

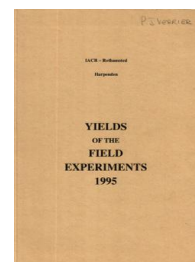
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95/R/WW/2

WINTER WHEAT

WATER STRESS AND WEED COMPETITION

Object: To study the competitive effects of weeds in winter wheat, with and without irrigation - Stackyard.

Sponsors: J.W. Cussans, P.J.W. Lutman.

Design: 4 randomised blocks of 2 plots split into 4 sub-plots.

Whole plot dimensions: 8.0 x 30.0.

Sub-plot dimensions: 4.0 x 15.0.

Treatments:

1. **IRRIGATN** Irrigation:
 - I Irrigated
 - 0 None

2. **WEED** Weed species:
 - None
 - SM *Stellaria media* (chickweed)
 - AM *Alopecurus myosuroides* (black-grass)
 - GA *Galium aparine* (cleavers)

Experimental diary:

- 02-Sep-94 : B : PK as (0:20:32) at 1317 kg.
- 07-Sep-94 : B : Ploughed and furrow pressed.
- 30-Sep-94 : B : Rotary harrowed.
- 04-Oct-94 : B : Spring-tine cultivated.
- 05-Oct-94 : B : Rotary harrowed.
 - : T : **WEED** SM, AM: Seed broadcast at 320 seeds per m².
 - : T : **WEED** GA: Seed broadcast at 24 seeds per m².
 - : B : Rotary harrowed, Mercia, dressed Cerevax, drilled at 380 seeds per m².
- 21-Nov-94 : B : Draza at 5.5 kg.
- 13-Jan-95 : T : **WEED** SM, GA: Cheetah R at 2.5 l in 220 l.
 - : T : **WEED** AM: Starane 2 at 0.75 l with Oxytril CM at 1.5 l in 220 l.
 - : T : **WEED** -: Stefes IPU at 3.0 l with Stomp 400 at 3.3 l in 220 l.
- 14-Mar-95 : B : 34.5% N at 118 kg.
- 21-Mar-95 : T : **WEED** GA: Isoproturon 500 at 3.0 l in 220 l.
 - : T : **WEED** -: Ally at 30 g with Starane 2 at 0.75 l and Topik at 125 ml in 220 l.
- 19-Apr-95 : B : 34.5% N at 463 kg.
- 28-Apr-95 : T : **IRRIGATN** I: Irrigated 25 mm.
- 05-May-95 : B : Calixin at 0.35 l with Halo at 2.0 l in 200 l.
- 15-May-95 : T : **IRRIGATN** I: Irrigated 25 mm.
- 02-Jun-95 : T : **IRRIGATN** I: Irrigated 25 mm.
- 20-Jun-95 : B : Silvacur at 1.0 l in 200 l.

95/R/WW/2

Experimental diary:

20-Jun-95 : T : IRRIGATN I: Irrigated 15 mm.
 21-Jun-95 : T : IRRIGATN I: Irrigated 20 mm.
 29-Jun-95 : T : IRRIGATN I: Irrigated 25 mm.
 06-Jul-95 : T : IRRIGATN I: Irrigated 25 mm.
 13-Jul-95 : T : IRRIGATN I: Irrigated 25 mm.
 20-Jul-95 : T : IRRIGATN I: Irrigated 25 mm.
 05-Aug-95 : B : Roundup at 4.0 l in 200 l.
 14-Aug-95 : B : Hand harvested.

Previous crops: S. rape 1993, w. oats 1994.

NOTE: Weed density was assessed in autumn and spring. Weeds and crop were sampled regularly and dry weight, green area, height and nutrient content were measured. Tillers and leaves were also counted in the crop. Soil was sampled for nitrogen content in February. Flag leaf area and nutrient content were assessed in June. Black-grass seed produced was measured in June. Components of yield were assessed after harvest.

GRAIN TONNES/HECTARE

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

WEED	-	SM	AM	GA	Mean
IRRIGATN					
I	7.18	5.58	2.71	4.08	4.89
0	8.12	6.60	3.49	6.68	6.22
Mean	7.65	6.09	3.10	5.38	5.55

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

IRRIGATN	WEED	IRRIGATN WEED
0.433	0.255	0.534

Except when comparing means with the same level(s) of
IRRIGATN 0.361

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP.SP	18	0.511	9.2

GRAIN MEAN DM% 91.0

SUB-PLOT AREA HARVESTED 0.00020