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76/R/EX/4 Exhaustion Land - Barley

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76/R/EX/4

EXHAUSTION LAND

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

The 121st year, barley.

For previous years see 'Details' 1967, 68/A/7 and 69-75/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) 1976:

0	None
48	48
96	96
144	144

NOTES: (1) For a fuller record of treatments see 'Details' 1967 etc.
(2) The whole site was bare fallowed in 1975.
(3) Exceptionally small yields were obtained from certain treatments. Examination of stubbles showed much shrivelled grain had been ejected by the combine.

Basal applications: Weedkillers: Dicamba, mecoprop and MCPA ('Tetralox Plus' at 7.0 l in 220 l).

Seed: Julia, dressed with ethirimol, sown at 160 kg.

Cultivations, etc.:- Deep-tine cultivated: 13 Nov, 1975. Spring-tine cultivated: 1 Mar, 1976. Seed sown: 3 Mar. N applied: 24 Mar. Weedkiller applied: 28 May. Harvested: 26 July.

76/R/EX/4

GRAIN TONNES/HECTARE

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

N	0	48	96	144	MEAN
PLOTFERT(01)					
1-	0.28	0.12	0.03	0.01	0.11
2-	0.07	0.05	0.12	0.23	0.12
3D	2.36	2.05	2.21	2.23	2.21
4D	2.07	2.38	2.10	1.51	2.01
5N	0.34	0.12	0.22	0.22	0.23
6N*	0.14	0.28	0.39	0.57	0.35
7NMIN	1.44	1.06	1.02	1.19	1.18
8N*MIN	1.60	1.53	1.21	1.10	1.36
9P	0.62	0.96	0.93	1.10	0.90
10MIN	1.48	1.98	1.85	1.50	1.70
MEAN	1.04	1.05	1.01	0.97	1.02

GRAIN MEAN DM% 85.0

STRAW TONNES/HECTARE

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

N	0	48	96	144	MEAN
PLOTFERT(01)					
1-	0.19	0.19	0.03	0.05	0.12
2-	0.31	0.06	0.29	0.21	0.22
3D	1.34	1.29	1.37	1.27	1.32
4D	1.27	1.60	1.65	1.55	1.52
5N	0.15	0.15	0.23	0.15	0.17
6N*	0.07	0.22	0.15	0.36	0.20
7NMIN	0.89	0.75	0.73	0.89	0.82
8N*MIN	0.95	1.02	1.02	0.84	0.96
9P	0.74	0.75	0.90	0.84	0.81
10MIN	1.05	1.31	1.31	1.13	1.20
MEAN	0.70	0.73	0.77	0.73	0.73

STRAW MEAN DM% 91.8

SUB PLOT AREA HARVESTED 0.00728

76/R/PG/5

PARK GRASS

Object: To study the effects of organic and inorganic manures on old grass (for hay). The effects of liming are also studied.

The 121st year, hay.

For previous years see 'Details' 1967, 68/A/6(t), 69-71/R/PG/5, 72/R/PG/5(t), 73-75/R/PG/5.

Treatments:

Whole plots

MANURE Fertilisers and organic manures:-

N1	Plot 1	N1
O(D)	Plot 2	None (D until 1863)
O/PLOT3	Plot 3	None
P	Plot 4-1	P
N2P	Plot 4-2	N2 P
N1MIN	Plot 6	N1 P K Na Mg
MIN	Plot 7	P K Na Mg
PNAMG	Plot 8	P Na Mg
N2MIN	Plot 9	N2 P K Na Mg
N2PNAMG	Plot 10	N2 P Na Mg
N3MIN	Plot 11-1	N3 P K Na Mg
N3MINSI	Plot 11-2	N3 P K Na Mg Si
O/PLOT12	Plot 12	None
D/F	Plot 13	D/F
N2*MIN	Plot 14	N2* P K Na Mg
MIN(N2*)	Plot 15	P K Na Mg (N2* until 1875)
N1*MIN	Plot 16	N1* P K Na Mg
N1*	Plot 17	N1*
N2KNAMG	Plot 18	N2 K Na Mg
D	Plot 19	D
D/N*PK	Plot 20	D/N*P K

N1, N2, N3:	48, 96, 144 kg N as sulphate of ammonia
N1*, N2*:	48, 96 kg N as nitrate of soda (30 kg N to Plot 20 in years with no farmyard manure)
P:	35 kg P (15 kg P to Plot 20 in years with no farmyard manure) as single superphosphate (triple superphosphate in 1974)
:K	225 kg K (45 kg K to Plot 20 in years with no farmyard manure) as sulphate of potash
Na:	15 kg Na as sulphate of soda
Mg:	10 kg Mg as sulphate of magnesia
Si:	Silicate of soda at 450 kg
D:	Farmyard manure at 35 tonnes every fourth year
F:	Fish meal every fourth year to supply 63 kg N
MIN:	P K Na Mg