

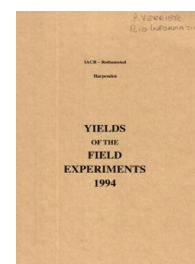
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94/R/BEW/2 Weed Competition - Beans and Weeds - W. Beans

Rothamsted Research

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94/R/BEW/2

WINTER BEANS

WEED COMPETITION - BEANS AND WEEDS

Object: To investigate the effects of two weed species on each other and on the growth and yield of winter beans - Pastures.

Sponsors: R.C. Van Acker, P.J.W. Lutman.

Design: 3 randomised blocks of 5 x 5 plots.

Whole plot dimensions: 3.0 x 15.0.

Treatments:

1. **BRLY DEN** Number of established barley plants per m²:

B0	0
B1	13
B2	27
B3	81
B4	170

2. **MUST DEN** Number of established white mustard plants per m²:

M0	0
M1	18
M2	38
M3	66
M4	119

NOTES: (1) Target weed densities, number of established plants per m²:

BRLY DEN: 0, 50, 100, 200, 400

MUST DEN: 0, 50, 100, 200, 400

(2) Barley and mustard seeds were sown on restricted areas of each plot as follows:

BRLY DEN central 2m, **MUST DEN** central 2.5m.

Experimental diary:

29-Oct-93 : B : Ploughed, spring-tine cultivated.

01-Nov-93 : B : Rotary harrowed.

02-Nov-93 : B : Rotary harrowed, Punch drilled at 25 seeds per m².

: T : **BRLY DEN** B1, B2, B3, B4: Puffin, dressed Cerevax, broadcast by machine.

05-Nov-93 : B : 34.5% N at 145 kg.

23-Feb-94 : T : **MUST DEN** M1, M2, M3, M4: White mustard seed broadcast by hand.

01-Mar-94 : B : Basagran at 1.5 l in 200 l.

10-Mar-94 : B : Hoegrass at 3.0 l in 200 l.

06-May-94 : B : Bombardier at 1.5 l with Ronilan FL at 0.5 l in 300 l.

23-Aug-94 : B : Hand harvested.

Previous crops: W. rape 1992, w. wheat 1993.

94/R/BEW/2

- NOTES: (1) Chickweed, sown by hand after drilling the w. beans, failed to emerge due to subsequent cold, wet conditions. White mustard was sown instead in late winter.
- (2) Leaf area indices of barley, mustard and beans were measured on two occasions during the growing season. Percentage ground cover was assessed by visual and photographic methods on two occasions early in the growing season. Weed seed yield, as well as crop components of yield, were measured before harvest.

GRAIN TONNES/HECTARE

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

MUST DEN BRLY DEN	M0	M1	M2	M3	M4	Mean
B0	5.23	4.76	4.28	4.20	4.51	4.60
B1	5.03	4.72	4.16	3.92	4.07	4.38
B2	5.48	4.50	3.95	4.06	4.11	4.42
B3	4.35	4.22	4.23	3.81	4.29	4.18
B4	3.93	4.39	4.23	3.97	3.83	4.07
Mean	4.80	4.52	4.17	3.99	4.16	4.33

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

BRLY DEN	MUST DEN	BRLY DEN MUST DEN
0.191	0.191	0.426

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	48	0.522	12.1

GRAIN MEAN DM% *

PLOT AREA HARVESTED 0.00010