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

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99/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 144th year, w. wheat.

For previous years see 'Details' 1977, 1973 and 74-98/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:

23-Sep-98 : T : Muriate of potash at 167 kg.

K test:

22-Sep-98 : T : Triple superphosphate at 107 kg.

All plots:

07-Oct-98 : B : Ploughed.

09-Oct-98 : B : Spring-tine cultivated. Rotary harrowed, Hereward, tr. Beret Gold, drilled at 380 seeds per m².

12-Oct-98 : B : Hardy at 7.5 kg.

15-Mar-99 : B : Amazon at 1.0 l with Isoguard at 2.0 l and Cropoil at 1.0 l in 200 l.

14-Apr-99 : B : 34.5% N at 580 kg.

01-May-99 : B : Opus at 0.7 l in 200 l.

01-Jun-99 : B : Folicur at 1.0 l with Sipcam UK Rover 500 at 1.0 l in 100 l.

25-Jun-99 : B : Folicur at 0.25 l in 100 l.

03-Aug-99 : B : Combine harvested.

99/R/EX/4

P TEST

GRAIN TONNES/HECTARE

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

P RES	O	P1	P2	P3	Mean
OLD RES					
O	0.88	4.76	5.59	5.74	4.24
D	5.16	6.75	7.24	7.44	6.65
N	1.67	5.86	6.89	7.40	5.45
P	3.97	6.57	7.57	7.07	6.29
NPKNAMG	3.88	6.74	7.51	7.59	6.43
Mean	3.11	6.14	6.96	7.05	5.81

GRAIN MEAN DM% 88.6

STRAW TONNES/HECTARE

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

P RES	O	P1	P2	P3	Mean
OLD RES					
O	0.61	3.14	3.73	3.75	2.81
D	3.04	3.66	3.89	3.97	3.64
N	0.94	3.57	3.95	4.06	3.13
P	3.09	4.29	4.91	4.79	4.27
NPKNAMG	2.70	4.08	4.59	4.49	3.96
Mean	2.07	3.75	4.21	4.21	3.56

STRAW MEAN DM% 82.2

PLOT AREA HARVESTED 0.00589

99/R/EX/4

K TEST

GRAIN TONNES/HECTARE

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

OLD RES

O	6.25
D	7.56
N*	6.33
PK	8.38
N*PK	8.03

Mean	7.31
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GRAIN MEAN DM% 88.9

STRAW TONNES/HECTARE

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

OLD RES

O	3.62
D	3.72
N*	3.34
PK	5.14
N*PK	4.73

Mean	4.11
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STRAW MEAN DM% 86.8

PLOT AREA HARVESTED 0.00589