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76/R/B/1 Factors Affecting Mildew Control and Yield - Barley

Rothamsted Research

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76/R/B/1

WINTER BARLEY

FACTORS AFFECTING MILDEW CONTROL AND YIELD

Object: To study the effects and interactions of sowing date, seed rate, mildew control and timing of spring nitrogen on the incidence of mildew and yield of winter barley - Gt. Knott 1.

Sponsors: A. Bainbridge, M.E. Finney, J.F. Jenkyn.

Design: Single replicate of 2 x 2 x 2 x 2 x 2 x 2.

Whole plot dimensions: 2.13 x 6.10.

Treatments: All combinations of:-

1. SOW DATE Sowing Dates:

24 SEPT	24 September
6 NOV	6 November

2. SEEDRATE Seed Rates (kg):

78	78
156	156

3. TRIDEMOR(1) Tridemorph foliar spray to early growth:

NONE	None
SPRAYED	Sprayed (14 Nov to SOW DATE 24 SEPT, 25 Feb to SOW DATE 6 NOV)

4. TRIDEMOR(2) Tridemorph foliar spray in April:

NONE	None
SPRAYED	Sprayed (9 Apr)

5. TRIDEMOR(3) Tridemorph foliar spray in May:

NONE	None
SPRAYED	Sprayed (13 May)

6. N TIME Time of applying nitrogen (at 75 kg):

MARCH	Early March (9 Mar)
APRIL	Late April (27 Apr)

NOTE: Tridemorph applied at 0.53 kg in 340 l.

Basal applications: Weedkillers: Mecoprop at 1.7 kg in 340 l.

Seed: Astrix.

Cultivations, etc.: - Ploughed: 16 Sept, 1975. Spring-tine cultivated twice: 16, 17 Sept. Rotary harrowed for early sowing: 22 Sept. Power harrowed for late sowing: 6 Nov. Weedkiller applied: 13 Nov. Combine harvested: 8 July, 1976. Previous crops: Winter wheat 1974, beans 1975.

NOTE: Seedling emergence counts were made. Leaf diseases were assessed on six occasions. Ear counts were made in early July.

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GRAIN TONNES/HECTARE

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

SEEDRATE	78	156	MEAN
SOW DATE			
24 SEPT	7.78	8.02	7.90
6 NOV	4.41	4.44	4.42
MEAN	6.09	6.23	6.16
TRIDEMOR(1)	NONE	SPRAYED	MEAN
SOW DATE			
24 SEPT	7.66	8.14	7.90
6 NOV	4.27	4.57	4.42
MEAN	5.97	6.35	6.16
TRIDEMOR(1)	NONE	SPRAYED	MEAN
SEEDRATE			
78	5.90	6.28	6.09
156	6.03	6.43	6.23
MEAN	5.97	6.35	6.16
TRIDEMOR(2)	NONE	SPRAYED	MEAN
SOW DATE			
24 SEPT	7.66	8.14	7.90
6 NOV	4.25	4.60	4.42
MEAN	5.95	6.37	6.16
TRIDEMOR(2)	NONE	SPRAYED	MEAN
SEEDRATE			
78	5.98	6.20	6.09
156	5.93	6.54	6.23
MEAN	5.95	6.37	6.16
TRIDEMOR(2)	NONE	SPRAYED	MEAN
TRIDEMOR(1)			
NONE	5.78	6.15	5.97
SPRAYED	6.12	6.59	6.35
MEAN	5.95	6.37	6.16
TRIDEMOR(3)	NONE	SPRAYED	MEAN
SOW DATE			
24 SEPT	7.80	8.00	7.90
6 NOV	4.35	4.49	4.42
MEAN	6.08	6.24	6.16
TRIDEMOR(3)	NONE	SPRAYED	MEAN
SEEDRATE			
78	5.99	6.19	6.09
156	6.17	6.29	6.23
MEAN	6.08	6.24	6.16

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GRAIN TONNES/HECTARE

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

TRIDEMOR(3)	NONE	SPRAYED	MEAN
TRIDEMOR(1)			
NONE	5.96	5.98	5.97
SPRAYED	6.20	6.51	6.35
MEAN	6.08	6.24	6.16
TRIDEMOR(3)	NONE	SPRAYED	MEAN
TRIDEMOR(2)			
NONE	5.78	6.13	5.95
SPRAYED	6.38	6.36	6.37
MEAN	6.08	6.24	6.16
N TIME	MARCH	APRIL	MEAN
SOW DATE			
24 SEPT	7.69	8.11	7.90
6 NOV	4.25	4.59	4.42
MEAN	5.97	6.35	6.16
N TIME	MARCH	APRIL	MEAN
SEEDRATE			
78	5.88	6.31	6.09
156	6.06	6.40	6.23
MEAN	5.97	6.35	6.16
N TIME	MARCH	APRIL	MEAN
TRIDEMOR(1)			
NONE	5.78	6.16	5.97
SPRAYED	6.16	6.54	6.35
MEAN	5.97	6.35	6.16
N TIME	MARCH	APRIL	MEAN
TRIDEMOR(2)			
NONE	5.84	6.07	5.95
SPRAYED	6.10	6.63	6.37
MEAN	5.97	6.35	6.16
N TIME	MARCH	APRIL	MEAN
TRIDEMOR(3)			
NONE	5.86	6.29	6.08
SPRAYED	6.08	6.41	6.24
MEAN	5.97	6.35	6.16

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GRAIN TONNES/HECTARE

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

TABLE	SOW DATE	SEEDRATE	TRIDEMOR(1)	TRIDEMOR(2)
SED	0.124	0.124	0.124	0.124

TABLE	TRIDEMOR(3)	N TIME	SOW DATE SEEDRATE	SOW DATE TRIDEMOR(1)
SED	0.124	0.124	0.175	0.175

TABLE	SEEDRATE TRIDEMOR(1)	SOW DATE TRIDEMOR(2)	SEEDRATE TRIDEMOR(2)	TRIDEMOR(1) TRIDEMOR(2)
SED	0.175	0.175	0.175	0.175

TABLE	SOW DATE TRIDEMOR(3)	SEEDRATE TRIDEMOR(3)	TRIDEMOR(1) TRIDEMOR(3)	TRIDEMOR(2) TRIDEMOR(3)
SED	0.175	0.175	0.175	0.175

TABLE	SOW DATE N TIME	SEEDRATE N TIME	TRIDEMOR(1) N TIME	TRIDEMOR(2) N TIME
SED	0.175	0.175	0.175	0.175

TABLE	TRIDEMOR(3) N TIME
SED	0.175

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

STRATUM	DF	SE	CV%
WP	22	0.495	8.0

GRAIN MEAN DM% 89.0

PLOT AREA HARVESTED 0.00130