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Yields of the Field Experiments 1980

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80/R/BE/4 Spring Beans Precision Sowing

Rothamsted Research

Rothamsted Research (1981) *80/R/BE/4 Spring Beans Precision Sowing* ; Yields Of The Field Experiments 1980, pp 281 - 282 - DOI: <https://doi.org/10.23637/ERADOC-1-31>

80/R/BE/4

SPRING BEANS

PRECISION SOWING

Object: To study the effects of precision sowing and four seed rates on the yield of s. beans - Summerdells I.

Sponsor: J. McEwen.

Design: 3 blocks of 8 plots, randomisation restricted.

Whole plot dimensions: STANDARD : 4.27 x 8.23
PRECISION : 3.25 x 8.23

Treatments: All combinations of:-

1. DRILL Drills and spacing between rows:
- | | |
|----------|---|
| STANDARD | Standard farm drill sowing seed irregularly in rows 18 cm (7 ins) apart |
| PRECISN | Stanhay precision drill sowing seed evenly-spaced in rows 20 cm (8 ins) apart |

2. POPULATN Plant populations in thousands per hectare:

	Target population	Population achieved	
		STANDARD	PRECISN
3	300	149	251
4	400	250	314
5	500	285	301
6	600	359	322

NOTES:(1) All populations achieved were substantially less than intended. The precision drill gave very small differences between populations achieved.

(2) Centres of plots were damaged by wheelings. Yields and figures for populations achieved were taken from an undamaged strip, three to five rows wide, from one side of each plot excluding the two outer rows.

Basal applications: Manures: Chalk at 7.5 t. Weedkillers: Trietazine with simazine (as 'Remtal SC' at 2.5 l) in 250 l. Insecticide: Permethrin at 0.10 kg in 340 l.

Seed: Minden.

Cultivations, etc.:- Chalk applied: 9 Oct, 1979. Ploughed: 30 Oct. Rotary harrowed, seed sown: 5 Mar, 1980. Weedkillers applied: 21 Mar. Insecticide applied: 23 Apr. Combine harvested: 18 Sept. Previous crops: S. barley 1978 and 1979.

NOTE: Components of yield were measured at maturity.

80/R/BE/4

GRAIN TONNES/HECTARE

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

POPULATN DRILL	3	4	5	6	MEAN
STANDARD	2.19	3.05	2.81	3.24	2.82
PRECISN	3.80	3.89	3.57	3.67	3.73
MEAN	3.00	3.47	3.19	3.45	3.28

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

TABLE	DRILL	POPULATN	DRILL POPULATN
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SED	0.127	0.180	0.255

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

STRATUM	DF	SE	CV%
BLOCK.WP	14	0.312	9.5

GRAIN MEAN DM% 78.4

PLOT AREA HARVESTED 0.00067