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85/R/B/2 Control of Bydv - W. Barley

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85/R/B/2

WINTER BARLEY

CONTROL OF BYDV

Object: To study the effects of insecticides and alarm pheromone derivatives and their interaction with control of autumn volunteers systems on the incidence of BYDV - Scout N.

Sponsors: D.C. Griffiths, G.R. Cayley, J.H. Stevenson, J.A. Pickett, R.T. Plumb.

Design: 2 whole plots divided into 3 replicates of 6 sub-plots.

Whole plot dimensions: 21.0 x 96.0.

Treatments: All combinations of:-

Whole plots

- | | |
|-------------|---|
| 1. VOLNTEER | Control of volunteers prior to ploughing shortly before sowing: |
| KILLED | Maximum control of all green plant matter |
| PRESENT | Volunteer germination and survival encouraged |

Sub plots

- | | |
|-------------|---|
| 2. SPRY INS | Sprays of insecticides and pheromone derivatives: |
| NONE | None |
| CYP EL | Cypermethrin applied electrostatically |
| CYP HY | Cypermethrin applied hydraulically |
| PHA O EL | Pheromone 'A' in oil applied electrostatically |
| PHA W EL | Pheromone 'A' in water applied electrostatically |
| PHB W EL | Pheromone 'B' in water applied electrostatically |

- NOTES: (1) Paraquat was applied at 0.60 kg ion in 500 l on 22 Aug, 1984, to VOLNTEER KILLED plots.
- (2) Electrostatic application was by a 'Jumbo' sprayer. This has spinning cone nozzles, spray was charged at 30 kv and applied in 9.2 l.
- (3) Hydraulic application was made in 200 l on 26 Oct.
- (4) Cypermethrin was applied at 0.025 kg on 26 Oct, 1984 and pheromones at 1.0 kg on 2 Oct, 1984 repeated on 12 Oct and 26 Oct.

Basal applications: Manures: (0:18:36) at 340 kg. 'Nitro-Chalk' (26% N) at 620 kg. Weedkillers: Isoproturon at 1.5 kg, clopyralid at 0.05 kg, bromoxynil octanoate at 0.24 kg and mecoprop (as 'CMPP' at 3.0 l) applied with the fungicides in 200 l. Fungicides: Prochloraz at 0.40 kg and carbendazim at 0.15 kg. Desiccant: Diquat at 0.80 kg ion with a wetting agent ('Agral' at 0.5 l) in 500 l.

Seed: Panda, sown at 150 kg.

85/R/B/2

Cultivations, etc.:- Heavy spring-tine cultivated: 31 July, 1984.
 Discd: 2 Aug. PK applied: 8 Aug. Ploughed: 12 Sept. Discd:
 14 Sept. Rotary harrowed, seed sown: 18 Sept. N applied,
 weedkillers and fungicides applied: 9 Apr, 1985. Desiccant with
 wetting agent applied: 24 July. Combine harvested: 6 Aug. Previous
 crops: W. barley 1983 and 1984.

NOTE: Aphid and virus counts were taken and beneficial insects assessed.

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

SPRY INS VOLNTEER	NONE	CYP EL	CYP HY PHA O EL PHA W EL PHB W EL	MEAN					
KILLED	6.97	8.01	7.22	7.19	7.19	7.19	7.41	6.96	7.29
PRESENT	5.97	7.37	7.16	7.27	7.16	7.16	7.16	6.18	6.85
MEAN	6.47	7.69	7.19	7.23	7.28	7.28	7.28	6.57	7.07

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	SPRY INS	VOLNTEER* SPRY INS

SED	0.264	0.373

* WITHIN THE SAME LEVEL OF VOLNTEER ONLY

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

STRATUM	DF	SE	CV%
BLOCK.WP	20	0.457	6.5

GRAIN MEAN DM% 80.1

SUB PLOT AREA HARVESTED 0.00163