ROTHAMSTED RESEARCH

Yields of the Field Experiments 1986

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86/R/M/1 and 86/W/M/1 Triticale and Disease - Mixed 1

Rothamsted Research

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86/R/M/1 and 86/W/M/1

MIXED 1

TRITICALE AND DISEASE

Object: To compare amounts of disease and the yield of triticale with those of w. wheat, w. barley and w. rye on two contrasted sites each given contrasted amounts of agrochemicals - Rothamsted Pastures (R), Woburn White Horse (W).

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Design: 3 randomised blocks of 10 plots.

Whole plot dimensions: 3.0 x 10.0 (R), 4.0 x 10.0 (W).

Treatments: All combinations of :-

1. CROP VAR	Crop and variety:	(R)	(W)
B PANDA	W. barley, Panda sown at	190 kg,	190 kg
R DOMINT	W. rye, Dominant sown at	130 kg,	210 kg
T LASKO	W. triticale, Lasko sown at	155 kg,	170 kg
T CWT	W. triticale, CWT/1977/290 sown at	130 kg,	170 kg
W AVALON	W. wheat, Avalon sown at	190 kg,	190 kg

2. INPUT — Inputs of agrochemicals, in addition to basals:

LARGE

(R): Manures: N at 40 kg: 13 Mar, 1986, and at 160 kg: 21 Apr, both as 'Nitram'. Fungicides: Prochloraz at 0.37 kg with carbendazim at 0.14 kg and tridemorph at 0.52 kg in 220 l: 2 Apr. Fenpropimorph at 0.75 kg with chlorothalonil at 1.0 kg in 220 l: 5 June. Growth regulators: Chlormequat chloride at 1.1 kg in 220 l to w. wheat only: 16 May. Mepiquat chloride at 0.46 kg with 2-chloroethylphosphonic acid at 0.23 kg with a wetting agent ('Agral' at 0.080 l) in 220 l to w. barley and triticale only: 30 May.

(W): Manures: N at 40 kg: 12 Mar, 1986, and at 160 kg: 21 Apr, both as 'Nitram'. Fungicides: Prochloraz at 0.40 kg with carbendazim at 0.15 kg and tridemorph at 0.56 kg in 250 l: 29 Apr. Propiconazole at 0.12 kg with tridemorph at 0.52 kg in 250 l: 30 May. Propiconazole at 0.12 kg with carbendazim at 0.15 kg in 250 l: 16 June. Growth regulators: Mepiquat chloride at 0.38 kg with 2-chloroethylphosphonic acid at 0.19 kg with a wetting agent ('Citowett' at 0.10 l) in 250 l to rye only: 23 May. Mepiquat chloride at 0.61 kg with 2-chloroethylphosphonic acid at 0.31 kg with a wetting agent ('Citowett' at 0.10 l) in 250 l to w. barley and triticale only: 23 May. Chlormequat at 1.6 kg with a wetting agent ('Agral' at 0.28 l) in 250 l to w. wheat only: 23 May.

SMALL

(R) and (W): Manures: 120 kg N as 'Nitram': 21 Apr, 1986.

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86/R/M/1 and 86/W/M/1

Basal applications:
Pastures (R): Manures: (0:18:36) at 690 kg. Weedkillers: Paraquat at 0.60 kg ion in 200 l, dicamba with mecoprop and MCPA (as 'Herrisol' at 5.0 l) in 200 l.
White Horse (W): Manures: (0:18:36) at 690 kg. Weedkillers: Paraquat at 0.40 kg ion in 250 l, dicamba with mecoprop and MCPA (as 'Herrisol' at 5.0 l) in 250 l to all plots except rye.

Cultivations, etc.:-
Pastures (R): Heavy spring-tine cultivated twice: 11 Sept, 1985, 19 Sept. PK applied: 20 Sept. Paraquat applied: 12 Oct. Rotary harrowed, seeds sown: 15 Oct. Rolled: 22 Oct. 'Herrisol' applied: 2 May, 1986. Combine harvested: W. barley: 12 Aug; w. wheat: 30 Aug; rye and triticale: 10 Sept. Previous crops: W. wheat 1984, 1985.
White Horse (W): PK applied: 5 Sept, 1985. Paraquat applied: 11 Sept. Ploughed: 16 Sept. Rolled: 4 Oct. Rotary harrowed, seeds sown: 14 Oct. 'Herrisol' applied: 6 May, 1986. Combine harvested: W. barley: 6 Aug; w. wheat: 21 Aug; rye: 29 Aug; triticale: 7 Sept. Previous crops: S. barley 1984, w. barley 1985.

NOTE: (1) Soil samples were taken for take-all bioassay before sowing and after harvest.
(2) Assessments were made of foot and root rots and foliar diseases during the season.

86/R/M/1 PASTURES (R)

GRAIN TONNES/HECTARE

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

INPUT CROP VAR	LARGE	SMALL	MEAN
B PANDA	8.37	7.12	7.75
R DOMINT	7.81	7.03	7.42
T LASKO	8.54	7.88	8.21
T CWT	7.48	6.53	7.00
W AVALON	7.64	6.63	7.13
MEAN	7.97	7.04	7.50

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

TABLE	CROP VAR	INPUT	CROP VAR INPUT
SED	0.249	0.157	0.352

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

STRATUM	DF	SE	CV%
BLOCK.WP	18	0.431	5.7

GRAIN MEAN DM% 83.6

PLOT AREA HARVESTED 0.00276

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86/W/M/1 WHITE HORSE (W)

GRAIN TONNES/HECTARE

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

INPUT CROP VAR	LARGE	SMALL	MEAN
B PANDA	5.06	3.69	4.38
R DOMINT	7.08	6.58	6.83
T LASKO	7.46	7.38	7.42
T CWT	5.50	5.80	5.65
W AVALON	6.52	3.83	5.18
MEAN	6.32	5.46	5.89

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

TABLE	CROP VAR	INPUT	CROP VAR INPUT
SED	0.404	0.255	0.571

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

STRATUM	DF	SE	CV%
BLOCK.WP	18	0.699	11.9

GRAIN MEAN DM% 83.3

PLOT AREA HARVESTED 0.00275

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