

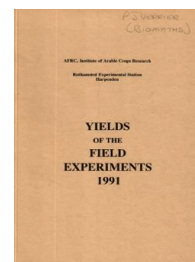
Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED  
RESEARCH

# Yields of the Field Experiments 1991

[Full Table of Content](#)



---

## 91/R/EX/4 Exhaustion Land - S. Barley

### Rothamsted Research

Rothamsted Research (1992) *91/R/EX/4 Exhaustion Land - S. Barley* ; Yields Of The Field Experiments 1991, pp 19 - 21 - DOI: <https://doi.org/10.23637/ERADOC-1-46>

91/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 - Hoosfield.

The 136th year, s. barley.

For previous years see 'Details' 1967, 1973 and 74-90/R/EX/4.

**Treatments:** All combinations of:-

Whole plots

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 all combinations of:-

1. **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
  
2. **N91** Nitrogen fertilizer (kg N) as 'Nitro-Chalk' until 1985, as 'Nitram' since 1986 (basal until 1975, on a cyclic system since 1976):
  - 0
  - 48
  - 96
  - 144

**NOTE:** All plots of the combination **OLD RES**, P were given N at 144 kg as 'Nitram' and K at 83 kg as muriate of potash.

91/R/EX/4

**Basal applications:** Weedkiller: Fluroxypyr at 0.15 kg with the fungicide in 200 l. Fungicide: Fenpropimorph at 0.38 kg.

**Seed:** Triumph, seed dressed triadimenol and fuberidazole, sown at 130 kg.

**Cultivations, etc.:-** P and K applied: 20 Nov, 1990. Ploughed: 23 Nov. Spring-tine cultivated: 25 Mar, 1991. Rotary harrowed, seed sown: 26 Mar. N applied: 18 Apr. Weedkiller with fungicide applied: 16 June. Combine harvested: 29 Aug.

**PHOSPHATE PLOTS**

**GRAIN TONNES/HECTARE**

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

	P	O	P1	P2	P3	Mean
<b>OLD RES</b>						
O		2.54	4.96	5.42	5.72	4.66
D		4.31	5.22	5.50	5.49	5.13
N		2.35	5.10	5.50	5.86	4.70
P		3.76	5.18	5.24	5.50	4.92
NPKNAMG		3.69	5.14	5.42	5.53	4.94
Mean		3.33	5.12	5.42	5.62	4.87

GRAIN MEAN DM% 85.1

**STRAW TONNES/HECTARE**

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

	P	O	P1	P2	P3	Mean
<b>OLD RES</b>						
O		1.82	3.69	4.14	3.81	3.36
D		3.05	3.72	3.71	3.53	3.50
N		1.73	3.59	3.70	3.79	3.20
P		2.40	3.60	3.61	3.62	3.31
NPKNAMG		2.50	3.45	3.74	3.70	3.35
Mean		2.30	3.61	3.78	3.69	3.34

STRAW MEAN DM% 92.4

PLOT AREA HARVESTED 0.00588

91/R/EX/4

**NITROGEN PLOTS**

**GRAIN TONNES/HECTARE**

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

	N91	0	48	96	144	Mean
<b>OLD RES</b>						
O	0.73	1.75	0.74	0.91	1.03	
D	2.09	3.41	3.46	3.37	3.08	
N*	0.96	2.13	1.15	1.14	1.34	
PK	1.74	3.47	3.18	3.64	3.01	
N*PK	1.71	3.41	2.99	2.88	2.75	
Mean	1.44	2.83	2.30	2.39	2.24	

GRAIN MEAN DM% 82.5

**STRAW TONNES/HECTARE**

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

	N91	0	48	96	144	Mean
<b>OLD RES</b>						
O	1.44	1.54	1.80	1.98	1.69	
D	1.34	1.93	2.00	2.13	1.85	
N*	0.89	1.28	1.44	1.39	1.25	
PK	1.14	1.92	1.82	2.20	1.77	
N*PK	0.81	1.66	1.76	1.64	1.47	
Mean	1.12	1.67	1.76	1.87	1.60	

STRAW MEAN DM% 90.2

PLOT AREA HARVESTED 0.00588