

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  
UK  
The copyright in this document is owned by the Rothamsted Research Ltd  
and is a part of the Rothamsted Research archive. It is made available  
under the terms of the Creative Commons Attribution 4.0 International  
License. For more information, please contact the Rothamsted Research  
Library Services.  
Printed: 2018-08-08  
Rothamsted 2018

## 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