
Husbandry/variety information	☐

Quality guarantees	☐
Delivery punctuality	☐

Guaranteed tuber counts/bag	☐
Competitive prices	☐

Efficient complaints investigations	☐
Guaranteed tuber counts/bag	☐

Quality guarantees	☐
Husbandry/variety information	☐

Delivery punctuality	☐
Efficient complaints investigations	☐

Efficient complaints investigations	☐
Competitive prices	☐

Husbandry/variety information	☐
Guaranteed tuber counts/bag	☐

Competitive prices	☐
Quality guarantees	☐

Quality guarantees	☐
Efficient complaints investigations	☐

Guaranteed tuber counts/bag	☐
Quality guarantees	☐

Husbandry/variety information	☐
Competitive prices	☐

Delivery punctuality	☐
Competitive prices	☐

Delivery punctuality	☐
Guaranteed tuber counts/bag	☐

Husbandry/variety information	☐
Efficient complaints investigations	☐

Below is a list of service factors which might be considered as being of importance to you when purchasing your seed potato supplies:

- 1) Delivery punctuality
- 2) Husbandry / variety information
- 3) Quality guarantees
- 4) Efficient complaints investigations
- 5) Guaranteed tuber counts per bag
- 6) Competitive prices

Please tick what you consider to be the most important service factor from each of the pairs listed below:

EXAMPLE: If you consider 'Delivery punctuality' more important than 'Quality guarantees', then:-

Delivery punctuality	☒
Quality guarantees	☐

Delivery punctuality	☐
Husbandry/variety information	☐

Quality guarantees	☐
Delivery punctuality	☐

Guaranteed tuber counts/bag	☐
Competitive prices	☐

Efficient complaints investigations	☐
Guaranteed tuber counts/bag	☐

Quality guarantees	☐
Husbandry/variety information	☐

Delivery punctuality	☐
Efficient complaints investigations	☐

Efficient complaints investigations	☐
Competitive prices	☐

Husbandry/variety information	☐
Guaranteed tuber counts/bag	☐

Competitive prices	☐
Quality guarantees	☐

Quality guarantees	☐
Efficient complaints investigations	☐

Guaranteed tuber counts/bag	☐
Quality guarantees	☐

Husbandry/variety information	☐
Competitive prices	☐

Delivery punctuality	☐
Competitive prices	☐

Delivery punctuality	☐
Guaranteed tuber counts/bag	☐

Husbandry/variety information	☐
Efficient complaints investigations	☐

19.

Have you ever grown Dutch seed potatoes? YES☐

NO

☐If NO please go on to question 20.(overleaf).If YES please state the most recent year in which you grew Dutch seed:-

Most recent year 19_____

Also, in the table below, please indicate, by ticking the appropriate boxes, your level of satisfaction with the product and service factors provided by your Dutch seed supply.

	VERY UNSATISFACTORY	UNSATISFACTORY	SATISFACTORY	VERY SATISFACTORY
Health of seed	☐	☐	☐	☐
Varieties available	☐	☐	☐	☐
Sizes of seed	☐	☐	☐	☐
Tuber counts/bag	☐	☐	☐	☐
Delivery dates	☐	☐	☐	☐
Delivery methods	☐	☐	☐	☐
Prices	☐	☐	☐	☐
Husbandry/variety information	☐	☐	☐	☐
Complaints investigations	☐	☐	☐	☐
Availability of seed	☐	☐	☐	☐
Guaranteed T.B.Z. spraying	☐	☐	☐	☐

Have you ever grown Dutch seed potatoes? YES ☐

NO ☐

If NO please go on to question 20, (overleaf).

If YES please state the most recent year in which you grew Dutch seed:-

Most recent year 19_____

Also, in the table below, please indicate, by ticking the appropriate boxes, your level of satisfaction with the product and service factors provided by your Dutch seed supply.

	VERY UNSATISFACTORY	UNSATISFACTORY	SATISFACTORY	VERY SATISFACTORY
Health of seed	☐	☐	☐	☐
Varieties available	☐	☐	☐	☐
Sizes of seed	☐	☐	☐	☐
Tuber counts/bag	☐	☐	☐	☐
Delivery dates	☐	☐	☐	☐
Delivery methods	☐	☐	☐	☐
Prices	☐	☐	☐	☐
Husbandry/variety information	☐	☐	☐	☐
Complaints investigations	☐	☐	☐	☐
Availability of seed	☐	☐	☐	☐
Guaranteed T.B.Z. spraying	☐	☐	☐	☐

Have you ever grown Scottish seed potatoes? YES ☐

NO ☐

If NO please go on to question 21, (overleaf).

If YES please state the most recent year in which you grew Scottish seed:-

Most recent year 19_____

Also, in the table below, please indicate, by ticking the appropriate boxes, your level of satisfaction with the product and service factors provided by your Scottish seed supply.

	VERY UNSATISFACTORY	UNSATISFACTORY	SATISFACTORY	VERY SATISFACTORY
Health of seed	☐	☐	☐	☐
Varieties available	☐	☐	☐	☐
Sizes of seed	☐	☐	☐	☐
Tuber counts/bag	☐	☐	☐	☐
Delivery dates	☐	☐	☐	☐
Delivery methods	☐	☐	☐	☐
Prices	☐	☐	☐	☐
Husbandry/variety information	☐	☐	☐	☐
Complaints investigations	☐	☐	☐	☐
Availability of seed	☐	☐	☐	☐
Guaranteed T.B.Z. spraying	☐	☐	☐	☐

21.

Have you changed your major source of seed potato supplies over the last 3 years?

Yes ☐

No ☐

If Yes, please give reasons below:-

22.

Please indicate which of the following are responsible for making the seed potato buying decision on your farm:-

(Please tick appropriate box(es):

Yourself (or other member of family)

Merchant/Wholesaler buying your ware crops

Processing company

Co-operative management

Other ☐ Please state:

23.

In the coming years do you think there will be any product or service factors that will be of increasing importance to G.B.potato growers in buying their seed supply?

Please state here:

Finally, may I ask you to give one or two further details of information, strictly for the purpose of classification and analysis. These details are very important to complete. Thank you for your co-operation here

A What position do you hold on the farm?

(Please tick one box)

Owner/Tenant

☐

Farm Manager

☐

B If you wish to receive the short report which will be compiled from the results, please tick the box below and write your name and address.

"I would like to receive a copy of the report"

☐

Name.....

Address.....

.....

.....

.....

C What is the total acreage or hectarage of land which you farmed in 1985? (Including any rented land)

ACRES

OR

HECTARES

I would like to thank you for the time and effort you have taken to fill in the questionnaire.

Please return the completed questionnaire, in the FREEPOST envelope provided, as soon as possible, to:-

Department of Marketing and Management
Silsoe College
FREEPOST
Silsoe
Bedford MK45 3BR

Questionnaire Response Rates

