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RESEARCH

Yields of the Field Experiments 2001

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Yields of the
Classical
and other
Long-term Experiments
2001

1428 - Rothamsted

01/R/EX/4 - Exhaustion Land

Rothamsted Research

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01/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 146th year, s. wheat.

For previous years see 'Details' 1977, 1973 and 74-00/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** Maintenance P (20 kg P) applied annually from 2000 to maintain existing levels of available P in the soil. (P1) (P2) and (P3) are residues of P applied annually 1986-1992:

	2000-01	1986-92
O	None	None
P(P1)	20 kg P	44 kg P
P(P2)	20 kg P	87 kg P
P(P3)	20 kg P	131 kg P

NOTE: P treatments were applied at 61.5 kg P in error in 2000.

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:

- K test:
17-Oct-00 : T : : P basal:(triple superphosphate at 98 kg), plots 2,
4, 6, 8 & 10.
- P test:
17-Oct-00 : T : P : P test:(triple superphosphate at 98 kg), plots
011-013, 031-033, 051-053, 071-073, & 091-093.
18-Oct-00 : T : K : K basal/100 kg (muriate of potash at 250 kg),
plots 1, 3, 5, 7 & 9.
- All plots:
20-Oct-00 : B : : Ploughed.
26-Oct-00 : B : : Combination drilled, Hereward, tr. Sibutol, at 450
seeds/m² with the Accord drill.
21-Jan-01 : B : : Ploughed.

01/R/EX/4

K TEST

GRAIN TONNES/HECTARE

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

OLD RES

O	2.47
D	3.20
N*	1.43
PK	0.91
N*PK	1.94

Mean	1.99
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GRAIN MEAN DM% 84.0

STRAW TONNES/HECTARE

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

OLD RES

O	1.68
D	1.69
N*	1.54
PK	1.05
N*PK	1.28

Mean	1.45
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STRAW MEAN DM% 65.2

PLOT AREA HARVESTED 0.00614