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# Yields of the Field Experiments 1983



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# 83/R/CS/285 Triadimefon Study - S. Barley

# **Rothamsted Research**

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#### 83/R/CS/285

#### TRIADIMEFON STUDY

Object: To study the residual effects of triadimefon applied to s. barley or fallow in 1982 on the incidence of mildew and on the yield of s. barley in 1983 - Summerdells I.

Sponsors: J.F. Jenkyn, C.J. Rawlinson.

The second year, s. barley.

Design: 2 randomised blocks of 5 plots split into 2.

Whole plot dimensions: 27.0 x 27.0.

Treatments: All combinations of:-

Whole plots

1. CROPFUNG (82) Crop and time of applying triadimefon fungicide in 1982:

BARLEY 0 S. barley, no fungicide
BARLEY 1 S. barley, fungicide on 21 May, 1982
BARLEY 2 S. barley, fungicide on 30 June
FALLOW 1 Fallow, fungicide on 21 May
FALLOW 2 Fallow, fungicide on 30 June

Sub plots

2. CULTIVIN Cultivations in autumn 1982:

PLOUGHED Ploughed on 2 Dec, 1982
TINED Tine cultivated on 29 and on 30 Nov

NOTE: Plot sides and ends were separated by 27 m sown with the spring barley variety Atem, seed dressed triadimenol plus fuberidazole.

Basal applications in 1982:

S. barley: Manures: (0:14:28) at 780 kg. 'Nitro-Chalk' at 470 kg. Weedkillers: Paraquat at 0.70 kg ion in 250 l. Dicamba, mecoprop and MCPA (as 'Poly-Farmon' at 5.0 l) in 250 l.

Fallow: Weedkillers: Paraquat at 0.20 kg ion in 3.5 1 by hand held sprayer. Paraquat at 0.28 kg ion with diquat at 0.28 kg ion, in 950 1. Diquat at 0.8 kg ion in 250 1.

Standard applications in 1983:

S. barley: Manures: 'Nitro-Chalk' at 470 kg followed by 250 kg. Weedkillers: Dicamba, mecoprop and MCPA (as 'Herrisol' at 5.0 1) in 250 1.

Fallow: Weedkiller: Paraquat at 0.56 kg ion in 250 l.

Seed for 1982: Atem, sown at 160 kg.

Seed for 1983: Triumph, sown at 160 kg.

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Cultivations, etc. for 1982:- Ploughed: 8 Oct, 1981. PK applied: 26 Nov. N applied, paraquat applied to all plots: 25 Mar, 1982. Spring-tine cultivated: 30 Mar. All plots rotary harrowed, seed sown: 2 Apr. 'Poly-Farmon' applied: 17 May. Paraquat applied to fallow plots: 21 May. Paraquat with diquat applied to fallow plots: 30 June. Diquat applied to fallow plots: 3 Aug. Combine harvested: 16 Aug. Previous crops: W. beans 1981, potatoes 1982.

Cultivations, etc. for 1983:- Paraquat applied to 1982 fallow plots only: 10 Sept, 1982. All plots spring-tine cultivated twice, first N applied: 14 Mar, 1983. Seed sown: 15 Mar. 'Herrisol' applied: 24 May. Second N applied: 25 May. Combine harvested: 9 Aug.

NOTE: Soil cores were taken in 1982 and 1983 to bioassay residual triadimefon. Leaf diseases were assessed on four occasions in 1983.

#### GRAIN TONNES/HECTARE

## \*\*\*\*\* TABLES OF MEANS \*\*\*\*\*

CULTIVTN	PLOUGHED	TINED	MEAN
CROPFUNG(82)			
BARLEY 0	4.29	4.91	4.60
BARLEY 1	3.82	3.59	3.71
BARLEY 2	4.35	3.98	4.16
FALLOW 1	4.83	5.19	5.01
FALLOW 2	5.15	4.67	4.91
MEAN	4.49	4.47	4.48

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

TABLE	CROPFUNG (82	) CULTIV	TN CROPFUNG(82) CULTIVTN
SED	0.242	0.190	0.386
EXCEPT WHEN CROPFUNG(	COMPARING MEANS	S WITH SAME	LEVEL(S) OF:

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

STRATUM	DF	SE	CV%
BLOCK.WP	4	0.242	5.4
BLOCK.WP.SP	5	0.426	9.5

GRAIN MEAN DM% 86.6

SUB PLOT AREA HARVESTED 0.00864