

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 1987

[Full Table of Content](#)

ARC, Institute of Arable Crops Research
Rothamsted Experimental Station
Harpenden
Herts
SG8 5LR
United Kingdom
ARC 1988
The copyright in this document is held by the Rothamsted Research Ltd
This document is available on the internet at <https://eradoc. Rothamsted.ac.uk/>
This document is available on the internet at <https://eradoc. Rothamsted.ac.uk/>
Printed: Rothamsted, 1988

87/R/EX/4 Exhaustion Land - S. Barley

Rothamsted Research

Rothamsted Research (1988) *87/R/EX/4 Exhaustion Land - S. Barley* ; Yields Of The Field Experiments 1987, pp 19 - 21 - DOI: <https://doi.org/10.23637/ERADOC-1-37>

87/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 132nd year, s. barley.

For previous years see 'Details' 1967, 1973 and 74-86/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 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. N87 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 in the combination OLD RES, P were given N at 144 kg as 'Nitram' and K at 83 kg as muriate of potash.

Basal applications: Weedkillers: Clopyralid at 0.07 kg and bromoxynil at 0.34 kg with mecoprop at 2.5 kg in 200 l. Fungicide: Tridemorph at 0.52 kg in 200 l.

87/R/EX/4

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

Cultivations, etc.:- P and K applied: 10 Oct, 1986. Ploughed: 6 Nov. Spring-tine cultivated, seed sown: 19 Mar, 1987. N applied: 23 Apr. Weedkillers applied: 28 May. Fungicide applied: 24 June. Combine harvested: 21 Aug.

PHOSPHATE PLOTS

GRAIN TONNES/HECTARE

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

	P	0	P1	P2	P3	Mean
OLD RES						
O		2.80	4.31	4.52	4.57	4.05
D		3.79	4.72	4.82	5.05	4.60
N		2.57	4.17	4.70	4.33	3.94
P		4.07	4.43	4.69	4.37	4.39
NPKNAMG		3.75	4.47	4.77	4.98	4.49
Mean		3.39	4.42	4.70	4.66	4.29

GRAIN MEAN DM% 87.4

STRAW TONNES/HECTARE

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

	P	0	P1	P2	P3	Mean
OLD RES						
O		1.17	2.63	2.88	2.48	2.29
D		2.35	3.15	3.24	3.39	3.03
N		1.13	2.32	3.05	2.74	2.31
P		2.26	3.14	2.90	2.88	2.79
NPKNAMG		2.19	2.87	2.94	3.00	2.75
Mean		1.82	2.82	3.00	2.90	2.63

STRAW MEAN DM% 76.5

PLOT AREA HARVESTED 0.00728

87/R/EX/4

NITROGEN PLOTS

GRAIN TONNES/HECTARE

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

	N87	0	48	96	144	Mean
OLD RES						
0	0.66	1.71	1.32	1.58	1.32	
D	2.17	4.54	3.28	3.45	3.36	
N*	1.11	1.77	1.25	1.51	1.41	
PK	1.36	2.60	2.03	2.45	2.11	
N*PK	1.47	3.82	2.38	2.35	2.51	
Mean	1.35	2.89	2.05	2.27	2.14	

GRAIN MEAN DM% 86.6

STRAW TONNES/HECTARE

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

	N87	0	48	96	144	Mean
OLD RES						
0	0.41	0.75	0.77	0.88	0.70	
D	1.06	1.96	1.64	2.06	1.68	
N*	0.63	0.89	0.64	0.94	0.77	
PK	0.95	1.67	1.67	1.99	1.57	
N*PK	1.09	1.59	1.22	1.45	1.34	
Mean	0.83	1.37	1.19	1.46	1.21	

STRAW MEAN DM% 72.9

PLOT AREA HARVESTED 0.00728