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Yields of the Field Experiments 1980

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Her Majesty's Stationery Office
LONDON
1981

80/R/B/7 and 80/W/B/7 Spring Barley Varieties, N and Aphicide

Rothamsted Research

Rothamsted Research (1981) *80/R/B/7 and 80/W/B/7 Spring Barley Varieties, N and Aphicide* ; Yields Of The Field Experiments 1980, pp 266 - 268 - DOI: <https://doi.org/10.23637/ERADOC-1-31>

80/R/B/7 and 80/W/B/7

SPRING BARLEY

VARIETIES, N AND APHICIDE

Object: To study the yields of some of the newer varieties of s. barley; an aphicide and three rates of nitrogen are also tested - Rothamsted (R) Whittlocks and Woburn (W) Butt Close.

Sponsor: R. Moffitt.

Design: 3 randomised blocks of 10 x 4 criss cross.

Whole plot dimensions: 4.27 x 27.1.

Treatments: All combinations of:-

Column plots

1. VARIETY Varieties and variety mixtures:

ARKROYAL	Ark Royal
ATHOS	Athos
AT+TY+GE	Athos + Tyra + Georgie, one third of each
GEORGIE	Georgie
JUPITER	Jupiter
KEG	Keg
KORU	Koru
PORTHOS	Porthos
SIMON	Simon
TRIUMPH	Triumph

Row plots

2. N APH Nitrogen fertiliser (kg N) and aphicide:

38	38
75	75
113	113
113+DMS	113 + demeton-s-methyl at 0.24 l in 250 l, Whittlocks (R): 11 July, in 300 l Butt Close (W): 7 July

Basal applications:

Whittlocks (R): Manures: (0:20:20) at 310 kg, combine drilled.
Weedkillers: Dicamba with mecoprop and MCPA ('Banlene Plus' at 5.0 l in 250 l) applied with fungicide. Fungicide: Tridemorph at 0.53 kg.
Butt Close (W): Manures: (0:20:20) at 310 kg, combine drilled.
Weedkillers: Mecoprop with bromoxynil and ioxynil ('Brittox' at 3.5 l in 280 l). Fungicide: Ethirimol ('Milgo E' at 1.3 l in 280 l).

Seed: Whittlocks (R): Varieties sown at 160 kg.
Butt Close (W): Varieties sown at 160 kg.

80/R/B/7 and 80/W/B/7

Cultivations, etc.:-

Whittlocks (R): Ploughed: 22 Nov, 1979. Spring-tine cultivated, seed sown: 5 Apr, 1980. N applied: 10 Apr. Weedkillers with fungicide applied: 27 May. Combine harvested: 28 Aug. Previous crops: Grass 1978, w. wheat 1979.

Butt Close (W): Ploughed: 5 Nov, 1979. Heavy spring-tine cultivated: 28 Feb, 1980. N applied, spring-tine cultivated with crumbler attached: 25 Mar. Seed sown: 26 Mar. Weedkillers applied: 8 May. Fungicide applied: 5 June. Combine harvested: 20 Aug. Previous crops: S. barley 1978, 1979.

NOTE: Estimates of numbers of aphids were made in June.

80/R/B/7 WHITTLOCKS(R)

GRAIN TONNES/HECTARE

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

	N APH	38	75	113	113+DMS	MEAN
VARIETY						
ARKROYAL		6.19	6.21	6.17	5.67	6.06
ATHOS		5.56	5.80	6.33	6.51	6.05
AT+TY+GE		5.90	6.69	6.72	6.35	6.42
GEORGIE		6.08	6.86	6.85	6.59	6.60
JUPITER		6.44	5.71	6.33	5.32	5.95
KEG		5.38	6.00	5.95	6.15	5.87
KORU		6.46	6.51	6.15	6.48	6.40
PORTHOS		6.01	6.05	6.07	6.39	6.13
SIMON		5.55	5.53	5.45	5.47	5.50
TRIUMPH		6.67	6.65	7.37	7.24	6.99
MEAN		6.03	6.20	6.34	6.22	6.20

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

TABLE	VARIETY	N APH	VARIETY N APH
SED	0.248	0.186	0.389
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:			
VARIETY			0.333
N APH			0.354

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

STRATUM	DF	SE	CV%
BLOCK.VARIETY	18	0.303	4.9
BLOCK.N APH	6	0.228	3.7
BLOCK.VARIETY.N APH	54	0.357	5.8

GRAIN MEAN DM% 82.6

PLOT AREA HARVESTED 0.00130

80/W/B/7 BUTT CLOSE(W)

GRAIN TONNES/HECTARE

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

	N APH 38	75	113	113+DMS	MEAN
VARIETY					
ARKROYAL	4.01	4.95	5.89	6.28	5.28
ATHOS	3.39	4.30	5.11	5.28	4.52
AT+TY+GE	3.63	4.58	5.63	5.83	4.92
GEORGIE	3.60	4.53	5.09	5.41	4.66
JUPITER	4.00	5.09	5.88	6.31	5.32
KEG	3.48	4.71	5.45	5.63	4.82
KORU	4.21	5.10	6.15	6.22	5.42
PORTHOS	3.66	4.28	4.73	5.41	4.52
SIMON	3.48	4.70	5.35	5.60	4.78
TRIUMPH	3.96	4.62	5.98	6.22	5.20
MEAN	3.74	4.69	5.53	5.82	4.94

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

TABLE	VARIETY	N APH	VARIETY N APH

SED	0.187	0.096	0.257
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:			
VARIETY			0.198
N APH			0.245

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

STRATUM	DF	SE	CV%
BLOCK.VARIETY	18	0.230	4.6
BLOCK.N APH	6	0.118	2.4
BLOCK.VARIETY.N APH	54	0.223	4.5

GRAIN MEAN DM% 81.7

PLOT AREA HARVESTED 0.00173