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77/R/BE/1 Crop Density and Chocolate Spot - Beans

Rothamsted Research

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77/R/BE/1

WINTER BEANS

CROP DENSITY AND CHOCOLATE SPOT

Object: To study the effects of irrigation, plant density and benomyl on Chocolate Spot (*Botrytis* spp.) and yield of winter beans - Fosters Corner.

Sponsor: A. Bainbridge, M.E. Finney.

Design: 2 randomised blocks of 12 plots (with IRRIGTN on blocks)

Whole plot dimensions: 5.33 x 9.14.

Treatments: All combinations of:-

Blocks

1. IRRIGTN	Irrigation:
NONE	None
FULL	Full (100 mm)

Plots

2. FUNGTIME	Times of applying benomyl (at 0.56 kg in 340 l on each occasion):
NEVER	Never
ONCE	Once, on 30 May, 1977
TWICE	Twice, on 30 May and 21 June

3. SEEDRATE	Seed rates (kg):
126	
378	

4. SPACING	Spacing between rows:
18 CM	18 cm (7 inches)
53 CM	53 cm (21 inches)

NOTE: 25 mm of irrigation to IRRIGTN FULL plots was supplied on each of the following dates:- 27 June, 12 July, 15 July, 22 July.

Basal applications: Weedkiller: Simazine at 1.1 kg in 220 l.

Seed: Throws MS.

Cultivations, etc.: - Deep-tine cultivated: 31 Aug, 1976, 3 Sept. Heavy spring-tine cultivated: 21, 22 Sept, 3 Nov. Seed sown: 3 Nov. Spring-tine cultivated: 4 Nov. Weedkiller applied: 15 Apr, 1977. Combine harvested: 14 Sept. Previous crops: Spring wheat 1975, barley 1976.

NOTE: Counts were made of seedling emergence, percentage leaf area affected by *Botrytis* spp, stems per row, pods per stem and leaf roll virus infected plants.

77/R/BE/1

GRAIN TONNES/HECTARE

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

FUNGTIME	NEVER	ONCE	TWICE	MEAN
IRRIGTN				
NONE	3.55	3.90	4.42	3.96
FULL	3.15	3.82	3.21	3.39
MEAN	3.35	3.86	3.81	3.67
SEEDRATE	126	378	MEAN	
IRRIGTN				
NONE	3.49	4.43	3.96	
FULL	3.21	3.57	3.39	
MEAN	3.35	4.00	3.67	
SEEDRATE	126	378	MEAN	
FUNGTIME				
NEVER	3.10	3.61	3.35	
ONCE	3.62	4.09	3.86	
TWICE	3.33	4.30	3.81	
MEAN	3.35	4.00	3.67	
SPACING	18 CM	53 CM	MEAN	
IRRIGTN				
NONE	3.81	4.10	3.96	
FULL	3.07	3.71	3.39	
MEAN	3.44	3.91	3.67	
SPACING	18 CM	53 CM	MEAN	
FUNGTIME				
NEVER	3.27	3.43	3.35	
ONCE	3.51	4.21	3.86	
TWICE	3.55	4.08	3.81	
MEAN	3.44	3.91	3.67	
SPACING	18 CM	53 CM	MEAN	
SEEDRATE				
126	3.02	3.68	3.35	
378	3.86	4.14	4.00	
MEAN	3.44	3.91	3.67	

77/R/BE/1

GRAIN TONNES/HECTARE

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

FUNGTIME	NEVER		ONCE		TWICE		
SEEDRATE	126	378	126	378	126	378	
IRRIGTN							
	NONE	3.17	3.93	3.44	4.36	3.86	4.99
	FULL	3.02	3.29	3.81	3.83	2.81	3.60
FUNGTIME	NEVER		ONCE		TWICE		
SPACING	18 CM	53 CM	18 CM	53 CM	18 CM	53 CM	
IRRIGTN							
	NONE	3.40	3.70	3.88	3.91	4.15	4.70
	FULL	3.15	3.16	3.13	4.50	2.94	3.47
SEEDRATE	126		378				
SPACING	18 CM	53 CM	18 CM	53 CM			
IRRIGTN							
	NONE	3.25	3.72	4.37	4.48		
	FULL	2.79	3.64	3.36	3.79		
SEEDRATE	126		378				
SPACING	18 CM	53 CM	18 CM	53 CM			
FUNGTIME							
	NEVER	2.89	3.31	3.66	3.56		
	ONCE	3.20	4.04	3.81	4.38		
	TWICE	2.98	3.69	4.12	4.47		
	SEEDRATE	126		378			
	SPACING	18 CM	53 CM	18 CM	53 CM		
IRRIGTN	FUNGTIME						
	NONE	NEVER	2.81	3.52	3.99	3.88	
		ONCE	3.61	3.26	4.15	4.57	
		TWICE	3.34	4.38	4.97	5.01	
	FULL	NEVER	2.96	3.09	3.33	3.24	
		ONCE	2.80	4.82	3.47	4.19	
		TWICE	2.61	3.00	3.27	3.94	

GRAIN MEAN DM% 75.7

SUB PLOT AREA HARVESTED 0.00279