

Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED
RESEARCH

Yields of the Field Experiments 1986

[Full Table of Content](#)



86/R/WX/4 Exhaustion Land - S. Barley

Rothamsted Research

Rothamsted Research (1987) *86/R/WX/4 Exhaustion Land - S. Barley* ; Yields Of The Field Experiments 1986, pp 19 - 21 - DOI: <https://doi.org/10.23637/ERADOC-1-36>

86/R/EX/4

EXHAUSTION LAND

Object: To study the residual effects of manures applied 1856-1901, and of additional phosphate applied since 1986, on the yield of continuous s. barley - Hoosfield.

The 131st year, s. barley.

For previous years see 'Details' 1967, 1973 and 74-85/R/EX/4.

Treatments: All combinations of:-

Whole plots

1. OLD RES Residues of manures applied annually 1876-1901:
 - 0 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(86) Phosphate applied annually from 1986:
 - 0 None
 - P1 44 kg P as superphosphate
 - P2 87 kg P as superphosphate
 - P3 131 kg P as superphosphate

plus all combinations of:-

1. OLD RES Residues of manures applied annually 1876-1901:
 - 0 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

2. N(86) Nitrogen fertilizer (kg N) as 'Nitro-Chalk' until 1985, as 'Nitram' in 1986 (basal until 1975, on a cyclic system since 1976):
 - 0
 - 48
 - 96
 - 144

NOTE: All plots in the combination OLD RES, P(86) were given N at 48 kg as 'Nitram' and K at 83 kg as muriate of potash.

Basal applications: Weedkillers: Clopyralid at 0.05 kg, bromoxynil octanoate at 0.24 kg and mecoprop at 2.1 kg in 200 l applied with the tridemorph. Fungicide: Tridemorph at 0.52 kg on two occasions, the first with the weedkillers, the second in 200 l.

86/R/EX/4

Seed: Triumph, seed dressed triadimenol and fuberidazole, sown at 160 kg.

Cultivations, etc.:- Ploughed: 7 Oct, 1985. Spring-tine cultivated: 28 Apr, 1986. P and K applied, rotary harrowed: 1 May. Seed sown: 2 May. N applied: 29 May. Weedkillers with tridemorph applied: 2 June. Tridemorph applied: 16 July. Combine harvested: 29 Aug.

PHOSPHATE PLOTS

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

P(86) OLD RES	0	P1	P2	P3	MEAN
O	1.88	3.55	3.89	4.05	3.34
D	3.50	4.47	4.70	4.30	4.24
N	1.90	3.49	4.01	3.82	3.31
P	3.26	4.04	4.41	4.03	3.93
NPKNAMG	3.08	3.96	4.41	4.35	3.95
MEAN	2.72	3.90	4.28	4.11	3.76

GRAIN MEAN DM% 77.3

STRAW TONNES/HECTARE

***** TABLES OF MEANS *****

P(86) OLD RES	0	P1	P2	P3	MEAN
O	0.41	1.11	1.32	1.24	1.02
D	0.95	1.38	1.45	1.38	1.29
N	0.48	1.11	1.24	1.30	1.03
P	0.97	1.31	1.52	1.24	1.26
NPKNAMG	0.89	1.17	1.45	1.44	1.24
MEAN	0.74	1.21	1.40	1.32	1.17

STRAW MEAN DM% 85.3

PLOT AREA HARVESTED 0.00728

86/R/EX/4

NITROGEN PLOTS

GRAIN TONNES/HECTARE

***** TABLES OF MEANS *****

N(86) OLD RES	0	48	96	144	MEAN
0	1.47	1.47	1.96	1.54	1.61
D	2.42	3.11	3.84	3.43	3.20
N*	1.32	1.73	1.68	1.43	1.54
PK	2.03	2.75	3.17	3.14	2.77
N*PK	2.01	2.64	3.30	2.97	2.73
MEAN	1.85	2.34	2.79	2.50	2.37

GRAIN MEAN DM% 72.9

STRAW TONNES/HECTARE

***** TABLES OF MEANS *****

N(86) OLD RES	0	48	96	144	MEAN
0	0.42	0.41	0.55	0.48	0.46
D	0.69	1.03	1.10	1.03	0.96
N*	0.35	0.54	0.41	0.48	0.44
PK	0.68	0.96	1.03	1.16	0.96
N*PK	0.62	0.82	1.16	1.09	0.92
MEAN	0.55	0.75	0.85	0.85	0.75

STRAW MEAN DM% 85.0

PLOT AREA HARVESTED 0.00728