

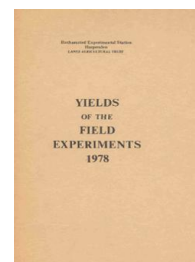
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## Yields of the Field Experiments 1978

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### 78/R/B/2 Factors Affecting Yield and Disease Control - Barley

#### Rothamsted Research

Rothamsted Research (1979) *78/R/B/2 Factors Affecting Yield and Disease Control - Barley* ; Yields Of The Field Experiments 1978, pp 379 - 383 - DOI: <https://doi.org/10.23637/ERADOC-1-30>

78/R/B/2

WINTER BARLEY

FACTORS AFFECTING YIELD AND DISEASE CONTROL

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

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

Design: 3 x 2 x 2 x 2 x 2 in 2 blocks of 24 plots with confounding.

Whole plot dimensions: 2.13 x 6.10.

Treatments: All combinations of:-

1. S DATE T            Sowing date and autumn tridemorph:  
6 OCT+T            6 October, tridemorph spray in autumn on 18 Nov, 1977  
6 OCT 0            6 October, no tridemorph spray in autumn  
2 NOV 0            2 November, no tridemorph spray in autumn
2. SEEDRATE            Seed rates (kg):  
78  
156
3. TRIDEMOR(1)        Tridemorph in early spring:  
NONE                None  
SPRAYED            Sprayed (3 May, 1978)
4. TRIDEMOR(2)        Tridemorph in late spring:  
NONE                None  
SPRAYED            Sprayed (26 May, 1978)
5. N TIME              Time of applying nitrogen (at 75 kg):  
6 MAR                6 March  
25 APR               25 April

NOTES: (1) Tridemorph was applied at 0.53 kg in 340 l.

(2) The experiment had a surround of 18.3 m sown to winter barley, variety Athene, on 6 October, 1977 and each plot was separated from its neighbours by sidelands of 2.13 m and internal headlands of 9.14 m sown to Athene on this date.

Basal applications: Manures: (10:24:24) at 250 kg, combine drilled. Weedkiller: Mecoprop at 3.1 kg in 220 l.

Seed: Hoppel.

Cultivations, etc.: - Straw burned: 11 Sept, 1977. Chisel ploughed twice: 16 Sept and 19 Sept. Rotary harrowed: 28 Sept. Weedkiller applied: 4 May, 1978. Combine harvested: 11 Aug. Previous crops: Wheat 1976, Barley 1977.

NOTE: Emergence counts were made for both sowings. Mildew was assessed three times during the season. Numbers of fertile tillers, grains per ear and thousand grain weights were assessed.

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GRAIN TONNES/HECTARE

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

SEEDRATE	78	156	MEAN
S DATE T			
6 OCT+T	5.78	5.48	5.63
6 OCT 0	5.49	5.48	5.49
2 NOV 0	3.60	3.60	3.60
MEAN	4.96	4.85	4.91
TRIDEMOR(1)	NONE	SPRAYED	MEAN
S DATE T			
6 OCT+T	5.45	5.81	5.63
6 OCT 0	5.28	5.70	5.49
2 NOV 0	3.63	3.57	3.60
MEAN	4.79	5.02	4.91
TRIDEMOR(1)	NONE	SPRAYED	MEAN
SEEDRATE			
78	4.73	5.18	4.96
156	4.84	4.86	4.85
MEAN	4.79	5.02	4.91
TRIDEMOR(2)	NONE	SPRAYED	MEAN
S DATE T			
6 OCT+T	5.55	5.70	5.63
6 OCT 0	5.24	5.74	5.49
2 NOV 0	3.47	3.72	3.60
MEAN	4.75	5.06	4.91
TRIDEMOR(2)	NONE	SPRAYED	MEAN
SEEDRATE			
78	5.22	4.70	4.96
156	4.29	5.41	4.85
MEAN	4.75	5.06	4.91

