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92/R/M/1 Aphids and Bydv - Mixed Crops

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92/R/M/1

WINTER WHEAT AND WINTER BARLEY

APHIDS AND BYDV

Object: To study the effects of aphids and barley yellow dwarf virus (BYDV) on winter cereals - Black Horse I North.

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

Design: 3 randomised blocks of 8 plots.

Whole plot dimensions: 9.0 x 10.0.

Treatments: All combinations of:-

1. **CROP** Crops:

 WHEAT W. wheat
 BARLEY W. barley

2. **APHICIDE** Aphicide type and time of application:

 NONE None
 CYP AUT Cypermethrin in the autumn
 PIR FLO Pirimicarb at flowering
 CYPAPIRS Cypermethrin in the autumn, pirimicarb in the summer

NOTE: **APHICIDE** PIR FLO: Pirimicarb applied separately to w. wheat and w. barley.

Experimental diary:

- 14-Aug-91 : B : Straw chopped.
- 01-Sep-91 : B : Deep tine cultivated with vibrating tines, 60 cm apart and 45 cm deep.
- 16-Sep-91 : B : Ploughed and furrow pressed.
- 17-Sep-91 : T : **CROP** WHEAT: Mercia drilled at 161 kg.
 : T : **CROP** BARLEY: Magie drilled at 140 kg.
- 17-Sep-91 : B : Rolled.
- 12-Nov-91 : T : **APHICIDE** CYP AUT, CYPAPIRS: Ripcord at 0.20 l in 200 l.
- 03-Dec-91 : B : Stefes IPU at 1.0 l and Stomp 400 at 2.5 l in 200 l.
- 07-Feb-92 : B : PK as (0:18:36) at 940 kg.
- 27-Feb-92 : B : 34.5% N at 120 kg.
- 03-Apr-92 : B : 34.5% N at 320 kg.
- 04-May-92 : B : Calixin at 0.50 l and Radar at 0.50 l in 260 l.
- 21-May-92 : T : **APHICIDE** PIR FLO, CYPAPIRS: Aphox at 0.28 kg in 200 l to BARLEY.
- 09-Jun-92 : T : **APHICIDE** PIR FLO, CYPAPIRS: Aphox at 0.28 kg in 200 l to WHEAT.
- 24-Jul-92 : T : **CROP** BARLEY: Combine harvested.
- 30-Jul-92 : T : **CROP** WHEAT: Combine harvested.

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

92/R/M/1

- NOTES:** (1) Aphids were sampled from October to July.
 (2) BYDV was assessed visually and virus isolates determined by enzyme-linked immunosorbent assay during April and June.
 (3) Components of yield were measured.

GRAIN TONNES/HECTARE

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

APHICIDE CROP	NONE	CYP AUT	PIR FLO	CYPAPIRS	Mean
WHEAT	7.41	7.27	7.58	7.81	7.52
BARLEY	7.86	7.85	7.87	7.94	7.88
Mean	7.63	7.56	7.72	7.87	7.70

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

CROP	APHICIDE	CROP APHICIDE
0.093	0.132	0.187

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	14	0.229	3.0
GRAIN MEAN DM%	86.8		
PLOT AREA HARVESTED	0.00230		