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92/R/BS/2 Spray Timings and Bydv- S. Barley

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92/R/BS/2

SPRING BARLEY

SPRAY TIMINGS AND BYDV

Object: To investigate the optimum strategy for controlling barley yellow dwarf virus (BYDV) in spring barley in relation to sowing date, aphid immigration and subsequent population development - Little Hoos.

Sponsors: J. Mann, N. Carter, R.T. Plumb.

Design: 3 randomised blocks of 16 plots with external dummy plots and arranged to allow estimation of the effects of neighbouring plots.

Whole plot dimensions: 3.0 x 10.0.

Treatments:

S P DATE	Dates of sowing and of applying pirimicarb:
E 0	Sown March 1992, no pirimicarb
E D1	" " pirimicarb applied after emergence
E D2	" " " " 10 days after emergence
E D3	" " " " 20 " " "
E D1 D2	" " " " after emergence and 10 days later
E D1 D3	" " " " after emergence and 20 days later
E D2 D3	" " " " 10 days and 20 days after emergence
E D1D2D3	" " " " after emergence, 10 days and 20 days later
L 0	Sown April, no pirimicarb
L D2	" " pirimicarb applied after emergence
L D3	" " " " 10 days after emergence
L D4	" " " " 20 " " "
L D2 D3	" " " " after emergence and 10 days later
L D2 D4	" " " " after emergence and 20 days later
L D3 D4	" " " " 10 days and 20 days after emergence
L D2D3D4	" " " " after emergence, 10 days and 20 days later

Experimental diary:

30-Aug-91 : B : Straw chopped.
30-Oct-91 : B : Ploughed.
17-Mar-92 : T : S P DATE E 0, E D1, E D2, E D3, E D1 D2, E D1 D3, E D2 D3, E D1D2D3: Rotary harrowed. Alexis, dressed Cerevax, drilled at 160 kg.
19-Mar-92 : B : Rolled.
22-Apr-92 : B : 34.5% N at 440 kg.
22-Apr-92 : T : S P DATE L 0, L D2, L D3, L D4, L D2 D3, L D2 D4, L D3 D4, L D2D3D4: Spring-tine cultivated, rotary harrowed, Alexis, dressed Cerevax, drilled at 160 kg.

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Experimental diary:

24-Apr-92 : B : Rolled.
05-May-92 : T : **S P DATE** E D1, E D1 D2, E D1 D3, E D1D2D3: Aphox at
0.28 kg in 300 l.
15-May-92 : T : **S P DATE** E D2, E D1 D2, E D2 D3, E D1D2D3, L D2,
L D2 D3, L D2 D4, L D2D3D4: Aphox at 0.28 kg in
300 l.
19-May-92 : B : Duplosan New System CMPP at 2.0 l, Vindex at 1.0 l and
Calixin at 0.70 l in 200 l.
22-May-92 : T : **S P DATE** E D3, E D1 D3, E D2 D3, E D1D2D3, L D3,
L D2 D3, L D3 D4, L D2D3D4: Aphox at 0.28 kg in
300 l.
04-Jun-92 : T : **S P DATE** L D4, L D2 D4, L D3 D4, L D2D3D4: Aphox at
0.28 kg in 300 l.
09-Jun-92 : B : Radar at 0.50 l in 200 l.
18-Aug-92 : B : Combine harvested.

Previous crops: W. oilseed rape 1990, w. wheat 1991.

- NOTES:** (1) Plant samples were taken to assess aphid numbers in spring and summer.
(2) Symptoms of BYDV were visually assessed and leaf samples taken for enzyme-linked immunosorbent assay in spring and summer.
(3) Number of ears was counted before harvest and thousand grain weights determined at harvest.

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GRAIN TONNES/HECTARE

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

S P DATE	
E 0	7.93
E D1	7.89
E D2	8.23
E D3	8.10
E D1 D2	7.89
E D1 D3	8.12
E D2 D3	8.13
E D1D2D3	7.92
L 0	5.50
L D2	5.48
L D3	5.51
L D4	5.42
L D2 D3	5.78
L D2 D4	5.62
L D3 D4	5.62
L D2D3D4	5.72
Mean	6.80

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

S P DATE
0.162

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	30	0.198	2.9
GRAIN MEAN DM%	85.0		
PLOT AREA HARVESTED	0.00230		