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93/R/LN/6 Weed Types in Linseed - Linseed

Rothamsted Research

Rothamsted Research (1994) *93/R/LN/6 Weed Types in Linseed - Linseed* ; Yields Of The Field Experiments 1993, pp 165 - 166 - DOI: <https://doi.org/10.23637/ERADOC-1-48>

93/R/LN/6

LINSEED

WEED TYPES IN LINSEED

Object: To study the effects of three contrasting weed species on the growth and yield of linseed - Delafield.

Sponsors: P.J.W. Lutman.

Design: 3 blocks of (3 x 5) + 2 plots.

Whole plot dimensions: 3.0 x 10.0.

Treatments: All combinations of:-

1. SPECIES Weed species:

CULT OAT	Cultivated oats (<i>Avena sativa</i>)
FAT HEN	Fat hen (<i>Chenopodium album</i>)
KNOT GR	Knotgrass (<i>Polygonum aviculare</i>)

2. SOW DEN Density of established plants (plants per square metre):

	Cultivated oats	Fat hen	Knotgrass
D0	0	0	0
D1	6	2	2
D2	21	9	6
D3	36	18	11
D4	66	32	18

plus two extra plots

WILD OAT Density of established wild oats (plants per square metre):

W1	10
W2	38

NOTES: (1) Target seed densities (seeds sown per square metre):

SPECIES	D0	D1	D2	D3	D4
Cultivated oats	0	12.5	50	100	200
Fat hen	0	100	400	800	1600
Knotgrass	0	120	480	960	1920
WILD OAT	W1	W2			
	50	200			

(2) Weed species were sown in the central 2.5 m of each plot.

93/R/LN/6

Experimental diary:

13-Nov-92 : B : Farmyard manure at 25 tonnes.
 20-Jan-93 : B : Ploughed.
 29-Apr-93 : B : Rotary harrowed.
 : T : **SPECIES** CULT OAT, FAT HEN, KNOT GRASS: Seed broadcast by hand.
 : T : **WILD OAT** W1, W2: Seed broadcast by hand.
 : B : Rotary harrowed, Antares, dressed Prelude 20 LF, drilled at 700 seeds per square metre.
 05-May-93 : B : Rolled.
 12-May-93 : B : 34.5% N at 220 kg.
 13-May-93 : B : Decis at 0.30 l in 200 l.
 06-Sep-93 : B : Stefes Diquat at 1.0 l with Vassgro Spreader at 0.30 l in 260 l.
 12-Sep-93 : B : Harvested by hand.

Previous crops: W. wheat 1991, s. beans 1992.

NOTE: Emergence counts were made. Samples were taken for measurement of dry weight, height and boll numbers. Crop and weed plant numbers were counted throughout the season.

GRAIN TONNES/HECTARE

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

SOW DEN SPECIES	D0	D1	D2	D3	D4	Mean
CULT OAT	2.37	2.43	2.12	1.81	1.36	2.02
FAT HEN	2.41	2.09	2.13	1.93	1.77	2.07
KNOT GR	2.38	2.41	2.29	2.10	1.96	2.23
Mean	2.39	2.31	2.18	1.94	1.70	2.10
WILD OAT	W1	W2	Mean			
	2.32	2.06	2.19			
GRAND MEAN	2.11					

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

SPECIES	SOW DEN	SPECIES SOW DEN &WILD OAT
0.090	0.116	0.201

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	32	0.246	11.6
GRAIN MEAN DM%	81.0	PLOT AREA HARVESTED	0.00010