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89/R/WW/5 Aphicide, N and Fungicide - W. Wheat

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89/R/WW/5

WINTER WHEAT

APHICIDE, N AND FUNGICIDE

Object: To determine the economic thresholds for cereal aphids with different levels of inputs - Black Horse II.

Sponsor: N. Carter, X. Zhou.

Design: 3 randomised blocks of 12 plots.

Whole plot dimensions: 3.0 x 12.0.

Treatments: All combinations of:-

1. **APHICIDE** Aphicide:
 - NONE None
 - PIRIMICA Pirimicarb applied at 0.14 kg in 200 l on 31 May, 1989, 13 June and 28 June

2. **N RATE** Nitrogen fertilizer (kg N) as 'Nitram' on 18 Apr, 1989:
 - 80
 - 120
 - 160

3. **FUNGICIDE** Fungicides:
 - NONE None
 - 31+39+65 Fungicide sprays at growth stages 31, 39 and 65:
 - G.S. 31 - Prochloraz at 0.40 kg and carbendazim at 0.15 kg in 200 l on 15 Apr, 1989
 - G.S. 39 - Propiconazole at 0.125 kg in 200 l on 17 May
 - G.S. 65 - Propiconazole at 0.125 kg with chlorothalonil at 1.0 kg in 200 l on 13 June

Basal applications: Weedkillers: Chlortoluron at 3.5 kg in 200 l. Metsulfuron-methyl at 6.0 g in 400 l. Insecticide: Deltamethrin at 6.2 g in 200 l. Growth regulator: Chlormequat at 1.3 kg in 200 l.

Seed: Avalon, sown at 180 kg.

Cultivations, etc.:- Rotary cultivated: 6 Aug, 1988. Ploughed: 19 Sept. Heavy spring-tine cultivated: 26 Sept. Rotary harrowed, seed sown: 30 Sept. Chlortoluron applied: 21 Oct. Insecticide applied: 7 Nov. Growth regulator applied: 19 Apr, 1989. Metsulfuron-methyl applied: 3 May. Combine harvested: 3 Aug. Previous crops: W. barley 1987, w. oilseed rape 1988.

NOTE: Aphids were counted from mid-April until early July. Plant dry weights were measured at anthesis. Disease assessments were made in mid-June. Components of yield were measured.

89/R/WW/5

GRAIN TONNES/HECTARE

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

N RATE	80	120	160	Mean
APHICIDE				
NONE	8.32	8.26	8.01	8.20
PIRIMICA	8.61	8.21	8.11	8.31
Mean	8.46	8.23	8.06	8.25
FUNGCIDE	NONE	31+39+65	Mean	
APHICIDE				
NONE	8.02	8.37	8.20	
PIRIMICA	8.18	8.44	8.31	
Mean	8.10	8.41	8.25	
FUNGCIDE	NONE	31+39+65	Mean	
N RATE				
80	8.29	8.64	8.46	
120	8.00	8.46	8.23	
160	8.00	8.12	8.06	
Mean	8.10	8.41	8.25	
APHICIDE	FUNGCIDE	NONE	31+39+65	
NONE	N RATE			
	80	7.89	8.75	
	120	8.24	8.27	
	160	7.92	8.10	
PIRIMICA	80	8.69	8.53	
	120	7.77	8.65	
	160	8.08	8.15	

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

APHICIDE	N RATE	FUNGCIDE	APHICIDE
			N RATE
0.104	0.128	0.104	0.181
APHICIDE	N RATE	APHICIDE	
FUNGCIDE	FUNGCIDE	N RATE	FUNGCIDE
0.148	0.181	0.256	

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

Stratum	d.f.	s.e.	cv%
BLOCK.WP	22	0.313	3.8
GRAIN MEAN DM%	85.7		
PLOT AREA HARVESTED	0.00331		