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# Yields of the Field Experiments 1975

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## 75/ R&w/P/1 - Varieties - Potatoes

### Rothamsted Research

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75/R/P/1 and 75/W/P/1

POTATOES

VARIETIES

Object: To study the yield, susceptibility to fungal diseases and tolerance to potato cyst nematode (PCN) of several varieties of potatoes - Rothamsted (RH) Long Hoos I/II (PCN free) and Woburn (WH) Far Field I (PCN free) and Woburn (WI) Long Mead (PCN infected).

Sponsors: R. Moffitt, G.A. Hide, K. Evans.

Design: 3 randomised blocks of 7 plots, Long Hoos I/II (RH)  
3 randomised blocks of 11 plots, Far Field I (WH) and Long Mead (WI)

Whole plot dimensions: (R) - 2.84 x 12.2, (W) - 4.27 x 12.2.

Treatments: Varieties:

VARIETY

Long Hoos I/II (RH)		Far Field I (WH) & Long Mead (WI)		VARIETY
		Arran Banner		BANNER
Desiree		Desiree		DESIREE
King Edward				EDWARD
		Majestic		MAJESTIC
Maris Piper		Maris Piper		PIPER
		Maris Peer		PEER
Pentland Crown		Pentland Crown		CROWN
		Pentland Dell		DELL
Pentland Ivory		Pentland Ivory		IVORY
		Record		RECORD
Stormont Enterprise		Stormont Enterprise		ENTPRISE
Ulster Lancer		Ulster Lancer		LANCER

Basal applications:

Long Hoos I/II (RH): Manures: (13:13:20) at 1510 kg. Weedkiller: Linuron at 1.1 kg plus paraquat at 0.42 kg ion in 450 l. Insecticide: Demeton-s-methyl at 0.25 kg in 450 l. Fungicide: Mancozeb at 1.3 kg in 450 l.

Far Field I (WH): Manures: (13:13:20) at 1880 kg.

Long Mead (WI): Manures: (13:13:20) at 1860 kg.

Far Field I (WH) and Long Mead (WI): Weedkillers: Linuron at 1.2 kg plus paraquat at 0.28 kg ion in 280 l. Insecticide: Demeton-s-methyl at 0.25 kg in 280 l. Fungicide: Mancozeb at 1.3 kg in 390 l.

Cultivations, etc.:-

Long Hoos I/II (RH): Ploughed: 7 Jan, 1975. Spring-tine cultivated twice: 26 Apr, 5 May. NFK applied: 1 May. Spike rotary cultivated, potatoes planted: 7 May. Grubbed: 14 May. Rotary ridged: 22 May. Weedkiller applied: 30 May. Grubbed: 26 June. Insecticide applied: 27 June. Rotary ridged: 30 June. Fungicide applied: 28 July. Haulm mechanically destroyed: 26 Sept. Sprayed with undiluted BOV at 170 l: 29 Sept. Lifted: 13 Oct. Previous crops: Barley 1973, beans 1974.

75/R/P/1 and 75/W/P/1

Far Field I (WH): Ploughed: 9-10 Jan, 1975. NPK applied: 18 Apr. Deep-tine cultivated: 21 Apr. Spring-tine cultivated: 3 May. Rotary harrowed, potatoes planted: 7 May. Weedkiller applied: 30 May. Grubbed: 23 June. Rotary ridged: 24 June. Insecticide applied: 26 June. Fungicide applied: 16 July. Arran Banner lifted by hand: 17 Sept. Remaining haulm mechanically destroyed: 29 Sept. Sprayed with undiluted BOV at 160 l: 2 Oct. Remaining varieties lifted: 8 Oct. Previous crops: Fallow 1973, beans 1974.

Long Mead (WI): Subsoiled, tines 140 cm apart and 60 cm deep: 19 Sept, 1974. Ploughed: 16 Jan, 1975. Spring-tine cultivated, NPK applied: 29 Apr. Rotary harrowed twice: 6 May, 7 May. Potatoes planted: 7 May. Weedkiller applied: 30 May. Grubbed: 23 June. Rotary ridged: 25 June. Insecticide applied: 26 June. Fungicide applied: 16 July. Hand weeded twice: 17 July, 29 July. Lifted: 16 Oct. Previous crops: Potatoes 1973, fallow 1974.

- NOTES: (1) The stock of Arran Banner was found, during growth, to be mixed with Maris Piper, yields were not taken.
- (2) Tubers were graded into six sizes. Incidence of *Rhizoctonia solani* and common scab on the produce was assessed.

75/R/P/1

LONG HOCS 1/11 (RH)

\*\*\* TABLE OF MEANS \*\*\*

VARIETY	TOTAL TUBERS TONNES/HECTARE	PERCENTAGE WARE 4.44CM (1.75 INCH) RIDDLE
DESIREE	12.1	80.7
EDWARD	14.9	53.8
PIPER	17.3	70.4
CROWN	19.1	89.8
IVORY	15.5	86.8
ENTPRISE	15.2	74.6
LANCER	14.1	70.1
MEAN	15.5	75.2

TOTAL TUBERS TONNES/HECTARE

\*\*\* STANDARD ERRORS OF DIFFERENCES OF MEANS \*\*\*

TABLE	VARIETY
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SED	1.19

\*\*\*\*\* STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION \*\*\*\*\*

STRATUM	DF	SE	CV%
BLOCK.WP	12	1.45	9.4

PLOT AREA HARVESTED 0.00235

75/W/P/1

EAR FIELD I (WH)

\*\*\* TABLE OF MEANS \*\*\*

VARIETY	TOTAL TUBERS TONNES/HECTARE	PERCENTAGE WARE 4.44CM (1.75 INCH) RIDDLE
DESIREE	27.3	80.9
MAJESTIC	27.6	65.9
PIPER	28.4	51.2
PEER	19.9	43.7
CROWN	35.6	88.5
DELL	33.5	53.6
IVORY	32.2	89.5
RECORD	31.0	67.3
ENTPRISE	28.8	65.5
LANCER	28.8	65.1
MEAN	29.3	67.1

TOTAL TUBERS TONNES/HECTARE

\*\*\* STANDARD ERRORS OF DIFFERENCES OF MEANS \*\*\*

TABLE	VARIETY
SED	1.82

\*\*\*\*\* STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION \*\*\*\*\*

STRATUM	DF	SE	CV%
BLOCK.WP	18	2.23	7.6

PLOT AREA HARVESTED 0.00130

75/W/P/1

LONG MEAD (WI)

\*\*\* TABLE OF MEANS \*\*\*

VARIETY	TOTAL TUBERS TONNES/HECTARE	PERCENTAGE WARE 4.44CM (1.75 INCH) RIDDLE
DESIREE	3.9	47.4
MAJESTIC	4.4	10.5
PIPER	17.1	51.7
PEER	0.9	7.4
CROWN	11.9	69.9
DELL	6.0	7.2
IVORY	7.3	41.8
RECORD	7.6	23.0
ENTPRISE	6.1	13.4
LANCER	3.7	8.4
MEAN	6.9	28.1

TOTAL TUBERS TONNES/HECTARE

\*\*\* STANDARD ERRORS OF DIFFERENCES OF MEANS \*\*\*

TABLE	VARIETY
SED	1.85

\*\*\*\*\* STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION \*\*\*\*\*

STRATUM	DF	SE	CV%
BLOCK.WP	18	2.27	32.7

PLOT AREA HARVESTED 0.00130