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# Yields of the Field Experiments 1971

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## 71/W/RN/12 Organic Manuring - Leys, Rye

### Rothamsted Research

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71/W/RN/12

ORGANIC MANURING

Object: To study, from crop yields and soil analyses, the cumulative effects of a range of types of organic matter - Woburn Stackyard B.

The seventh year, leys and rye.

For previous years see 66/C/31(t), 67/C/24(t), 68/C/18(t), 69/W/RN/12(t) and 70/W/RN/12(t).

Whole plot dimensions: 8.53 x 30.5. Area harvested: Leys - 0.00524, rye - 0.00421.

Fertilisers applied autumn 1970 (kg)			
Treatment	P2O5	K2O	MgO
DG	-	-	-
ST	63	-	25
PT	63	126	-
GM	63	138	38
FD	113	427	38
FS	75	126	38
LC	63	126	38
LN	63	126	38

Fertilisers applied spring 1971 (kg)		
Treatment	P2O5	K2O
ST	-	50
LC	63	126
LN	88	251

No P, K, or Mg was required in spring for DG, PT, GM, FD or FS.

NOTE: Residues of N to sugar beet 1969 (N1), (N3), (N5), (N7). 25, 75, 125, 175 kg N as 'Nitro-Chalk' 21.

Basal applications: Rye: 31 kg N as 'Nitro-Chalk' 21.  
LN plots: 126 kg N as 'Nitro-Chalk' 21 in spring and after each cut except the last.

Cultivations, etc.:

LC and LN plots: P, K, Mg applied: 6 Oct, 1970. P, K applied: 9 Mar, 1971. N applied to LN plots: 16 Mar, 29 June. Cut: 23 June, 10 Sept.

Rye: P, K, Mg applied: 17 - 18 Sept, 1970. Peat, straw applied: 15 Oct. FYM applied, ploughed: 16 - 17 Oct. Seed drilled

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at 191 kg: 17 Oct. GM plots undersown with Late Flowering  
Red Clover at 72 kg: 19 Oct. K applied to ST plots only:  
9 Mar, 1971. N applied: 14 Apr. Red Clover resown at 72 kg:  
22 Apr. Combine harvested: 31 Aug. Variety: King II.

NOTE: Soil samples were taken in the stubble for P, K and Mg  
analysis.

Standard errors per plot. Rye, grain, tonnes/hectare:

Whole plot: 0.266 or 7.3% (15 d.f.)

Sub plot: 0.199 or 5.5% (54 d.f.)

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SUMMARY OF RESULTS

LEYS

DRY MATTER: TONNES/HECTARE

LC		LN
1ST CUT		
2.15		6.51
2ND CUT		
2.13		4.40
TOTAL OF 2 CUTS		
4.28		10.91

Mean D.M. %: 1st cut: 24.6  
2nd cut: 24.1  
Total of 2 cuts: 24.4

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RYE

1969

	N1	N3	N5	N7	Mean
GRAIN: TONNES/HECTARE					
(1) and (2)					
					(±0.133)
DG	4.76	4.63	4.46	4.63	4.62
ST	3.61	3.63	3.48	3.76	3.62
PT	3.48	3.43	3.48	3.58	3.49
GM	3.33	3.18	3.46	3.44	3.35
FD	3.29	3.38	3.48	3.32	3.37
FS	3.33	3.46	3.36	3.03	3.29
Mean (±0.041)	3.63	3.62	3.62	3.63	3.62

(1) (±0.158) For use in vertical and diagonal comparisons only

(2) (±0.099) For use in horizontal and interaction comparisons only

STRAW: TONNES/HECTARE

DG	6.27	6.34	5.68	6.11	6.10
ST	4.53	4.46	4.18	4.56	4.43
PT	4.40	4.26	4.40	4.33	4.35
GM	4.25	4.70	5.20	4.53	4.67
FD	4.22	4.41	4.32	4.48	4.36
FS	4.05	4.09	4.05	4.05	4.06
Mean	4.62	4.71	4.64	4.67	4.66

Mean D.M. %: Grain: 75.1  
Straw: 88.0