

Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED
RESEARCH

Yields of the Field Experiments 1985

[Full Table of Content](#)



85/R/CS/299 Crops and Rhizoctonia - Potatoes

Rothamsted Research

Rothamsted Research (1986) *85/R/CS/299 Crops and Rhizoctonia - Potatoes* ; Yields Of The Field Experiments 1985, pp 157 - 160 - DOI: <https://doi.org/10.23637/ERADOC-1-19>

85/R/CS/299

CROPS AND RHIZOCTONIA

Object: To study the effects of cropping and inoculation with Rhizoctonia isolates on subsequent infection and on yield of a sequence of crops - Meadow.

Sponsors: G.A. Hide, P.J. Read.

The third year, potatoes.

For previous year see 84/R/CS/299.

Design: 2 randomised blocks of 2 whole plots split into 4 sub plots split into 4 sub sub plots.

Whole plot dimensions: 3.0 x 43.0.

Treatments: All combinations of:-

Whole plots

1. PREVCROP (84) Crops in 1984:

W WHEAT
W BARLEY

Sub plots

2. PREVCROP (83) Crops in 1983:

FALLOW B	Fallow, cultivations as for s. barley
FALLOW P	Fallow, cultivations as for potatoes
POTATOES	Potatoes
S BARLEY	S. barley

Sub sub plots

3. INOC(83) Inoculum in 1983, applied during seedbed cultivations:

NONE	None
RHIZ C W	Rhizoctonia cerealis from wheat
RHIZ S B	Rhizoctonia solani from barley
RHIZ S P	Rhizoctonia solani from potatoes

Basal applications: Manures: Chalk at 5.0 t. (10:10:15+4.5Mg) at 1960 kg. Weedkillers: Linuron at 1.3 kg with paraquat at 0.50 kg ion in 500 l. Fungicides: Mancozeb at 1.4 kg in 200 l on four occasions, applied with the insecticide on the second and third occasion. Fentin hydroxide at 0.28 kg in 200 l. Insecticide: Pirimicarb at 0.14 kg on two occasions. Desiccant: Diquat at 0.80 kg ion in 200 l.

Seed: Desiree.

85/R/CS/299

Cultivations, etc.:- Chalk applied: 2 Oct, 1984. Ploughed: 18 Dec.
 NPK Mg applied: 3 Apr, 1985. Rotary harrowed, potatoes planted:
 9 Apr. Weedkillers applied: 16 May. Mancozeb applied: 20 June,
 6 Aug. Mancozeb with pirimicarb applied: 3 July, 23 July. Fentin
 hydroxide applied: 21 Aug. Haulm mechanically destroyed: 6 Sept.
 Desiccant applied: 9 Sept. Lifted: 16 Oct.

NOTE: Plants were sampled in mid-June for measurements of leaf area,
 weight of haulm, roots and tubers and assessment of diseases on
 stem bases.

POTATOES

TOTAL TUBERS TONNES/HECTARE

***** TABLES OF MEANS *****

PREVCROP (83)	FALLOW B	FALLOW P	POTATOES	S BARLEY	MEAN
PREVCROP (84)					
W WHEAT	57.4	58.1	57.1	56.5	57.3
W BARLEY	58.2	58.4	58.6	61.4	59.2
MEAN	57.8	58.3	57.9	58.9	58.2
INOC(83)	NONE	RHIZ C W	RHIZ S B	RHIZ S P	MEAN
PREVCROP (84)					
W WHEAT	56.7	58.3	55.0	59.1	57.3
W BARLEY	59.7	59.2	58.5	59.2	59.2
MEAN	58.2	58.8	56.8	59.2	58.2
INOC(83)	NONE	RHIZ C W	RHIZ S B	RHIZ S P	MEAN
PREVCROP (83)					
FALLOW B	56.5	58.0	56.9	59.7	57.8
FALLOW P	58.3	58.3	58.1	58.4	58.3
POTATOES	59.2	58.8	55.5	58.1	57.9
S BARLEY	58.7	59.9	56.7	60.5	58.9
MEAN	58.2	58.8	56.8	59.2	58.2
INOC(83)	INOC(83)	NONE	RHIZ C W	RHIZ S B	RHIZ S P
PREVCROP (84)	PREVCROP (83)				
W WHEAT	FALLOW B	56.9	57.1	55.5	60.0
	FALLOW P	58.1	58.4	57.3	58.7
	POTATOES	56.2	59.6	53.5	59.2
	S BARLEY	55.4	58.0	53.8	58.5
W BARLEY	FALLOW B	56.2	58.9	58.3	59.4
	FALLOW P	58.5	58.3	58.8	58.0
	POTATOES	62.1	58.0	57.4	57.0
	S BARLEY	62.0	61.8	59.5	62.4

85/R/CS/299

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

TABLE	PREVCROP(83)	INOC(83)	PREVCROP(84)* PREVCROP(83)
SED	0.94	1.55	1.33

TABLE	PREVCROP(84)* INOC(83)	PREVCROP(83) INOC(83)	PREVCROP(84)* PREVCROP(83) INOC(83)
SED	2.19	2.84	4.02
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:			
	PREVCROP(83)	3.10	
	PREVCROP(84).PREVCROP(83)		4.38

* WITHIN THE SAME LEVEL OF PREVCROP(84) ONLY

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

STRATUM	DF	SE	CV%
BLOCK.WP.SP	6	1.33	2.3
BLOCK.WP.SP.SSP	24	4.38	7.5

85/R/CS/299

POTATOES

PERCENTAGE WARE 4.44CM (1.75 INCH) RIDDLE

***** TABLES OF MEANS *****

PREVCROP (83)	FALLOW B	FALLOW P	POTATOES	S BARLEY	MEAN
PREVCROP (84)					
W WHEAT	83.5	85.3	77.7	85.1	82.9
W BARLEY	84.8	85.6	82.5	86.1	84.7
MEAN	84.1	85.5	80.1	85.6	83.8
INOC(83)	NONE	RHIZ C W	RHIZ S B	RHIZ S P	MEAN
PREVCROP (84)					
W WHEAT	81.5	84.3	81.9	83.9	82.9
W BARLEY	84.8	84.9	84.5	84.8	84.7
MEAN	83.1	84.6	83.2	84.3	83.8
INOC(83)	NONE	RHIZ C W	RHIZ S B	RHIZ S P	MEAN
PREVCROP (83)					
FALLOW B	84.3	83.7	83.0	85.4	84.1
FALLOW P	84.9	84.7	86.4	86.0	85.5
POTATOES	77.6	83.7	78.9	80.4	80.1
S BARLEY	85.8	86.4	84.5	85.6	85.6
MEAN	83.1	84.6	83.2	84.3	83.8
PREVCROP (84)	INOC(83)	NONE	RHIZ C W	RHIZ S B	RHIZ S P
W WHEAT	PREVCROP (83)				
	FALLOW B	83.2	82.4	83.1	85.2
	FALLOW P	84.1	85.6	85.5	86.1
	POTATOES	74.3	82.7	75.5	78.6
	S BARLEY	84.4	86.7	83.5	85.6
W BARLEY	FALLOW B	85.5	85.1	82.9	85.5
	FALLOW P	85.6	83.9	87.2	85.8
	POTATOES	80.9	84.7	82.3	82.3
	S BARLEY	87.2	86.0	85.5	85.5

SUB PLOT AREA HARVESTED 0.00132