78/R/B/2

GRAIN TONNES/HECTARE

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

TRIDEMOR(2)	NONE	SPRAYED	MEAN	
TRIDEMOR(1)				
NONE	4.44	5.13	4.79	
SPRAYED	5.07	4.98	5.02	
MEAN	4.75	5.06	4.91	
N TIME	6 MAR	25 APR	MEAN	
S DATE T				
6 OCT+T	5.93	5.32	5.63	
6 OCT 0	5.61	5.37	5.49	
2 NOV 0	3.11	4.09	3.60	
MEAN	4.88	4.93	4.91	
N TIME	6 MAR	25 APR	MEAN	
SEEDRATE				
78	4.81	5.10	4.96	
156	4.95	4.75	4.85	
MEAN	4.88	4.93	4.91	
N TIME	6 MAR	25 APR	MEAN	
TRIDEMOR(1)				
NONE	4.80	4.78	4.79	
SPRAYED	4.97	5.08	5.02	
MEAN	4.88	4.93	4.91	
N TIME	6 MAR	25 APR	MEAN	
TRIDEMOR(2)				
NONE	4.82	4.68	4.75	
SPRAYED	4.94	5.17	5.06	
MEAN	4.88	4.93	4.91	
SEEDRATE	78		156	
TRIDEMOR(1)	NONE	SPRAYED	NONE	SPRAYED
S DATE T				
6 OCT+T	5.63	5.92	5.27	5.69
6 OCT 0	5.11	5.88	5.45	5.52
2 NOV 0	3.46	3.74	3.81	3.39
SEEDRATE	78		156	
TRIDEMOR(2)	NONE	SPRAYED	NONE	SPRAYED
S DATE T				
6 OCT+T	6.29	5.27	4.81	6.14
6 OCT 0	5.57	5.42	4.91	6.06
2 NOV 0	3.79	3.41	3.16	4.04
TRIDEMOR(1)	NONE		SPRAYED	
TRIDEMOR(2)	NONE	SPRAYED	NONE	SPRAYED
S DATE T				
6 OCT+T	5.17	5.72	5.93	5.68
6 OCT 0	4.83	5.74	5.65	5.74
2 NOV 0	3.33	3.94	3.62	3.51
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GRAIN TONNES/HECTARE

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

TRIDEMOR(1)	NONE		SPRAYED	
TRIDEMOR(2)	NONE	SPRAYED	NONE	SPRAYED
SEEDRATE				
78	4.86	4.60	5.57	4.80
156	4.02	5.67	4.57	5.16
SEEDRATE	78		156	
N TIME	6 MAR	25 APR	6 MAR	25 APR
S DATE T				
6 OCT+T	5.95	5.60	5.91	5.05
6 OCT 0	5.49	5.50	5.73	5.24
2 NOV 0	3.00	4.20	3.21	3.98
TRIDEMOR(1)	NONE		SPRAYED	
N TIME	6 MAR	25 APR	6 MAR	25 APR
S DATE T				
6 OCT+T	5.95	4.95	5.91	5.70
6 OCT 0	5.18	5.38	6.04	5.35
2 NOV 0	3.27	4.00	2.94	4.19
TRIDEMOR(1)	NONE		SPRAYED	
N TIME	6 MAR	25 APR	6 MAR	25 APR
SEEDRATE				
78	4.71	4.75	4.92	5.45
156	4.89	4.80	5.02	4.71
TRIDEMOR(2)	NONE		SPRAYED	
N TIME	6 MAR	25 APR	6 MAR	25 APR
S DATE T				
6 OCT+T	6.05	5.05	5.81	5.60
6 OCT 0	5.09	5.39	6.13	5.35
2 NOV 0	3.33	3.61	2.88	4.57
TRIDEMOR(2)	NONE		SPRAYED	
N TIME	6 MAR	25 APR	6 MAR	25 APR
SEEDRATE				
78	5.05	5.38	4.58	4.82
156	4.60	3.99	5.30	5.52
TRIDEMOR(2)	NONE		SPRAYED	
N TIME	6 MAR	25 APR	6 MAR	25 APR
TRIDEMOR(1)				
NONE	4.55	4.34	5.05	5.22
SPRAYED	5.10	5.03	4.83	5.13

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GRAIN TONNES/HECTARE

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

TABLE	S DATE T	SEEDRATE	TRIDEMOR(1)	TRIDEMOR(2)
SED	0.188	0.154	0.154	0.154

TABLE	N TIME	S DATE T SEEDRATE	S DATE T TRIDEMOR(1)	SEEDRATE TRIDEMOR(1)
SED	0.154	0.267	0.267	0.218

TABLE	S DATE T TRIDEMOR(2)	SEEDRATE TRIDEMOR(2)	TRIDEMOR(1) TRIDEMOR(2)	S DATE T N TIME
SED	0.267	0.218	0.218	0.267

TABLE	SEEDRATE N TIME	TRIDEMOR(1) N TIME	TRIDEMOR(2) N TIME	S DATE T SEEDRATE TRIDEMOR(1)
SED	0.218	0.218	0.218	0.377

TABLE	S DATE T SEEDRATE TRIDEMOR(2)	S DATE T TRIDEMOR(1) TRIDEMOR(2)	SEEDRATE TRIDEMOR(1) TRIDEMOR(2)	S DATE T SEEDRATE N TIME
SED	0.377	0.377	0.308	0.377

TABLE	S DATE T TRIDEMOR(1) N TIME	SEEDRATE TRIDEMOR(1) N TIME	S DATE T TRIDEMOR(2) N TIME	SEEDRATE TRIDEMOR(2) N TIME
SED	0.377	0.308	0.377	0.308

TABLE	TRIDEMOR(1) TRIDEMOR(2) N TIME
SED	0.308

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

STRATUM	DF	SE	CV%
BLOCK.WP	10	0.533	10.9

GRAIN MEAN DM% 84.9

PLOT AREA HARVESTED 0.00130