

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/CS/319 Nitrophosphates - S. Barley

### Rothamsted Research

Rothamsted Research (1987) *86/R/CS/319 Nitrophosphates - S. Barley* ; Yields Of The Field Experiments 1986, pp 164 - 165 - DOI: <https://doi.org/10.23637/ERADOC-1-36>

86/R/CS/319

NITROPHOSPHATES

Object: To study the residual effects of different amounts of water soluble phosphate in nitrophosphate fertilizers on growth and P uptake of s. barley following potatoes - Highfield V.

Sponsor: K.H.G. Copestake.

Design: 3 randomised blocks of 13 plots.

The second year, s. barley.

For previous year see 85/R/P/5.

Whole plot dimensions: 3.0 x 21.0.

Treatments: All combinations of:-

1. P SOL            Phosphate water solubility (%):  
    59            Compound fertilizer (16.4 : 14.2 : 17.5) with 59% of the  
                    P2O5 water soluble  
    73            Compound fertilizer (15.9 : 16.2 : 15.3) with 73% of the  
                    P2O5 water soluble  
    95            Compound fertilizer (15.0 : 15.0 : 15.0) with 95% of the  
                    P2O5 water soluble

2. P RATE(85)    Rate of phosphate (kg P2O5) applied in 1985:

    50  
    100  
    150  
    200

plus one extra treatment:

EXTRA

NONE            No phosphate fertilizer

NOTE: The compound fertilizers used to apply the phosphate treatments in 1985 supplied differing amounts of the total 231 kg N and 242 kg K2O required on all plots. Additional amounts of N (as 'Nitrotop' 33.5% N) and K2O (as muriate of potash 60% K2O) were applied as needed to achieve this total. Combinations of P SOL 59 with P RATE 150 and 200 each received a total of 247 kg K2O in error.

Basal applications: Manures: 'Nitrotop' (33.5% N) at 360 kg. Muriate of potash at 120 kg. Weedkillers: Clopyralid at 0.05 kg, bromoxynil octanoate at 0.24 kg and mecoprop at 2.1 kg applied with the fungicide in 200 l. Fungicide: Tridemorph at 0.52 kg.

Seed: Klaxon, sown at 160 kg.

86/R/CS/319

Cultivations, etc.:- Heavy spring-tine cultivated twice: 12 Nov, 1985.  
 N and K applied, spring-tine cultivated, rotary harrowed, seed sown:  
 30 Apr, 1986. Weedkillers with fungicide applied: 2 June. Combine  
 harvested: 6 Sept.

NOTE: Emergence and stem counts were made. Green crop and sheaf samples  
 were taken for fresh and dry weight measurements. Components of  
 yield were measured. P contents of crop and soil were determined  
 after harvest.

GRAIN TONNES/HECTARE

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

P RATE(85)	50	100	150	200	MEAN
P SOL					
59	7.70	8.00	7.46	7.24	7.60
73	7.18	7.19	7.18	7.72	7.32
95	6.57	7.02	7.11	7.60	7.07
MEAN	7.15	7.40	7.25	7.52	7.33
NONE	6.60				
GRAND MEAN	7.27				

\*\*\*\*\* STANDARD ERRORS OF DIFFERENCES OF MEANS \*\*\*\*\*

TABLE	P SOL	P RATE(85)	P SOL P RATE(85) & NONE
-----	-----	-----	-----
SED	0.205	0.237	0.411

\*\*\*\*\* STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION \*\*\*\*\*

STRATUM	DF	SE	CV%
BLOCK.WP	24	0.503	6.9
GRAIN MEAN DM%	84.6		
PLOT AREA HARVESTED	0.00224		