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98/R/BES/3 Mustard Competition in Beans - S. Beans

Rothamsted Research

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98/R/BES/3

SPRING BEANS

MUSTARD COMPETITION IN BEANS

Object: To study the effects of time of weed (mustard) emergence on the growth and yield of spring beans - Long Hoos I/II.

Sponsor: P.J.W. Lutman.

Design: 3 randomised blocks of 4 x 2 + 2 plots.

Whole plot dimensions: 3.0 x 10.0.

Treatments:

1. **DENSITY** Target population density, plants per m²:

M1	40
M2	80
M3	160
M4	320

2. **SOW TIME** Date of sowing mustard:

S1	24-Mar-98 (with crop)
S2	07-Apr-98 (80 degree days after crop)

Extra plot

EXTRA	None (duplicated)
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Experimental diary:

28-Aug-97 : B : Ploughed and furrow pressed.
28-Jan-98 : B : Barclay Gallup at 1.5 l with Frigate at 0.5 l in 200 l.
13-Feb-98 : B : Parable at 1.5 l with Scythe LC at 0.5 l and Luxon
Non-Ionic Wetter at 0.1 l in 200 l.
23-Mar-98 : B : Heavy spring-tine cultivated. Rotary harrowed.
24-Mar-98 : T : **DENSITY** M1, M2, M3, M4 **SOW TIME** S1: Mustard seed
broadcast.
: B : Rotary harrowed, Alfred, undressed, drilled at 40 seeds
per m².
07-Apr-98 : T : **DENSITY** M1, M2, M3, M4 **SOW TIME** S2: Mustard seed
broadcast.
08-Apr-98 : B : Draza at 5.5 kg.
14-Apr-98 : B : Doff Metaldehyde Slug Killer Mini Pellets at 15.0 kg.
22-Apr-98 : B : Cyperkill 10 at 250 ml in 200 l.
08-May-98 : B : Folio 575 SC at 2.0 l in 200 l. Fastac at 200 ml in
260 l.
14-May-98 : B : Cyperkill 10 at 250 ml in 200 l.
28-May-98 : B : Fastac at 200 ml in 200 l.
12-Jun-98 : B : Folio 575 SC at 2.0 l in 200 l.
19-Jun-98 : B : Aphox at 280 g in 200 l.

98/R/BES/3

Experimental diary:

24-Jul-98 : B : Alto 240 EC at 330 ml with Bravo 500 at 1.5 l in 200 l.
 14-Sep-98 : B : Combine harvested.

Previous crops: W. rape 1996, w. wheat 1997

NOTE: Emergence counts and cover assessments were made in April and May.
 Plants were sampled monthly May to September for dry weight and leaf area.

GRAIN TONNES/HECTARE

***** Tables of means *****

SOW TIME	S1	S2	Mean
DENSITY			
M1	5.70	6.13	5.92
M2	5.55	5.64	5.59
M3	4.88	5.74	5.31
M4	4.34	5.47	4.91
Mean	5.12	5.75	5.43
EXTRA	6.71		

Grand mean 5.69

*** Standard errors of differences of means ***

DENSITY	SOW TIME	DENSITY SOW TIME
0.327	0.231	0.463

SED for comparing **EXTRA** with any item in **DENSITY.SOW TIME** table is 0.401

***** Stratum standard errors and coefficients of variation *****

Stratum	d.f.	s.e.	cv%
BLOCK.WP	19	0.567	10.0

GRAIN MEAN DM% *

PLOT AREA HARVESTED 0.00020