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69/W/CS/45 - Nematicides in Rows - Sugar Beet

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NEMATICIDES IN ROWS

(69/W/CS/45)

Effects of nematicides in rows and irrigation - Woburn Butt Close II
1969, sugar beet, first year.

Design: 3 blocks of 2 plots, split into strips of 4 sub plots for
nematicides, and eighth plots for residues of nitrogen in 1968.

Area of each sub plot: 0.0025. Area harvested: 0.0008.

Treatments: All combinations of:-

1. Whole plots: Irrigation (I): None (O), full (C).
2. Strips of 4 sub plots: Nematicides (N): None (O), 56 (D2), 84 (D3),
112 lb (D4) 'D-D' placed in rows before drilling, 56 lb (T)
'Telone' placed in row before drilling, 1.5 (K1), 3.0 (K2),
4.0 lb (K3) 'Temik' placed in the row at drilling.
3. Eighth plots: Residues of N to beans 1968 (R): None (O), 1.5 cwt N
in the seedbed (E), 1.5 cwt N in late May (L), 1.5 cwt N
in the seedbed, 1.5 cwt N in late May (EL), N as 'Nitro-Chalk'.

Basal applications: 745 lb (15:15:15). Weedkillers: 3 amino-1,2,4
triazole at 4 lb plus ammonium thiocyanate at 3.7 lb 'Weedazol T-L'
in 25 gals, Phenmedipham ('Betanal' at 5 pts in 20 gals).
Insecticide: Demeton-s-methyl at 3.5 fl oz in 30 gals.

Cultivations, etc.: 'Weedazol T-L' applied: 14 Oct, 1968. Ploughed:
13 Nov. NPK applied: 8 Apr, 1969. 'D-D' and 'Telone' applied:
10 Apr. Seed drilled at 2 lb, 'Temik' applied: 16 Apr. 'Betanal'
applied: 14 May. Singled: 29 May. Insecticide applied: 26 June.
Irrigation applied at 0.5 inches on 5 occasions: 13 June, 4 July,
16 July, 28 July, 7 Aug. Lifted: 11 Nov. Variety: Hilleshog
monotri. Previous crops: Spring wheat 1967, spring beans 1968.

NOTE: Soil samples were taken for counts of free living nematodes on
9 Apr and 23 May.

Standard errors per plot.

Roots (washed), tons: N&IN: 2.498 or 15.4% (28 d.f.)
R&IR: 2.257 or 13.9% (12 d.f.)
NR&INR: 1.447 or 8.9% (84 d.f.)

Pooled used for calculation of

S.E.s in the summary: 1.822 or 11.2% (124 d.f.)
Total sugar, cwt: N&IN: 9.96 or 16.1% (28 d.f.)
R&IR: 8.30 or 13.4% (12 d.f.)
NR&INR: 5.46 or 8.8% (84 d.f.)

Pooled used for calculation of

S.E.s in the summary: 7.02 or 11.4% (124 d.f.)

SUMMARY OF RESULTS

ROOTS (WASHED): TONS

	O	D2	D3	D4	T	K1	K2	K3	Mean	
	(±0.526)*									
O	15.21	16.73	15.08	16.29	15.96	15.43	16.07	15.28	15.76	
C	15.39	16.82	15.72	17.59	15.90	17.86	17.22	17.42	16.74	
	(±0.744)								(±0.263)	
O	15.35	16.40	14.82	16.54	15.79	16.36	16.84	16.14	16.03	
E	15.43	17.02	15.04	17.37	16.10	17.15	16.89	15.70	16.34	
L	14.73	17.55	16.05	17.15	15.57	16.49	16.23	16.89	16.33	
EL	15.70	16.14	15.70	16.71	16.27	16.58	16.62	16.67	16.30	
Mean (±0.372)	15.30	16.78	15.40	16.94	15.93	16.65	16.65	16.35	16.25	
	(±0.372)									
	O				E				L	
	O				E				L	
O	15.10				15.72				16.41	
C	16.95				16.95				16.25	
	15.80				15.80				16.80	

* For use in horizontal and interaction comparisons only

SUGAR %

	O	D2	D3	D4	T	K1	K2	K3	Mean
O	18.9	19.1	19.0	19.0	18.9	19.0	19.2	18.9	19.0
C	19.2	19.0	19.0	18.9	19.1	19.0	19.0	18.8	19.0
O	19.0	19.1	19.2	19.2	18.4	18.9	19.1	19.0	19.0
E	19.0	19.2	19.1	19.0	19.3	19.0	19.1	19.0	19.1
L	19.0	18.9	18.9	18.7	19.1	18.9	19.2	18.8	18.9
EL	19.1	18.9	19.0	18.8	19.2	19.2	19.0	18.9	19.0
Mean	19.0	19.0	19.0	18.9	19.0	19.0	19.1	18.9	19.0
		O		E		L		EL	
O		18.9		19.2		19.0		19.0	
C		19.1		19.0		18.9		19.0	

TOTAL SUGAR: CWT

	O	D2	D3	D4	T	K1	K2	K3	Mean
	(±2.03)*								
O	57.3	63.8	57.4	61.7	60.0	58.9	61.8	57.9	59.8
C	59.3	63.8	59.9	66.4	60.9	67.8	65.2	65.6	63.6
	(±2.87)								(±1.01)
O	58.4	62.7	56.9	63.3	57.8	61.9	64.2	61.2	60.8
E	58.7	65.4	57.5	66.0	62.2	65.3	64.5	59.6	62.4
L	56.1	66.2	60.7	64.1	59.4	62.6	62.1	63.4	61.8
EL	60.1	61.0	59.5	62.8	62.3	63.5	63.2	62.9	61.9
Mean (±1.43)	58.3	63.8	58.6	64.0	60.4	63.3	63.5	61.8	61.7
	O		E		L		EL		
	(±1.43)								
O	56.8		60.2		62.4		60.0		
C	64.8		64.6		61.3		63.8		