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70/R/BE/1 and 70/W/BE/1 Spring Beans Row Spacing, K, and Methods of Application

Rothamsted Research

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SPRING BEANS

(70/R/BE/1 and 70/W/BE/1)

Row spacing, K, and methods of application, Rothamsted (R)
Pastures and Woburn (W) Lansome III 1970.

Design: Pastures (R): 4 blocks of 8 plots, randomisation restricted.
Lansome III (W): 3 blocks of 8 plots, randomisation
restricted.

Area of each plot: 0.0193. Area harvested: Pastures (R): 0.0145,
Lansome III (W): 0.0121.

Treatments: All combinations of:-

1. Spacing between rows of seed: 21 ins. (sown by 'Smythe' drill) (W), 5.5 ins. (sown by 'Tume' drill) (C). (Seed rate for all treatments:- 200 lb at Rothamsted (R), 195 lb at Woburn (W)).
2. Levels of K2O as muriate of potash:- 1.0 (K1) and 2.0 (K2) cwt (Rothamsted (R)), 1.3 (K1) and 2.0 (K2) cwt (Woburn (W)).
3. Methods of applying K2O: Drilled 4 ins. deep across rows by 'Tume' drill (A), placed in rows (on C plots drilled 4 ins. deep by 'Tume' drill before sowing, on W plots placement drilled by 'Smythe' drill at sowing) (R).

Basal applications:-

Pastures (R):- 3 tons ground chalk. Weedkillers: Paraquat at 0.5 lb ion in 20 gals. Simazine at 1 lb in 20 gals.
Insecticide: Demeton-s-methyl at 3.5 oz in 40 gals.
Lansome III (W):- Weedkiller: Simazine at 1 lb in 25 gals.
Insecticide: Demeton-s-methyl at 3.5 oz in 25 gals.

Cultivations, etc.:-

Pastures (R): Paraquat applied: 2 Oct, 1969. Chalked: 1 Nov.
Ploughed 2 - 10 Dec. K fertiliser applied to WA, CA and CR plots by 'Tume' drill with crumblers on, WR plots cultivated once by 'Tume' drill without fertiliser, with tines in and crumblers on: 26 Mar, 1970. Seed drilled on CA and CR plots by 'Tume' drill without fertiliser or crumblers. Seed drilled on WA plots by 'Smythe' drill without fertiliser. Seed placement drilled on WR plots by 'Smythe' drill: 27 Mar. Simazine applied: 19 Apr. Insecticide applied: 18 June. Combine harvested: 4 Sept. Variety: Maris Bead. Previous crops: Winter wheat and barley 1968, barley 1969.

70/R&W/BE/1

Lansome III (W): Rotary cultivated three times: 5 Sept., 1969, 29 Sept, 11 Oct. Deep-tine cultivated: 31 Dec. K fertiliser applied to WA, CA and CR plots by 'Tume' drill with crumblers on. WR plots cultivated once by 'Tume' drill without fertiliser, with tines in and crumblers on. Seed drilled on WA plots by 'Smythe' drill without fertiliser. Seed placement drilled on WR plots by 'Smythe' drill. Seed drilled on CA and CR plots by 'Tume' drill without fertiliser or crumblers: 19 Mar, 1970. Weedkiller applied: 21 Mar. Insecticide applied: 19 June. Combine harvested: 2 Aug. Variety: Maris Bead. Previous crops: Potatoes 1968, winter wheat 1969.

Standard errors per plot. Grain, cwt:

Pastures (R): 1.06 or 7.2% (21 d.f.)

Lansome III (W): 1.74 or 30.4% (14 d.f.)

70/R&W/BE/1

SUMMARY OF RESULTS

GRAIN: CWT

	K1	K2	A	R	Mean
	PASTURES (R)				
	(±0.37)		(±0.37)		(±0.26)
W	13.5	13.7	13.8	13.4	13.6
C	16.0	15.5	15.5	16.0	15.8
			(±0.37)		
		K1	14.7	14.8	14.7
		K2	14.5	14.7	14.6
Mean (±0.26)			14.6	14.7	14.7

	LANSOME III (W)				
	(±0.71)		(±0.71)		(±0.50)
W	5.0	5.2	4.2	6.0	5.1
C	5.8	6.9	5.9	6.9	6.4
			(±0.71)		
		K1	4.5	6.4	5.4
		K2	5.6	6.5	6.0
Mean (±0.50)			5.0	6.4	5.7

Mean D.M. %: Pastures (R): 82.0
 Lansome III (W): 84.3