

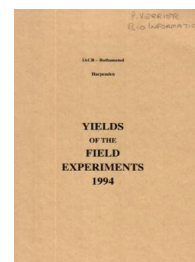
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## Yields of the Field Experiments 1994

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### 94/R/EX/4 Exhaustion Land - W. Wheat

#### Rothamsted Research

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94/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 139th year, w. wheat.

For previous years see 'Details' 1967, 1973 and 74-93/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 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)

- |                |  |
|----------------|--|
| <b>OLD RES</b> | 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<br>potash |
| N*PK           | N, P and K as above  |

**Experimental diary:**

P test:

15-Oct-93 : **T** : Muriate of potash at 167 kg.

K test:

15-Oct-93 : **T** : Triple superphosphate at 319 kg.

94/R/EX/4

**Experimental diary:**

All plots:

- 20-Oct-93 : B : Ploughed.
- 22-Oct-93 : B : Spring-tine cultivated twice, rotary harrowed, Mercia, dressed Cerevax, drilled at 380 seeds per m<sup>2</sup>.
- 12-Apr-94 : B : 34.5% N at 568 kg.
- 09-May-94 : B : Ally at 30 g with Cheetah Super at 3.0 l and Starane 2 at 0.75 l in 200 l.
- : B : Halo at 2.0 l with New 5C Cycocel at 2.5 l in 200 l.
- 13-Jun-94 : B : Halo at 2.0 l with Mallard 750 EC at 0.5 l in 200 l.
- 17-Jun-94 : B : Hostathion at 840 ml in 200 l.
- 16-Aug-94 : 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	2.42	7.29	7.62	7.88	6.30
D	6.45	8.07	8.07	7.53	7.53
N	2.32	7.41	7.75	7.54	6.26
P	6.34	8.09	8.69	8.07	7.80
NPKNAMG	5.75	7.60	7.87	7.87	7.27
Mean	4.66	7.69	8.00	7.78	7.03

GRAIN MEAN DM% 86.0

**STRAW TONNES/HECTARE**

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

P RES	O	P1	P2	P3	Mean
OLD RES					
O	1.35	4.44	4.58	4.74	3.78
D	3.59	4.80	4.68	4.50	4.39
N	1.08	4.42	4.45	4.18	3.53
P	3.79	4.97	5.35	4.86	4.74
NPKNAMG	3.22	4.74	4.54	4.36	4.22
Mean	2.61	4.68	4.72	4.53	4.13

STRAW MEAN DM% 91.1

PLOT AREA HARVESTED 0.00589

94/R/EX/4

K TEST

GRAIN TONNES/HECTARE

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

OLD RES

O	7.08
D	6.84
N*	6.90
PK	6.86
N*PK	6.54
Mean	6.84

GRAIN MEAN DM% 86.0

STRAW TONNES/HECTARE

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

OLD RES

O	3.65
D	3.36
N*	3.09
PK	3.32
N*PK	3.03
Mean	3.29

STRAW MEAN DM% 90.4

PLOT AREA HARVESTED 0.00589