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

Rothamsted Research

Rothamsted Research (1996) *95/R/EX/4 Exhaustion Land - W. Wheat* ; Yields Of The Field Experiments 1995, pp 23 - 25 - DOI: <https://doi.org/10.23637/ERADOC-1-50>

95/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 140th year, w. wheat.

For previous years see 'Details' 1967, 1973 and 74-94/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:

13-Oct-94 : **T** : Muriate of potash at 167 kg.

K test:

13-Oct-94 : **T** : Triple superphosphate at 319 kg.

95/R/EX/4

Experimental diary:

All plots:

21-Aug-94 : B : Straw baled and removed.
 06-Oct-94 : B : Roundup at 4.0 l in 200 l.
 14-Oct-94 : B : Ploughed.
 17-Oct-94 : B : Rotary harrowed.
 18-Oct-94 : B : Rotary harrowed, Mercia, dressed Rappor, drilled at 380 seeds per m².
 24-Nov-94 : B : Alpha Isoproturon 500 at 3.0 l with Stomp 400 at 3.3 l in 200 l.
 13-Apr-95 : B : 34.5% N at 556 kg.
 16-Jun-95 : B : Halo at 2.0 l with Patrol at 0.5 l in 300 l.
 29-Jun-95 : B : Pirimicarb 50 DG at 280 g in 200 l.
 03-Aug-95 : 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	1.97	4.78	5.87	6.29	4.73
D	5.10	6.06	6.43	6.41	6.00
N	2.93	5.35	6.21	6.41	5.23
P	4.51	6.17	6.63	6.23	5.88
NPKNAMG	4.20	5.45	6.23	6.65	5.63
Mean	3.74	5.56	6.27	6.40	5.49

GRAIN MEAN DM% 90.7

STRAW TONNES/HECTARE

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

P RES	O	P1	P2	P3	Mean
OLD RES					
O	0.70	1.59	2.56	2.55	1.85
D	1.56	2.26	2.60	2.48	2.23
N	0.96	1.80	2.44	2.65	1.96
P	1.40	2.05	2.40	2.02	1.97
NPKNAMG	0.93	1.81	2.31	2.53	1.89
Mean	1.11	1.90	2.46	2.45	1.98

STRAW MEAN DM% 91.6

PLOT AREA HARVESTED 0.00589

95/R/EX/4

K TEST

GRAIN TONNES/HECTARE

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

OLD RES

O	5.93
D	6.32
N*	6.50
PK	6.95
N*PK	6.71

Mean	6.48
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GRAIN MEAN DM% 90.7

STRAW TONNES/HECTARE

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

OLD RES

O	2.56
D	2.73
N*	2.43
PK	2.61
N*PK	2.57

Mean	2.58
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STRAW MEAN DM% 93.2

PLOT AREA HARVESTED 0.00589