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Yields of the Field Experiments 1977

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77/R/EX/4 Exhaustion Land - Barley

Rothamsted Research

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77/R/EX/4

EXHAUSTION LAND

Object: To study the residual effects of manures, applied 1856-1901, on the yield of continuous barley - Hoosfield.

The 122nd year, barley.

For previous years see 'Details' 1967, 1973 and 74-76/R/EX/4.

Treatments: All combinations of:-

Whole plots

1. PLOTFERT(01) Fertiliser and farmyard manure 1876-1901:

1-	Plot 1 None
2-	Plot 2 None
3D	Plot 3 D
4D	Plot 4 D
5N	Plot 5 N
6N*	Plot 6 N*
7NMIN	Plot 7 N P K Na Mg
8N*MIN	Plot 8 N* P K Na Mg
9P	Plot 9 P
10MIN	Plot 10 P K Na Mg

N - 96 kg N as ammonium salts
N* - 96 kg N as nitrate of soda
P - 34 kg P as superphosphate
K - 137 kg K as sulphate of potash
Na - 16 kg Na as sulphate of soda
Mg - 11 kg Mg as sulphate of magnesia
D - Farmyard manure at 35 tonnes
MIN - P K Na Mg

Sub plots

2. N Nitrogen fertiliser (kg N) (basal until 1975, on a cyclic system since 1976)
0
48
96
144

For a fuller record of treatments see 'Details' 1967 etc.

Basal applications: Weedkillers: Dicamba with mecoprop and MCPA ('Banlene Plus' at 4.9 l in 220 l).

Seed: Julia, sown at 160 kg.

Cultivations, etc.: - Ploughed: 4 Oct, 1976. Rotary harrowed and seed sown: 9 Mar, 1977. N applied: 2 May. Weedkillers applied: 24 May. Combine harvested: 26 Aug.

77/R/EX/4

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

	N	0	48	96	144	MEAN
PLOTFERT(01)						
1-		1.72	2.17	2.52	3.37	2.45
2-		1.43	2.20	2.31	2.30	2.06
3D		2.71	4.35	5.36	4.69	4.28
4D		2.52	4.52	5.75	4.24	4.26
5N		1.81	2.51	2.56	3.36	2.56
6N*		1.83	2.14	2.03	1.99	2.00
7NMIN		2.17	3.50	4.68	3.69	3.51
8N*MIN		2.23	3.54	4.61	4.59	3.74
9P		2.57	3.77	4.73	5.17	4.06
10MIN		1.79	3.50	3.75	4.55	3.40
MEAN		2.08	3.22	3.83	3.79	3.23

GRAIN MEAN DM% 76.7

STRAW TONNES/HECTARE

***** TABLES OF MEANS *****

	N	0	48	96	144	MEAN
PLOTFERT(01)						
1-		0.70	1.18	1.32	1.60	1.20
2-		0.48	1.10	1.45	1.30	1.08
3D		1.10	2.41	3.06	3.04	2.40
4D		1.02	2.61	3.08	3.31	2.51
5N		0.68	1.24	1.32	1.45	1.17
6N*		0.82	1.02	1.17	0.97	1.00
7NMIN		0.91	1.96	2.78	2.86	2.13
8N*MIN		0.82	2.17	2.62	2.78	2.10
9P		0.95	1.84	2.71	2.73	2.06
10MIN		0.69	1.92	2.49	2.72	1.96
MEAN		0.82	1.75	2.20	2.28	1.76

STRAW MEAN DM% 85.6

PLOT AREA HARVESTED 0.00728