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 P205 water soluble
73	Compound fertilizer (15.9 : 16.2 : 15.3) with 73% of the P205 water soluble
95	Compound fertilizer (15.0 : 15.0 : 15.0) with 95% of the P205 water soluble

2. P RATE(85) — Rate of phosphate (kg P205) 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 K20 required on all plots. Additional amounts of N (as 'Nitrotop' 33.5% N) and K20 (as muriate of potash 60% K20) 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 K20 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.

https://doi.org/10.23637/ERADOC-1-36

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) / P SOL	50	100	150	200	MEAN
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

https://doi.org/10.23637/ERADOC-1-36