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Yields of the Field Experiments 1994



Full Table of Content

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

Rothamsted Research

Rothamsted Research (1995) 94/R/BEW/2 Weed Competition - Beans and Weeds - W. Beans; Yields Of The Field Experiments 1994, pp 133 - 134 - DOI: https://doi.org/10.23637/ERADOC-1-49

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: 3.0×15.0 .

Treatments:

1.	BRLY DEN	Number	of	established	barley	plants	per m²:		
	В0	0							
	B1	13							
	B2	27							
	В3	81							
	B4	170							
2.	MUST DEN	Number	of	established	white	mustard	plants	per m²:	
	мо	0							
	M1	18							
	M2	38							
	М3	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:

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

brui DEN BI, BZ, B3, B4: Pullin, diessed Celevax

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 1 in 200 1.

10-Mar-94 : B : Hoegrass at 3.0 1 in 200 1.

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	MO	M1	M2	М3	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