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84/R/BE/2 Sowing Methods, Dates and Seed Rates - W. Beans

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84/R/BE/2

WINTER BEANS

SOWING METHODS, DATES AND SEED RATES

Object: To study the effects of drilling or ploughing in seed, on three dates and at three seed rates, on the yield of w. beans - Geescroft.

Sponsors: J. McEwen, D.P. Yeoman, G. Inions.

Design: 2 randomised blocks of 18 plots.

Whole plot dimensions: 6.0 x 10.0.

Treatments: All combinations of:-

1. SOW METH Methods of sowing:
 DRILL By drill sowing rows 12 cm apart
 PLOUGH Seed broadcast on soil surface and ploughed in
2. SOW DATE Dates of sowing:
 23 SEP 23 September, 1983
 19 OCT 19 October
 18 NOV 18 November
3. POPULATN Plant populations per hectare:
 Target Mean population
 Population achieved
 120 120,000 100,000
 240 240,000 170,000
 360 360,000 240,000

Basal applications: Weedkillers: Paraquat at 0.42 kg ion in 250 l.
Propyzamide at 0.85 kg with simazine at 1.2 l in 250 l. Fungicides:
Benomyl at 0.50 kg with chlorothalonil at 1.0 kg and 'Agral', a wetting agent, at 0.08 l, in 250 l on the first two occasions and in 200 l on the third. Insecticides: Permethrin at 0.12 kg in 250 l on the first occasion and 0.05 kg in 500 l on the second.

Seed: Banner, dressed with carbendazim and thiram.

Cultivations, etc.: - Heavy spring-tine cultivated once: 30 Aug, 1983 and twice more: 31 Aug. Chisel ploughed twice: 2 Sept. Paraquat applied: 20 Sept. SOWDATE 23 SEPT plots heavy spring-tine cultivated, spring-tine cultivated, rotary harrowed, seed sown or broadcast, broadcast plots ploughed: 23 Sept. SOWDATE 23 SEPT PLOUGH plots harrowed in: 30 Sept. Propyzamide with simazine applied to SOWDATE 23 SEPT plots: 30 Sept. SOWDATE 19 OCT and SOWDATE 18 NOV plots heavy spring-tine cultivated: 19 Oct. SOWDATE 19 OCT plots rotary harrowed, seed sown or broadcast, broadcast plots ploughed: 19 Oct. SOWDATE 19 OCT PLOUGH plots harrowed in: 21 Oct. Propyzamide with simazine applied to SOWDATE 19 OCT plots: 21 Oct. SOWDATE 18 NOV plots rotary harrowed, seed sown or broadcast, broadcast plots ploughed: 18 Nov. SOWDATE 18 NOV PLOUGH plots harrowed in, propyzamide and simazine applied to SOWDATE 18 NOV plots: 21 Nov. Permethrin applied: 18 Apr, 1984 and 9 May. Benomyl, chlorothalonil and 'Agral' applied: 24 May, 6 June, 26 June. Combine

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harvested: 30 Aug. Previous crops: W. wheat 1982, s. barley 1983.

NOTE: Plant emergence counts were made and numbers of stems assessed in April and at maturity. Flowering dates were recorded. Chocolate spot and lodging were assessed. Components of yield were measured at maturity.

GRAIN TONNES/HECTARE

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

SOW DATE	23 SEP	19 OCT	18 NOV	MEAN
SOW METH				
DRILL	5.07	5.07	4.49	4.88
PLOUGH	5.21	5.25	4.78	5.08
MEAN	5.14	5.16	4.64	4.98
POPULATN	120	240	360	MEAN
SOW METH				
DRILL	4.60	5.04	4.99	4.88
PLOUGH	4.81	5.02	5.41	5.08
MEAN	4.70	5.03	5.20	4.98
POPULATN	120	240	360	MEAN
SOW DATE				
23 SEP	5.57	4.94	4.90	5.14
19 OCT	4.60	5.45	5.44	5.16
18 NOV	3.94	4.71	5.26	4.64
MEAN	4.70	5.03	5.20	4.98
POPULATN	120	240	360	
SOW METH				
DRILL	23 SEP	5.57	5.06	4.58
	19 OCT	4.47	5.50	5.25
	18 NOV	3.75	4.57	5.15
PLOUGH	23 SEP	5.57	4.83	5.22
	19 OCT	4.72	5.40	5.63
	18 NOV	4.13	4.84	5.38

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

TABLE	SOW METH	SOW DATE	POPULATN	SOW METH SOW DATE
SED	0.104	0.127	0.127	0.180
TABLE	SOW METH POPULATN	SOW DATE POPULATN	SOW METH SOW DATE POPULATN	
SED	0.180	0.221	0.312	

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GRAIN TONNES/HECTARE

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

STRATUM	DF	SE	CV%
BLOCK.WP	17	0.312	6.3

GRAIN MEAN DM% 85.5

PLOT AREA HARVESTED 0.00305