ROTHAMSTED RESEARCH

Numerical Results of the Field Experiments 1969

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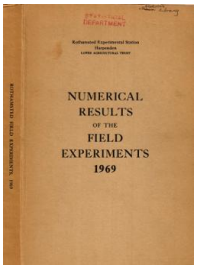

69/R&W/B/2 - Deep-drilled Fertiliser - Barley

Rothamsted Research

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BARLEY

(69/R/B/2 and 69/W/B/2)

Deep-drilled fertiliser - Rothamsted (R) Pastures and Woburn (W) Great Hill II 1969.

Design: 4 randomised blocks of 14 plots.

Area of each plot: 0.0080. Area harvested: 0.0058.

Treatments: All combinations of:-

1. Fertiliser rates*: 0.5 cwt N, 0.25 cwt P2O5, 0.25 cwt K2O (1), 1.0 cwt N, 0.5 cwt P2O5, 0.5 cwt K2O (2).
   NBI plots: as 'Nitro-Chalk' 21 and (0:20:20).
   Other plots: as (20:10:10).
2. Methods of fertiliser application: NPK injected 3-4 in. deep in rows 5.5 in. apart, by 'Tume' drill (I)
   NPK broadcast (B), N broadcast, PK injected (NBI).
3. Space between rows of seed: 5 inches (C), 7 inches (W).
   Additional treatments: NPK combine drilled at rate 1 (D1W), rate 2 (D2W), row spacing 7 inches.

*Rates on Great Hill II (W) were:
NBI plots: 0.5 cwt 0, 0.22 cwt P2O5, 0.22 cwt K2O (1) and 1.0 cwt N, 0.45 cwt P2O5, 0.45 cwt K2O (2).
D plots: 0.46 cwt N, 0.23 cwt P2O5, 0.23 cwt K2O (1) 0.96 cwt N, 0.48 cwt P2O5, 0.48 cwt K2O (2).
Other plots: 0.47 cwt N, 0.24 cwt P2O5, 0.24 cwt K2O (1) 1.0 cwt N, 0.5 cwt P2O5, 0.5 cwt K2O (2).

NOTE: The 'Tume' drill was used once on every plot, with tines in the ground and 'crumblers' on. On 'B' plots the fertiliser was broadcast by the 'Tume' drill with spouts out.

Basal applications:- Manures none: Weedkillers: Pastures (R): Paraquat at 0.5 lb ion in 25 gals. 2,4-D at 8 oz and dichlorprop at 32 oz in 20 gals.
Great Hill II (W): Paraquat at 1.5 lb ion in 25 gals. Ioxynil octanoate, bromoxynil octanoate and the iso-octyl ester of dichlorprop ('Oxytril P' at 1 pint in 25 gals).

Cultivations, etc,:
Pastures (R): Paraquat applied: 11 Oct, 1968. Ploughed: 13 Nov. Fertilisers applied (except 'Nitro-Chalk'), seed drilled at 140 lb: 28 Mar, 1969. 'Nitro-Chalk'

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applied: 11 Apr. 2,4-D/dichlorprop applied: 13 May. Combine harvested: 13 Aug. Variety: Zephyr. Previous crops: Potatoes 1967, barley 1968.

Great Hill II (W): Paraquat applied: 19 Sept, 1968. Ploughed: 4 - 27 Jan, 1969. Fertilisers applied (except 'Nitro-Chalk'), seed drilled at 140 lb: 2 Apr. 'Nitro-Chalk' applied: 3 Apr. 'Oxytril P' applied: 14 May. Combine harvested: 8 Aug. Variety: Zephyr. Previous crops: Fallow 1967, winter wheat 1968.

Standard errors per plot. Grain, cwt:

Pastures (R):	2.03 or 4.3%	(38 d.f.)
Great Hill II (W):	3.06 or 9.2%	(39 d.f.)

NOTE: On Pastures (R) owing to a blockage grain was lost on one plot (IC L2). An estimated value was used in the analysis.

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SUMMARY OF RESULTS

PASTURES (R)

GRAIN

	IC	IW	BC	BW	DW	NBIC	NBIW	Mean
				(±1.01)				(±0.38)
1	48.1	48.5	48.0	48.0	49.2	46.3	45.8	47.7
2	43.4	45.0	49.4	49.0	46.9	47.9	45.7	46.8
Mean (±0.72)	45.7	46.7	48.7	48.5	48.1	47.1	45.8	47.2

Mean D.M. %: 83.2

GREAT HILL II (W)

GRAIN

				(±1.53)				(±0.58)
1	32.4	34.2	30.2	33.0	32.6	32.2	33.4	32.6
2	35.7	35.1	34.7	34.6	32.6	33.0	31.6	33.9
Mean (±1.08)	34.1	34.7	32.5	33.8	32.6	32.6	32.5	33.2

Mean D.M. %: 87.8

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