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77/R/WS/2 Irrigation, Lodging, N, Ccc and Microflora - S. Wheat

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77/R/WS/2

SPRING WHEAT

IRRIGATION, LODGING, N, CCC AND MICROFLORA

Object: To study the effects of irrigation, artificial lodging, nitrogen fertiliser and a growth regulator on grain microflora and yield - Long Hoos V 2.

Sponsor: R.A. Hill.

Design: 2 randomised blocks of 2 plots split into 8.

Whole plot dimensions: 9.75 x 17.4.

Treatments: All combinations of:-

Whole plots

1. IRRIGTN	Irrigation:
NONE	None
FULL	Full (75 mm)

Sub plots

2. N	Nitrogen fertiliser (kg N):
25	
100	

3. LODGING	Lodging:
NONE	None, supported by netting
LODGED	Lodged, under netting

4. GRWTHREG	Growth regulator:
NONE	None
CHLORMEQ	Chlormequat (CCC) at 1.1 kg in 340 l on 19 June, 1977

NOTES: (1) N applied on 9 May.

(2) Irrigation was applied at 5 mm on each dry day during the season, divided equally between morning and afternoon.

Basal applications: Manures: (0:14:28) at 940 kg. Weedkillers: Dicamba with mecoprop and MCPA ('Tetralax Plus' at 5.6 l in 340 l).

Seed: Sappo, sown at 180 kg.

Cultivations, etc.: - Deep-tine cultivated: 13 Sept, 1976. PK applied: 8 Nov. Ploughed: 9 Nov to 14 Dec. Power harrowed and seed sown: 14 Apr, 1977. Weedkillers applied: 1 June. Combine harvested: 27 Sept. Previous crops: Lupins 1975, spring oats 1976.

NOTE: Grain microflora were assessed during the season and at harvest. Grain was assessed for mycotoxins before and after harvest and after storage.

77/R/WS/2

GRAIN TONNES/HECTARE

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

	N	25	100	MEAN	
IRRIGTN					
	NONE	2.43	2.64	2.54	
	FULL	2.43	2.38	2.40	
	MEAN	2.43	2.51	2.47	
LODGING	NONE		LODGED	MEAN	
IRRIGTN					
	NONE	3.77	1.30	2.54	
	FULL	3.72	1.09	2.40	
	MEAN	3.74	1.20	2.47	
LODGING	NONE		LODGED	MEAN	
	N				
	25	3.58	1.29	2.43	
	100	3.91	1.11	2.51	
	MEAN	3.74	1.20	2.47	
GRWTHREG	NONE		CHLORMEQ	MEAN	
IRRIGTN					
	NONE	2.38	2.69	2.54	
	FULL	2.31	2.50	2.40	
	MEAN	2.35	2.60	2.47	
GRWTHREG	NONE		CHLORMEQ	MEAN	
	N				
	25	2.35	2.51	2.43	
	100	2.34	2.68	2.51	
	MEAN	2.35	2.60	2.47	
GRWTHREG	NONE		CHLORMEQ	MEAN	
LODGING					
	NONE	3.60	3.89	3.74	
	LODGED	1.09	1.30	1.20	
	MEAN	2.35	2.60	2.47	
	N	25		100	
LODGING	NONE		LODGED	NONE	LODGED
IRRIGTN					
	NONE	3.51	1.36	4.03	1.25
	FULL	3.64	1.22	3.79	0.96
	N	25		100	
GRWTHREG	NONE		CHLORMEQ	NONE	CHLORMEQ
IRRIGTN					
	NONE	2.30	2.56	2.46	2.83
	FULL	2.41	2.45	2.22	2.54

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GRAIN TONNES/HECTARE

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

LODGING GRWTHREG IRRIGTN	NONE		LODGED	
	NONE	CHLORMEQ	NONE	CHLORMEQ
NONE	3.56	3.99	1.20	1.40
FULL	3.65	3.79	0.97	1.21

LODGING GRWTHREG N	NONE		LODGED	
	NONE	CHLORMEQ	NONE	CHLORMEQ
25	3.53	3.62	1.18	1.39
100	3.68	4.15	0.99	1.22

IRRIGTN	LODGING GRWTHREG N	NONE		LODGED	
		NONE	CHLORMEQ	NONE	CHLORMEQ
NONE	25	3.35	3.67	1.25	1.46
	100	3.76	4.30	1.15	1.35
FULL	25	3.70	3.58	1.11	1.33
	100	3.59	3.99	0.84	1.08

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

TABLE	N	LODGING	GRWTHREG	IRRIGTN* N
SED	0.065	0.065	0.065	0.092

TABLE	IRRIGTN* LODGING	N LODGING	IRRIGTN* GRWTHREG	N GRWTHREG
SED	0.092	0.092	0.092	0.092

TABLE	LODGING GRWTHREG	IRRIGTN* N LODGING	IRRIGTN* N GRWTHREG	IRRIGTN* LODGING GRWTHREG
SED	0.092	0.129	0.129	0.129

TABLE	N LODGING GRWTHREG	IRRIGTN* N LODGING GRWTHREG
SED	0.129	0.183

* WITHIN THE SAME LEVEL OF IRRIGTN ONLY

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

BLOCK.WP.SP	14	0.183	7.4
GRAIN MEAN DM%	76.0		
SUB PLOT AREA HARVESTED	0.00087		