

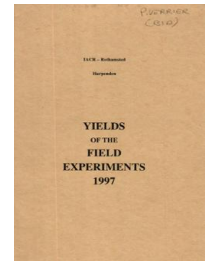
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97/R/WW/6 Herbicide Resistant Black-grass - W. Wheat

Rothamsted Research

Rothamsted Research (1998) *97/R/WW/6 Herbicide Resistant Black-grass - W. Wheat ; Yields Of The Field Experiments 1997*, pp 114 - 116 - DOI: <https://doi.org/10.23637/ERADOC-1-53>

97/R/WW/6

WINTER WHEAT

HERBICIDE RESISTANT BLACK-GRASS

Object: To evaluate the efficacy of different herbicides on a herbicide-resistant black-grass (*Alopecurus myosuroides*) population and to determine any changes in the degree of resistance in the progeny of surviving plants - Claycroft.

Sponsor: S.R. Moss.

Design: 2 blocks of 15 plots duplicated.

Whole plot dimensions: 3.0 x 12.0.

Treatments:

HERBICIDE	Herbicide type, rate of active ingredient and timing (black-grass growth stage):
A	Isoproturon 500 at 2.5 kg post emergence
B	Isoproturon 500 at 1.5 kg post emergence
C	Tri-allate at 2.25 kg pre-emergence and isoproturon at 1.5 kg at two leaf stage
D	Trifluralin at 0.96 kg pre-emergence and isoproturon at 1.5 kg at two leaf stage
E	Trifluralin at 0.96 kg at two leaf stage and isoproturon at 1.5 kg at two leaf stage
F	Pendimethalin at 1.32 kg at two leaf stage and isoproturon at 1.5 kg at two leaf stage
G	Trifluralin at 0.96 kg at one leaf stage and isoproturon at 1.5 kg at two leaf stage
H	Clodinafop-propargyl at 0.5 kg with trifluralin at 1.2 kg at two leaf stage
J	Fenoxaprop-P-ethyl at 0.069 kg at two leaf stage
K	Clodinafop-propargyl at 0.03 kg with adjuvant at two leaf stage
L	JV485 pre-emergence
M	Agent X at two leaf stage
N	JV485 pre-emergence and Agent X at two leaf stage
O	None
P	None

NOTE: Herbicides JV485 and Agent X are under commercial development, composition undisclosed

Experimental diary:

15-Sep-96 : B : Roundup at 1.5 l with Vassgro Non-ionic at 300 ml in 200 l.
23-Sep-96 : B : Harrowed.
25-Sep-96 : B : Ploughed and furrow pressed.
30-Sep-96 : B : Harrowed.
17-Oct-96 : B : Rotary harrowed, Mercia, dressed Sibutol, drilled at 380 seeds per m².

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Experimental diary:

17-Oct-96 : B : Scythe LC at 2.0 l with Vassgro Non-ionic at 100 ml in
200 l.
22-Oct-96 : T : **HERBCIDE** C: Avadex BW Granular at 22.5 kg.
: T : **HERBCIDE** L, N: JV485 at 0.35 l in 220 l.
: T : **HERBCIDE** D: MTM Trifluralin at 2.0 l in 220 l.
23-Oct-96 : B : Draza at 5.5 kg.
08-Nov-96 : T : **HERBCIDE** G: MTM Trifluralin at 2.0 l in 220 l.
03-Mar-97 : T : **HERBCIDE** J: Cheetah Super at 1.25 l in 220 l.
: T : **HERBCIDE** H: Hawk at 2.5 l with Actipron at 1.0 l in
220 l.
: T : **HERBCIDE** B, C, D, E, F, G: MSS Iprofile at 3.0 l in
220 l.
: T : **HERBCIDE** A: MSS Iprofile at 5.0 l in 220 l.
: T : **HERBCIDE** M, N: Agent X at 20 g in 220 l.
: T : **HERBCIDE** F: Stomp 400 SC at 3.3 l in 220 l.
: T : **HERBCIDE** K: Topik at 0.125 l with Actipron at 1.0 l in
220 l.
11-Apr-97 : B : 34.5% N at 568 kg.
04-Jun-97 : B : Folicur at 0.5 l with Mallard 750 EC at 0.3 l and Pointer
at 0.5 l in 300 l.
14-Aug-97 : B : Combine harvested.

Previous crops: W. wheat 1995 and 1996.

NOTE: Black-grass plant populations were assessed in December 1996 and
heads were counted in June 1997.

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GRAIN TONNES/HECTARE

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

HERBCIDE

A	5.53
B	5.13
C	6.41
D	6.26
E	5.67
F	5.26
G	5.99
H	6.50
J	4.99
K	6.43
L	6.66
M	5.67
N	6.17
NIL	4.27

Mean	5.68
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*** Standard errors of differences of means ***

HERBCIDE

0.264	min.rep
0.229	max-min

HERBCIDE

min.rep	Any of the remainder
max-min	NIL v any of the remainder

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	45	0.374	6.6
GRAIN MEAN DM%	86.2		
PLOT AREA HARVESTED	0.00230		