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93/R/WS/1 Weed Sowing Date and Density - S. Wheat

Rothamsted Research

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93/R/WS/1

SPRING WHEAT

WEED SOWING DATE AND DENSITY

Object: To investigate the response of spring wheat to competition from white mustard (*Sinapsis alba*) sown on two different dates - Great Harpenden II.

Sponsors: P.J.W. Lutman.

Design: 3 randomised blocks of 2 x 5 plots.

Plot dimensions: 3.0 x 10.0.

Treatments: All combinations of:-

1. **WEED SD** Date of sowing weeds:

 ASCROP Same day as drilling wheat
 CROP+10 10 days after drilling wheat

2. **WEED DEN** Density of sown white mustard (plants per square metre):

 ASCROP CROP+10
D0 0 0
D1 19 110
D2 44 206
D4 98 387
D8 315 672

NOTES: (1) Target weed densities (plants per square metre):

WEED DEN	D0	D1	D2	D4	D8
WEED SD ASCROP:	0,	25,	50,	100,	200
CROP+10:	0,	50,	100,	200,	400

(2) Winter wheat, sown autumn 1992, failed and was replaced by spring wheat.

Experimental diary:

- 21-Jan-93 : B : Chisel ploughed.
- 15-Mar-93 : B : Heavy spring-tine cultivated, rotary harrowed.
- 16-Mar-93 : B : **WEED SD** ASCROP: White mustard broadcast by hand.
 : B : Rotary harrowed, Canon, dressed Cerevax, drilled at 330 seeds per square metre.
- 29-Mar-93 : T : **WEED SD** CROP+10: White mustard broadcast by hand, raked in.
- 23-Apr-93 : B : 34.5% N at 290 kg.
- 02-Jul-93 : B : Radar at 0.50 l in 200 l.
- 26-Aug-93 : B : Combine harvested.

Previous crops: W. barley 1991, w. rape 1992.

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NOTE: Emergence counts were made and samples of weed and crop taken on four occasions throughout the season for observations, counts and growth estimations.

GRAIN TONNES/HECTARE

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

WEED DEN	D0	D1	D2	D4	D8	Mean
WEED SD						
ASCROP	6.06	4.29	2.16	1.60	0.78	2.98
CROP+10	6.32	2.09	0.73	0.43	0.44	2.00
Mean	6.19	3.19	1.44	1.01	0.61	2.49

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

WEED SD	WEED DEN	WEED SD
0.205	0.324	0.458

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	18	0.560	22.5
GRAIN MEAN DM%	87.0		
PLOT AREA HARVESTED	0.00020		