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Numerical Results of the Field Experiments 1969

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69/R&W/BE/4 - Deep-drilled Fertiliser - Beans

Rothamsted Research

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SPRING BEANS

(69/R/BE/4 and 69/W/BE/4)

Deep-drilled fertiliser - Rothamsted (R) Little Hoos and Woburn (W) Horsepool 1969.

Design: 4 randomised blocks of 7 plots.

Area of each plot: 0.0193. Area harvested: 5.5 in rows - 0.0133, 21 in rows - 0.0121.

Treatments: All combinations of:-

1. Space between rows of seed:
5.5 in. (sown by 'Tume' drill) (C),
21 in. (sown by 'Smythe' drill) (W).
2. Methods of applying fertiliser (0:14:28): Broadcast (B1), injected 3-4 in. deep in rows 5.5 in. apart by 'Tume' drill (D1).

Additional treatments:-

- WP1: Seed sown in rows 21 in. apart, with fertiliser placed near seed by 'Smythe' drill.
- CD2: Seed in rows 5.5 in. apart (by 'Tume' drill), fertiliser as above plus 1 cwt K2O as muriate of potash all deeply drilled.
- WD2: Fertilizer as CD2, but seed sown in rows 21 in. apart (by 'Smythe' drill).

- NOTES: (1). Rate of application of (0:14:28) 400 lb Little Hoos (R), 430 lb Horsepool (W).
- (2). On B plots fertiliser was broadcast by the 'Tume' drill, tines in, spouts out, 'crumblers' on.
- (3). On plots where seed and fertiliser were both sown by 'Tume' drill the two operations were separate ('crumblers' on both times).
- (4). On D2 plots the extra K was applied by the 'Tume' drill in a separate operation ('crumblers' off).
- (5). On P plots the 'Tume' drill was used once without fertiliser, tines in, 'crumblers' on.

Basal applications:

- Weedkillers: Little Hoos (R): Paraquat at 0.5 lb ion in 25 gals
Simazine at 1 lb in 20 gals.
Horsepool (W): Simazine at 1 lb in 25 gals.
- Insecticide: Little Hoos (R): Demeton-s-methyl at 3.5 oz in 37 gals.
Horsepool (W) : Demeton-s-methyl at 3.5 oz in 30 gals.

Cultivations, etc.:

Little Hoos (R): Paraquat applied: 11 Oct, 1968. Ploughed: 12 Nov. Fertilisers applied, seed drilled at 200 lb: 25 Mar, 1969. Simazine applied: 27 Mar. Insecticide applied: 21 June. Combine harvested: 5 Sept. Variety: Maris Bead. Previous crops: Spring wheat 1967 and 1968.

Horsepool (W): Ploughed: 2 Dec, 1968. Fertilisers applied, seed drilled at 200 lb: 2 Apr, 1969. Simazine applied: 4 Apr. Insecticide applied: 19 June. Combine harvested: 8 Sept. Variety: Maris Bead. Previous crops: Potatoes 1967, winter wheat 1968.

Standard errors per plot. Grain, cwt:

Little Hoos (R): 1.19 or 5.1% (18 d.f.)
Horsepool (W) : 1.20 or 5.9% (18 d.f.)

SUMMARY OF RESULTS

GRAIN:CWT

CB1	CD1	CD2	WB1	WD1	WD2	WP1	Mean
LITTLE HDOS (R)							
(±0.60)							
22.0	25.5	23.5	21.5	24.3	24.8	22.8	23.5

Mean D.M.%: 83.2

HDRSEPOOL (W)

(±0.60)

19.2	21.4	20.5	19.8	20.7	20.0	21.3	20.4
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Mean D.M.%: 81.5