SURVEY OF IRRIGATION OF OUTDOOR CROPS IN 2001 – ENGLAND

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1. The results of the survey of irrigation of outdoor crops in 2001 for England are shown in the following tables, together with the results from the MAFF 1982, 1984, 1987, 1990, 1992 and 1995 surveys for comparison. Note that the data from 1982 to 1992 are for England and Wales; the 1995 and 2001 data are for England only.

2. All 5603 holdings that reported they were "able to irrigate" in the DEFRA June 2000 Agricultural and Horticultural Census were asked to complete a voluntary postal irrigation questionnaire. A response rate of 41% was achieved, representing 55% of the area reported to be irrigated. The results were raised to account for non-responses to both the June census and the irrigation survey, and are subject to error due to these non-responses.

3. The results must be interpreted in relation to the weather in each year, which influences both areas irrigated and volumes applied. Broadly, in irrigation terms, 1987, 1992 and 2001 were wet years, 1982 and 1984 were average years, and 1990 and 1995 were dry years.

4. The responses in Table 3 depend upon the respondents' interpretation of "dry year", which may vary according to conditions at the time of the survey.

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Notes for editors

1. Survey undertaken by Cranfield University for DEFRA as part of the Climate Change and Demand for Water (CCDeW) project.

2. Survey conducted between January and June 2002, for irrigation in the calendar year 2001.

3. All figures are statistically adjusted for non-responses and rounded.

4. Data for Wales and at regional level will be available in due course from the authors.

5. Please reference as: Weatherhead, E.K. and Danert, K. (2002). Survey of irrigation of outdoor crops in 2001 - England. Cranfield University, Silsoe.

6. Enquires to Dr Keith Weatherhead,
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Table 1. Irrigated areas (ha) by crop category, 1982-2001.

Crop category	1982	1984	1987	1990	1992	1995	2001
Early potatoes	8050	7720	5360	8510	8180	8730	7300
Maincrop potatoes	22810	34610	29520	43490	45290	53390	69820
Sugar beet	15770	25500	10100	27710	10520	26820	9760
Orchard fruit	3100	3250	1330	3320	2280	2910	1580
Small fruit	3610	3560	2230	3470	2750	3250	3770
Vegetables	14810	17460	11040	25250	20200	27300	39180
Grass	16440	18940	6970	15970	7240	10690	3970
Cereals	14800	24700	7510	28100	7160	13440	4620
Other	4100	4890	2440	8650	4320	9120	7280
Total	103490	140630	76500	164470	107940	155650	147270

Summing errors due to rounding.
Data up to 1992 for England and Wales, data for 1995 and 2001 for England only.

Table 2. Volumes of water applied ('000m^3) by crop category, 1982-2001.

Crop category	1982	1984	1987	1990	1992	1995	2001
Early potatoes	4680	4920	2350	6770	5590	9345	5710
Maincrop potatoes	15280	32730	14700	51170	38520	74460	69940
Sugar beet	8260	17370	3430	20320	4860	21295	4630
Orchard fruit	2180	2430	550	2930	1220	2445	900
Small fruit	1890	2660	970	3180	2000	4320	3370
Vegetables	6830	11390	4640	18450	12180	25500	34120
Grass	10030	13550	3550	13100	4280	9920	2320
Cereals	5040	8300	2160	11830	2260	5625	1470
Other	1020	4030	1270	6040	4160	11160	8840
Total	55210	97380	33620	133790	75070	164070	131300

Summing errors due to rounding.
Data up to 1992 for England and Wales, data for 1995 and 2001 for England only.

Table 3. Dry year position assuming adequate water supply, 1984-2001.

	1984	1987	1990	1992	1995	2001
Area likely to be irrigated (ha)	189310	na	202620	218550	194000	282960
Volume likely to be applied ('000m^3)	167000	na	179460	233610	244090	439470

Data up to 1992 for England and Wales, data for 1995 and 2001 for England only.

Table 4. Volumes of water applied ('000m^3) by source, 1982-2001.

Source	1982	1984	1987	1990	1992	1995	2001
Surface water	34390	57210	19250	74070	41820	90860	75760
Ground water	16680	32420	11800	50540	28470	61620	47810
Public mains	2040	3840	1100	3860	2620	4390	4300
Rain collected			included in other				2050
Re-used water			included in other				670
Other	1830	3540	1470	5330	2160	4880	710
Total	54940	97730	33630	133790	75070	146960	131300

Surface water includes ponds, lakes, gravel or clay workings, rivers, streams or other water courses.
Ground water includes wells, bore holes and springs rising on the holding.
Data up to 1992 for England and Wales, data for 1995 and 2001 for England only.

Table 5. Scheduling method (% of irrigated area), 2001

Scheduling method	2001
Water balance calculations (by hand or by computer)	23
In-field soil moisture measurement (e.g. neutron probes, tensiometers)	29
Other (including operator judgement, feeling soil, crop inspection)	48
Total	100

Question not asked before 2001.
Data for England only.

Table 6. Irrigation method (% of irrigated area), 2001

Irrigation method	2001
Static or hand-moved sprinklers, spray lines	4
Hose reels with rain guns	72
Hose reels with booms	16
Centre pivots or linear moves	3
Trickle or drip	5
Other	<<1
Total	100

Question not asked in this format before 2001.
Data for England only.

Table 7. Number of holdings and area (ha) equipped/used* for trickle irrigation, 1982-2001.

	1982	1984	1987	1990	1992	1995	2001
Number	890	640	490	600	720	820	*910
Area (ha)	2040	1550	1330	1420	1970	4120	*7040

*Up to 1995 data refers to holdings and area equipped for trickle; for 2001 data refers to trickle systems used.
Data for England only.



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