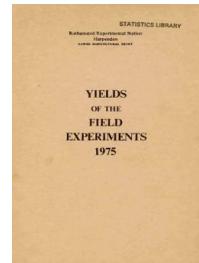


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Yields of the Field Experiments 1975

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75/ W/CS/16 - Irrigation & Eelworms - Potatoes

Rothamsted Research

Rothamsted Research (1976) 75/ W/CS/16 - *Irrigation & Eelworms - Potatoes* ; Yields Of The Field Experiments 1975, pp 163 - 166 - DOI: <https://doi.org/10.23637/ERADOC-1-141>

75/W/CS/16

IRRIGATION AND EELWORMS

Object: To study the cumulative effects of dazomet (later, aldicarb) and irrigation on the yield and incidence of *Heterodera* spp. on potatoes grown continuously. The effects of growing susceptible and resistant varieties are also studied, either grown continuously or alternated - Woburn Butt Close.

Sponsors: D.M. Parrott, F.G.W. Jones.

The tenth year, potatoes.

For previous years see 66/C/32(t), 67/C/25, 68/C/19, 69/W/CS/16(t), 70-71/W/CS/16, 72/W/CS/16(t) and 73-74/W/CS/16.

Design: 3 blocks of 4 plots, sequences of varieties on strips of 2 half plots, aldicarb on quarter plots.

Whole plot dimensions: 6.48 x 7.11.

Treatments: All combinations of:-

Whole plots: 1. Irrigation:

IRRIGTN

None	NONE
Full	FULL

Strips of half plots: 2. Cropping sequences with potatoes
resistant (R) and susceptible (S)
to potato cyst nematode:

CROPSEQN

1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	
R	R	R	R	R	R	R	R	R	R	R/R/R/R
S	R	S	R	S	R	S	R	S	R	S/R/S/R
S	S	S	S	S	S	S	S	S	S	S/S/S/S
R	S	R	S	R	S	R	S	R	S	R/S/R/S

Quarter plots: 3. Aldicarb (kg) applied cumulatively
to previous dazomet treatments:

ALDICARB

None	0.0
5.6	5.6

Irrigation treatments 1975 (mm water):

4 Aug	12.7
5 Aug	12.7
7 Aug	12.7
8 Aug	12.7
20 Aug	12.7
27 Aug	12.7

Total 76.2

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Basal applications: Manures: (13:13:20) at 1500 kg. Weedkiller: 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.

Seed: Resistant, Maris Piper. Susceptible, Pentland Dell.

Cultivations, etc.: - Deep-tine cultivated twice: 7 Jan, 1975, 28 Apr. NPK applied, spring-tine cultivated: 28 Apr. Aldicarb applied, rotary cultivated, potatoes planted: 15 May. Weedkiller applied: 30 May. Grubbed: 23 June. Rotary ridged: 24 June. Insecticide applied: 25 June. Fungicide applied: 16 July. Haulm mechanically destroyed: 30 Sept. Lifted: 16 Oct.

NOTE: Soil samples were taken in May for cyst and egg counts of *Heterodera rostochiensis* and *H.pallida*.

TOTAL TUBERS TONNES/HECTARE

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

STRATUM	DF	SE	CV%
BLOCK.ROW	6	1.65	14.6
BLOCK.ROW.HP	8	3.74	33.0
BLOCK.ROW.HP.QP	12	5.74	50.8

75/W/CS/16

TOTAL TUBERS TONNES/HECTARE

*** TABLES OF MEANS ***

CROPSEQN	R/R/R/R	S/R/S/R	S/S/S/S	R/S/R/S	MEAN
IRRIGTN					
NONE	7.0	9.7	9.9	11.8	9.6
FULL	15.9	17.2	14.4	4.6	13.0
MEAN	11.4	13.5	12.1	8.2	11.3
ALDICARB	0.0	5.6	MEAN		
IRRIGTN					
NONE	5.9	13.3	9.6		
FULL	6.8	19.3	13.0		
MEAN	6.3	16.3	11.3		
ALDICARB	0.0	5.6	MEAN		
CROPSEQN					
R/R/R/R	8.6	14.3	11.4		
S/R/S/R	7.7	19.2	13.5		
S/S/S/S	3.6	20.6	12.1		
R/S/R/S	5.5	11.0	8.2		
MEAN	6.3	16.3	11.3		
ALDICARB	0.0	5.6			
IRRIGTN CROPSEQN					
NONE R/R/R/R	5.9	8.1			
S/R/S/R	5.9	13.5			
S/S/S/S	2.6	17.1			
R/S/R/S	9.2	14.5			
FULL R/R/R/R	11.3	20.5			
S/R/S/R	9.4	25.0			
S/S/S/S	4.7	24.1			
R/S/R/S	1.7	7.5			

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

TABLE	BLOCK	IRRIGTN	CROPSEQN	ALDICARB
SED	1.17	1.53	1.35	1.66
TABLE	IRRIGTN CROPSEQN	IRRIGTN ALDICARB	CROPSEQN ALDICARB	IRRIGTN CROPSEQN ALDICARB
SED	2.54	2.25	2.70	4.18
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:				
IRRIGTN		2.34		
CROPSEQN	3.05		3.31	4.50
IRRIGTN.CROPSEQN				4.69
CROPSEQN.ALDICARB				4.50

75/W/CS/16

PERCENTAGE WARE 3.81CM (1.5 INCH) RIDDLE

*** TABLES OF MEANS ***

CROPSEQN IRRIGTN	R/R/R/R	S/R/S/R	S/S/S/S	R/S/R/S	MEAN
NONE	66.4	73.3	64.7	75.0	69.8
FULL	72.7	88.7	82.6	61.5	76.4
MEAN	69.6	81.0	73.6	68.2	73.1
ALDICARB IRRIGTN	0.0	5.6	MEAN		
NONE	60.2	79.5	69.8		
FULL	65.7	87.1	76.4		
MEAN	63.0	83.3	73.1		
ALDICARB CROPSEQN	0.0	5.6	MEAN		
R/R/R/R	55.4	83.7	69.6		
S/R/S/R	78.5	83.4	81.0		
S/S/S/S	63.0	84.3	73.6		
R/S/R/S	54.8	81.6	68.2		
MEAN	63.0	83.3	73.1		
ALDICARB IRRIGTN CROPSEQN	0.0	5.6			
NONE	R/R/R/R	51.6	81.3		
	S/R/S/R	71.0	75.6		
	S/S/S/S	46.7	82.6		
	R/S/R/S	71.5	78.4		
FULL	R/R/R/R	59.3	86.2		
	S/R/S/R	86.1	91.3		
	S/S/S/S	79.3	86.0		
	R/S/R/S	38.1	84.8		

QUARTER PLOT AREA HARVESTED 0.00092