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68/C/33 Nematicides (Formerly Ploughsole D-d) - Sugar Beet

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68/C/33.1

NEMATOCIDES (FORMERLY PLOUGHSOLE D-D)

(WCM)

The effect of nematocides on *Trichodorus* and *Longidorus* in sugar beet - Woburn Butt Furlong, 2nd year.

Design: 2 blocks of 3 plots split into 16.

Area of each sub plot: 0.0045. Area harvested: 0.0034.

Treatments: All combinations of:-

- Whole plots: (1) Nitrogen: None (N0), 1.0 (N1), 2.0 cwt N (N2) as 'Nitro-Chalk'.
Quarter plots: (2) Residues of D-D 1967: None (D0), 65 (D1), 140 (D2), 250 lb D-D (Dichloropropane-dichloropropene) (D3).
Strips of three quarter plots (at right angles to quarter plots of factor 2): (3) Fumigants: None (0), 82 lb Telone (dichloropropene) (D) injected in row position before sowing at 6 inch depth. 22.2 lb of 5% granules Lannate (L), 10.6 lb of 10% granules Temik (T). Granules placed in row positions after sowing.

Basal applications: 45 cwt magnesian limestone, 340 lb (0:14:28), 5 cwt salt. Insecticide: Demeton-s-methyl at 3.5 oz in 37 gals.

Cultivations, etc.: Magnesian limestone applied: 7 Nov, 1967. Salt applied, ploughed: 9 Nov. PK applied: 22 Mar, 1968. 'Nitro-Chalk' applied: 25 Mar. Telone applied, seed drilled at 8 lb: 26 Mar. Lannate and Temik applied: 29 Mar. Singled: 20-31 May. Insecticide applied: 17 June. Lifted: 12 Dec. Variety: Klein E.

- NOTES: (1) Samples were taken monthly from May to October for nematode counts.
(2) For previous year's results see 'Results' 67/C/40.

Standard errors per plot (pooled):

Roots (washed): 2.087 or 13.2% (47 d.f.)
Total sugar: 6.55 or 13.4% (47 d.f.)
Tops: 2.499 or 18.8% (47 d.f.)

68/c/33.2

SUMMARY OF RESULTS

	O	D	L	T	Mean
ROOTS (WASHED)					
(±0.738)					
NO	7.57	6.38	7.14	11.10	8.05
N1	18.34	15.43	16.35	21.68	17.95
N2	21.74	20.19	20.17	23.37	21.37
Mean (±0.426)	15.88	14.00	14.56	18.72	15.79
(±0.738)					
NO	5.34	8.43	8.72	9.70	
N1	16.40	18.93	18.57	17.89	
N2	20.44	20.38	22.49	22.17	
(±0.852)					
O	13.31	16.38	16.70	17.14	
D	12.69	13.91	14.77	14.63	
L	12.68	14.41	15.75	15.39	
T	17.57	18.96	19.15	19.19	
Mean (±0.426)	14.06	15.92	16.59	16.59	

68/c/33.3

	O	D	L	T	Mean
	SUGAR %				
NO	15.7	15.5	15.5	15.8	15.6
N1	15.7	15.8	15.5	15.7	15.7
N2	15.2	15.3	15.2	15.3	15.3
Mean	15.5	15.5	15.4	15.6	15.5

	D0	D1	D2	D3
NO	15.5	15.7	15.6	15.7
N1	15.8	15.6	15.7	15.6
N2	15.3	15.3	15.2	15.2
O	15.4	15.5	15.6	15.6
D	15.5	15.5	15.5	15.5
L	15.4	15.5	15.3	15.3
T	15.7	15.6	15.6	15.6
	15.5	15.5	15.5	15.5

68/c/33.4

	O	D	L	T	Mean
	TOTAL SUGAR				
	(±2.31)				(±1.16)
NO	23.8	19.8	22.2	35.1	25.2
N1	57.8	48.6	50.6	68.2	56.3
N2	66.0	61.7	61.2	71.5	65.1
Mean (±1.34)	49.2	43.4	44.7	58.3	48.9

	D0	D1	D2	D3
	(±2.31)			
NO	16.7	26.5	27.3	30.5
N1	51.8	59.1	58.5	55.9
N2	62.3	62.2	68.3	67.6

	O	D	L	T
	(±2.67)			
O	41.0	50.7	52.0	53.1
D	39.5	42.9	45.9	45.3
L	39.1	44.4	48.1	47.1
T	54.9	59.0	59.4	59.7
Mean (±1.34)	43.6	49.3	51.4	51.3

68/C/33.5

	O	D	L	T	Mean
	TOPS				
	(±0.884)				(±0.442)
NO	4.83	4.89	5.46	7.67	5.71
N1	13.33	10.88	13.03	17.69	13.73
N2	20.60	19.31	18.75	22.65	20.33
Mean (±0.510)	12.92	11.70	12.41	16.01	13.26

	D0	D1	D2	D3
	(±0.884)			
NO	3.84	5.72	6.12	7.18
N1	11.77	15.41	13.56	14.19
N2	18.85	19.48	22.29	20.70

	O	D	L	T
	(±1.020)			
O	10.41	13.98	13.27	14.02
D	10.54	11.73	12.66	11.86
L	10.89	12.13	13.58	13.05
T	14.11	16.32	16.45	17.15
Mean (±0.510)	11.49	13.54	13.99	14.02

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Year	1	2	3	4	Mean (+/-) n=4
	(241.0e)				
2012	27.7	28.7	31.2	32.4	29.5
2013	27.1	29.1	30.6	32.2	29.8
2014	27.25	28.25	27.8	28.25	28.25
2015	26.7	27.0	24.7	27.7	26.4
	27	30	28	28	
	(486.0e)				
2012	51.7	51.8	57.2	48.8	52.1
2013	51.4	52.1	49.2	47.1	50.5
2014	50.9	52.3	54.2	55.1	53.2
	50	55	52	54	
	(533.1e)				
2012	50.4	55.2	56.3	54.4	54.1
2013	50.1	56.2	57.1	52.3	54.2
2014	50.2	53.2	51.2	58.2	53.3
2015	51.2	54.2	52.2	51.2	52.3
2016	50.1	55.2	54.2	54.2	53.4
Mean (+/-) n=5	50.4	55.2	56.2	54.2	54.1