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Numerical Results of the Field Experiments 1970

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70/W/RN/12 Organic Manuring - Leys, Beans

Rothamsted Research

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ORGANIC MANURING EXPERIMENT

(70/W/RN/12)

The cumulative effects of organic matter on light land - Woburn Stackyard B 1970, 6th year.

For previous history, rotation, treatments etc., see 'Results' 66/C/31, 67/C/24, 68/C/18 and 69/W/RN/12. All plots except those under leys (LC and LN) carried beans. No nitrogen was applied to beans, residual effects of nitrogen applied to sugar beet in 1969 were measured.

Area of each sub plot: 0.0156. Area harvested: Leys: 0.0129, Beans: 0.0097.

Fertilisers applied Autumn 1969 (cwt)

Treatment	P2O5	K2O	MgO
DG	-	-	-
ST	0.4	-	0.2
PT	0.5	1.0	-
GM	0.5	1.0	0.3
FD	1.0	4.0	0.3
FS	0.5	1.0	0.3
LC	0.5	1.0	0.3
LN	0.5	1.0	0.3

Fertilisers applied Spring 1970 (cwt)

Treatment	P2O5	K2O	MgO
FD	-	0.3	-
ST	-	0.3	-
LC	-	0.4	-
LN	-	0.8	-

Basal and standard applications: 400 lb (0:14:28) to all bean plots.

Weedkiller: Simazine at 0.5 lb in 25 gals. Insecticide:

Demeton-s-methyl at 3.5 fl oz in 25 gals.

Cultivations, etc.:

Leys: P, K, and Mg applied: 20 Nov, 1969. K applied, N applied to LN plots only: 17 Mar, 1970. N applied to LN plots: 16 June. Cut: 11 June, 28 Sept.

Beans: Sugar beet tops spread: 7 - 11 Nov, 1969. PK and Mg applied: 12 - 14 Nov. Peat, straw and FYM applied: 19 Nov. Ploughed: 20 Nov. Additional K applied to FD and ST plots, power harrowed, PK applied, seed drilled at 200 lb: 20 Mar, 1970. Weedkiller applied: 21 Mar. Insecticide applied: 18 June. Combine harvested: 1 Sept. Variety: Maris Bead.

Standard errors per plot. Beans: Grain, cwt:

Whole plot: 0.99 or 15.1% (15 d.f.)

Sub plot: 1.54 or 23.4% (54 d.f.)

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SUMMARY OF RESULTS

BEANS

1969

	N1	N3	N5	N7	Mean
GRAIN: CWT					
(1) and (2)					
					(±0.50)
DG	9.4	8.7	9.4	8.8	9.1
ST	7.1	8.3	5.7	7.7	7.2
PT	5.0	5.8	4.9	6.4	5.5
GM	6.4	7.3	7.8	7.2	7.2
FD	4.5	5.1	4.0	4.4	4.5
FS	5.6	5.7	7.4	5.7	6.1
Mean (±0.32)	6.3	6.8	6.5	6.7	6.6

(1) (±0.83) For use in vertical and diagonal comparisons only

(2) (±0.77) For use in horizontal and interaction comparisons only

STRAW: CWT

DG	6.2	6.9	6.2	6.3	6.4
ST	4.1	5.6	3.6	4.5	4.5
PT	3.8	5.1	4.4	5.4	4.7
GM	5.3	5.4	6.5	6.2	5.8
FD	4.6	4.5	4.4	4.3	4.5
FS	4.3	4.5	4.9	4.6	4.6
Mean	4.7	5.3	5.0	5.2	5.1

Mean D.M. %: Grain: 83.2

Straw: 53.0

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LEYS: DRY MATTER

LC		LN
	1ST CUT	
4.3		17.2
	2ND CUT	
3.3		20.5
	TOTAL OF 2 CUTS	
7.6		37.7

Mean D.M. %: 1st cut: 45.8
2nd cut: 33.4
Total of 2 cuts: 39.6