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98/R/EX/4 Exhaustion Land - W. Wheat

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98/R/EX/4

EXHAUSTION LAND

Object: To study the residual effects of manures applied 1876-1901, and of additional phosphate applied since 1986, on the yield of continuous s. barley up to 1991, w. wheat since - Hoosfield.

The 143rd year, w. wheat.

For previous years see 'Details' 1977, 1973 and 74-97/R/EX/4.

Treatments: All combinations of:-

Whole plots (P test)

1. **OLD RES** Residues of manures applied annually 1876-1901:

O	None
D	Farmyard manure at 35 t
N	96 kg N as ammonium salts
P	34 kg P as superphosphate
NPKNAMG	N and P as above plus 137 kg K as sulphate of potash, 16 kg Na as sulphate of soda, 11 kg Mg as sulphate of magnesia

2. **P RES** Residues of phosphate (kg P) applied annually from 1986, as single superphosphate in 1986 and 1987, triple superphosphate from 1988 until 1992, none since:

O	None
P1	44
P2	87
P3	131

plus

Whole plots (K test, previously N test until 1991)

- | | |
|----------------|--|
| OLD RES | Residues of manures applied annually 1876-1901: |
| O | None |
| D | Farmyard manure at 35 t |
| N* | 96 kg N as nitrate of soda |
| PK | 34 kg P as superphosphate, 137 kg K as sulphate of
potash |
| N*PK | N, P and K as above |

Experimental diary:

P test:

15-Oct-97 : T : Muriate of potash at 167 kg.

K test:

15-Oct-97 : T : Triple superphosphate at 319 kg.

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Experimental diary:

All plots:

- 23-Oct-97 : B : Ploughed.
- 24-Oct-97 : B : Rotary harrowed, Mercia, dressed Sibutol, drilled at 380 seeds per m².
- 05-Feb-98 : B : Amazon at 1.0 l with Chiltern Cropoil at 1.0 l in 200 l.
- 24-Mar-98 : B : 34.5% N at 557 kg.
- 09-May-98 : B : Opus at 0.7 l in 200 l.
- 28-May-98 : B : Opus at 0.7 l in 200 l.
- 15-Jun-98 : B : Bavistin DF at 0.5 kg with Folicur at 0.5 l in 100 l.
- 06-Aug-98 : B : Alpha Glyphogan at 3.0 l in 200 l.
- 18-Aug-98 : B : Combine harvested.

NOTE: Samples of grain and straw were taken for chemical analysis.

P TEST

GRAIN TONNES/HECTARE

***** Tables of means *****

P RES	O	P1	P2	P3	Mean
OLD RES					
O	3.38	7.22	7.62	8.01	6.56
D	6.98	7.62	7.70	7.88	7.55
N	3.43	7.48	7.73	7.61	6.56
P	6.19	7.32	7.72	7.41	7.16
NPKNAMG	6.40	7.41	7.77	8.05	7.41
Mean	5.28	7.41	7.71	7.79	7.05

GRAIN MEAN DM% 86.0

STRAW TONNES/HECTARE

***** Tables of means *****

P RES	O	P1	P2	P3	Mean
OLD RES					
O	3.18	6.13	7.13	6.88	5.83
D	5.92	7.17	7.25	8.10	7.11
N	3.46	6.25	7.73	7.53	6.24
P	6.13	7.42	8.03	7.90	7.37
NPKNAMG	5.64	6.91	7.52	7.80	6.97
Mean	4.86	6.78	7.53	7.64	6.70

STRAW MEAN DM% 90.6

PLOT AREA HARVESTED 0.00589

98/R/EX/4

K TEST

GRAIN TONNES/HECTARE

***** Tables of means *****

OLD RES

O	6.50
D	6.79
N*	6.81
PK	7.21
N*PK	7.07
Mean	6.88

GRAIN MEAN DM% 85.8

STRAW TONNES/HECTARE

***** Tables of means *****

OLD RES

O	5.96
D	6.72
N*	6.38
PK	7.10
N*PK	7.72
Mean	6.78

STRAW MEAN DM% 91.9

PLOT AREA HARVESTED 0.00589