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Yields of the Field Experiments 1992

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

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92/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 in 1992 - Hoosfield.

The 137th year, w. wheat.

For previous years see 'Details' 1967, 1973 and 74-91/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 tonnes
 - 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** Phosphate applied annually from 1986 as superphosphate until 1987, triple superphosphate since:
 - O None
 - P1 44 kg P
 - P2 87 kg P
 - P3 131 kg P

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 tonnes
 - 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:

18-Sep-91 : **T** : P applied as triple superphosphate to treatment plots.
 : **T** : Muriate of potash at 170 kg.

Residual N test:

18-Sep-91 : **T** : Triple superphosphate at 1420 kg.
23-Sep-91 : **T** : Triple superphosphate at 710 kg.

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Experimental diary:

All plots:

- 19-Sep-91 : B : Sting CT at 1.5 l in 200 l.
- 20-Sep-91 : B : Ploughed, spring-tine cultivated, rolled.
- 23-Sep-91 : B : Rotary harrowed, Mercia drilled at 160 kg, rolled.
- 14-Apr-92 : B : 34.5% N applied at 560 kg.
- 23-Jun-92 : B : Radar at 0.50 l and Mistral at 0.50 l in 200 l.
- 31-Jul-92 : B : Combine harvested.

- NOTES:** (1) Yields presented for **K TEST** are means of four plots.
 (2) Grain and straw samples were taken for chemical analysis.

P TEST

GRAIN TONNES/HECTARE

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

	P	O	P1	P2	P3	Mean
OLD RES						
O		2.70	7.97	8.17	7.96	6.70
D		6.85	8.21	8.03	8.11	7.80
N		2.43	7.94	7.92	8.11	6.60
P		5.08	7.46	7.26	7.63	6.86
NPKNAMG		4.69	7.70	7.90	7.84	7.03
Mean		4.35	7.86	7.86	7.93	7.00

GRAIN MEAN DM% 87.5

STRAW TONNES/HECTARE

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

	P	O	P1	P2	P3	Mean
OLD RES						
O		1.71	6.39	6.96	6.79	5.46
D		4.72	6.60	7.21	6.43	6.24
N		1.87	6.62	7.50	7.18	5.79
P		4.27	6.03	8.13	7.60	6.51
NPKNAMG		3.82	6.39	7.20	6.91	6.08
Mean		3.28	6.41	7.40	6.98	6.02

STRAW MEAN DM% 85.1

PLOT AREA HARVESTED 0.00589

92/R/EX/4

K TEST

GRAIN TONNES/HECTARE

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

OLD RES	O	D	N*	PK	N*PK	Mean
	5.70	7.35	5.25	4.96	5.69	5.79

GRAIN MEAN DM% 87.8

STRAW TONNES/HECTARE

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

OLD RES	O	D	N*	PK	N*PK	Mean
	5.24	5.70	4.90	5.55	5.19	5.32

STRAW MEAN DM% 91.6

PLOT AREA HARVESTED 0.00589