This work is licensed under a Creative Commons Attribution 4.0 International License.

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 readible, or you suspect there are some problems, please let us know and we will correct that.

Yields of the Field Experiments 1986

Full Table of Content

86/R/CS/246 Effects of Subsoiling and Deep Pk - S. Barley

Rothamsted Research

Rothamsted Research (1987) *86/R/CS/246 Effects of Subsoiling and Deep Pk - S. Barley ;* Yields Of The Field Experiments 1986, pp 121 - 122 **- DOI: https://doi.org/10.23637/ERADOC-1-36**

This work is licensed under a Creative Commons Attribution 4.0 International License.

86/R/CS/246

EFFECTS OF SUBSOILING AND DEEP PK

Object: To study the effects of thorough subsoil disturbance and the incorporation of P and K into the subsoil on soil and crop parameters and on yield of s. barley - Great Field I.

Sponsors: J. McEwen, A.E. Johnston, D.P. Yeoman.

The seventh year, s. barley.

For previous years see 80-85/R/CS/246.

Whole plot dimensions: 4.27 x 17.7.

Design: 2 replicates of 28 plots, fully randomised.

Treatments: All combinations of:-

1. PK SUB — Extra PK and subsoil treatment (applied autumn/winter 1979/80 only):

- - -	None, mouldboard ploughed (duplicated)
- - S	Subsoiled
P - S	P to subsoil
- K S	K to subsoil
P K S	PK to subsoil
P K T	PK to topsoil, mouldboard ploughed

2. N — Nitrogen fertilizer (kg N) as 'Nitram' (cumulative to previous years):

0
40
80
120

NOTES: (1) Rates of P and K were 1000 kg P205, as superphosphate, 500 kg K20, as muriate of potash.
(2) Subsoiling was done with the Wye double-digger which turns a furrow with a conventional plough share, to a depth of 23 cm, and at the same time rotary cultivates the bottom of the adjacent furrow to a further depth of 15 cm. When applying P and K this was distributed ahead of the rotary cultivator.
(3) The topsoil PK dressing was equally divided before and after ploughing.
(4) All treatments were mouldboard ploughed for 1981 to 1986.

Basal applications: Manures: (0:24:24) at 260 kg. Weedkillers: Clopyralid at 0.07 kg and bromoxynil octanoate at 0.34 kg with mecoprop at 2.5 kg applied with the fungicide in 200 l. Fungicide: Tridemorph at 0.52 kg.

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

Cultivations, etc.:- Ploughed: 15 Nov, 1985. Spring-tine cultivated, N treatments applied, PK applied, spring-tine cultivated again: 18 Mar, 1986. Seed sown: 21 Mar. Weedkillers and fungicide applied: 16 May. Combine harvested: 29 Aug.

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

This work is licensed under a Creative Commons Attribution 4.0 International License.

86/R/CS/246

GRAIN TONNES/HECTARE

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

N PK SUB	0	40	80	120	MEAN
- - -	2.60	4.40	6.20	7.34	5.13
- - S	2.71	4.52	6.72	7.48	5.36
P - S	2.90	3.91	6.31	7.69	5.20
- K S	2.34	4.82	6.28	7.34	5.20
P K S	2.93	5.13	6.89	7.68	5.66
P K T	3.29	4.77	6.67	7.94	5.67
MEAN	2.77	4.57	6.47	7.55	5.34

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

TABLE	PK SUB	N	PK SUB N	
SED	0.297		0.594	MIN REP
	0.257	0.225	0.515	MAX-MIN
			0.420	MAX REP

	PKSUB
MAX REP	- - -
MAX-MIN	- - - V ANY OF REMAINDER
MIN REP	ANY OF REMAINDER

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

STRATUM	DF	SE	CV%
WP	32	0.594	11.1

GRAIN MEAN DM% 78.6

PLOT AREA HARVESTED 0.00217

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