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69/W/RN/12 - Organic Manuring - Leys & Sugar Beet

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ORGANIC MANURING EXPERIMENT

(69/W/RN/12)

The cumulative effects of organic matter on light land - Woburn Stackyard B 1969, 5th year.

For previous history, rotation, treatments etc., see 'Results' 66/C/31, 67/C/24 and 68/C/18. All plots except those under leys (LC and LN) carried sugar beet.

Area of each sub plot: 0.0156. Area harvested: Leys: 0.0129.
Sugar beet: 0.0034.

Fertilisers applied Autumn 1968 (cwt)

Treatment	P2O5	K2O	MgO
DG	-	-	-
ST	0.4	-	0.15
PT	0.5	1.0	-
GM	0.5	1.0	0.2
FD	1.0	3.0	0.8
FS	0.5	1.0	0.2
LC	0.8	1.0	0.2
LN	0.8	1.0	0.2

Fertilisers applied Spring 1969 (cwt)

Treatment	P2O5	K2O
DG	-	-
ST	0.5	1.5
PT	0.5	1.0
GM	0.7	1.1
FD	-	1.6
FS	0.5	1.0
LC	0.4	1.2
LN	0.4	1.0

No magnesium was required in the Spring.

Nitrogen to sugar beet:

N1, N3, N5, N7. 0.2, 0.6, 1.0, 1.4 cwt N as 'Nitro-Chalk'.

Basal and standard applications: Ground chalk to whole area at 4.5 tons.

Insecticide to sugar beet: Demeton-s-methyl at 3.5 oz in 30 gals.

Cultivations, etc.:

LC and LN plots: P,K, and Mg applied: 8 Nov, 1968. Ground chalk applied: 10, 14 Feb, 1969. P,K applied: 3 Mar. N applied to LN plots: 14 Mar, 3 July. Cut: 25 June, 3 Sept.

Sugar beet: P, K, and Mg applied: 19, 20 Nov, 1968. Peat, straw, FYM applied: 28 - 29 Nov. Ploughed: 29 Nov. Ground chalk applied: 10, 14 Feb. NPK applied: 10 - 11 Apr. Power harrowed, seed drilled at 5 lb: 11 Apr. Singled: 29 May - 3 June. Insecticide applied: 23 June. Lifted: 29 - 30 Oct. Variety: Klein E.

Standard errors per plot. Sugar beet:

Roots (washed), tons:	Whole plot: 1.183 or 8.9% (15 d.f.)
	Sub plot: 1.342 or 10.1% (54 d.f.)
Total sugar, cwt:	Whole plot: 5.31 or 10.2% (15 d.f.)
	Sub plot: 5.50 or 10.6% (54 d.f.)
Tops, tons:	Whole plot: 0.759 or 13.0% (15 d.f.)
	Sub plot: 1.161 or 10.8% (54 d.f.)

SUMMARY OF RESULTS

SUGAR BEET

	N1	N3	N5	N7	Mean
ROOTS (WASHED): TONS					
	(1) and (2)				(± 0.592)
DG	14.68	15.97	16.70	16.47	15.96
ST	9.80	12.37	13.77	14.45	12.60
PT	9.67	11.56	14.57	15.11	12.73
GM	13.34	14.11	14.70	14.44	14.15
FD	9.12	12.34	13.25	13.74	12.11
FS	9.63	12.34	13.51	13.64	12.28
Mean (± 0.274)	11.04	13.11	14.42	14.64	13.30

(1) (± 0.829) For use in vertical and diagonal comparisons only(2) (± 0.671) For use in horizontal and interaction comparisons only

SUGAR %

DG	20.1	20.0	19.5	19.2	19.7
ST	19.8	20.0	20.0	19.3	19.8
PT	19.9	20.2	19.3	19.5	19.7
GM	19.7	19.7	19.0	18.6	19.3
FD	19.9	19.7	19.3	18.7	19.4
FS	19.6	19.6	19.9	19.0	19.6
Mean	19.9	19.8	19.5	19.0	19.6

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SUGAR BEET

	N1	N3	N5	N7	Mean
TOTAL SUGAR: CWT					
	(1) and (2)				(± 2.65)
DG	59.0	63.7	65.1	63.2	62.8
ST	38.9	49.5	55.4	55.9	49.9
PT	38.4	46.6	56.4	58.9	50.1
GM	52.7	55.5	56.1	53.7	54.5
FD	36.4	48.9	51.9	52.3	47.4
FS	37.8	48.6	54.2	52.5	48.3
Mean (± 1.12)	43.9	52.1	56.5	56.1	52.2

(1) (± 3.57) For use in vertical and diagonal comparisons only(2) (± 2.75) For use in horizontal and interaction comparisons only

TOPS: TONS

	(1) and (2)				(± 0.380)
DG	4.89	6.55	7.87	8.47	6.95
ST	2.74	4.10	5.69	7.14	4.92
PT	3.04	4.30	6.88	7.61	5.46
GM	5.75	6.88	8.53	9.66	7.71
FD	3.17	4.40	5.72	6.81	5.03
FS	2.94	4.76	5.29	7.08	5.02
Mean (± 0.237)	3.76	5.16	6.66	7.79	5.85

(1) (± 0.630) For use in vertical and diagonal comparisons only(2) (± 0.580) For use in horizontal and interaction comparisons only

LEY: DRY MATTER	
LC	LN
1ST CUT	
26.0	36.0
2ND CUT	
4.1	8.5
TOTAL OF 2 CUTS	
30.1	44.5

Mean D.M. %: 1st cut: 29.2
 2nd cut: 33.3
 Total of 2 cuts: 31.2