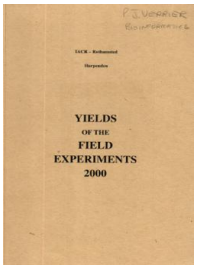
ROTHAMSTED RESEARCH

Yields of the Field Experiments 2000

Full Table of Content



00/W/RN/12 Organic Manuring - W. Wheat

Rothamsted Research

Rothamsted Research (2001) *00/W/RN/12 Organic Manuring - W. Wheat ;* Yields Of The Field Experiments 2000, pp 46 - 48 **- DOI: https://doi.org/10.23637/ERADOC-1-55**

00/W/RN/12

ORGANIC MANURING

Object: To study, from crop yields and soil analyses, the effects of a range of types of organic matter - Woburn, Stackyard B.

Sponsor: P.R. Poulton.

The 36th year, w. wheat.

For previous years see 'Details' 1973 and 74-99/W/RN/12.

Design: 4 blocks of 8 plots.

Whole plot dimensions: 8.0 x 29.5.

Treatments: From 1966 to 1971 the experiment had a preliminary period designed to build up organic matter from different sources. An arable rotation was started on two blocks in 1972 and the remaining two blocks in 1973. After a period of testing the residues, a further period of accumulation was started; on two blocks (which included ley sown in 1979) in 1981 and on the other two (which included ley sown in 1980) in 1982. A second test phase began when leys on the first pair of blocks were ploughed for the 1st test crop in 1987 and on the second pair for the 1st test crop in 1988. From 1988 two blocks, and 1989 the other two, to 1994, plots were split into 6 sub-plots to test five levels of nitrogen and nil. From 1995 to 1997 residual effects of that nitrogen were measured. In 1998 to 2000 yields were taken from whole plots only.

Whole blocks

1. **CROPSEQ** Crop sequence:

WHEAT A	W. wheat, after w. wheat 1988, potatoes 1989, w. wheat 1990, w. beans 1991, w. wheat 1992-6, w. rye 1997, w. wheat 1998-2000
WHEAT B	W. wheat, after w. wheat 1987, potatoes 1988, w. wheat 1989, w. beans 1990, w. wheat 1991-6, w. rye 1997, w. wheat 1998-2000

Whole plots

2. **TREATMNT** Previous treatments:

(LC 8 GM)	Eight-year clover/grass ley until 1987 (WHEAT A) or 1986 (WHEAT B), green manure in the preliminary period
(LC 8 PT)	As above, peat in the preliminary period
(LC 6 LC)	Six-year clover/grass ley until 1987 (WHEAT A) or 1986 (WHEAT B), clover/grass ley in the preliminary period
(LC 6 LN)	As above, grass ley with N in the preliminary period
(FYM)	Farmyard manure annually 1981 to 1986 (WHEAT A) or 1985 (WHEAT B) and in the preliminary period
(STRAW)	Straw in both periods

https://doi.org/10.23637/ERADOC-1-55

2. **TREATMNT** Previous treatments: (continued)

(FERT-FYM) Fertilizers only in both periods, rates of P, K & Mg equivalent to amounts in FYM

(FERT-STR) Fertilizers only in both periods, rates of P, K & Mg equivalent to amounts in straw (+P)

Experimental diary:

13-Sep-99	B	Potassium sulphate at 200 kg. Triple superphosphate at 106 kg.
14-Sep-99	B	Ploughed.
17-Sep-99	B	Rolled.
03-Oct-99	B	Spring-tine cultivated.
04-Oct-99	B	Rotary harrowed. Drilled, Hereward, tr. Sibutol, at 380 seeds/m^2 with the Accord drill.
11-Nov-99	B	Hallmark at 100 ml in 100 l.
31-Dec-99	B	Panther at 2.0 l in 200 l.
21-Mar-00	B	tm) Ally at 30 g in 200 l.
	B	tm) Topik at 125 ml in 200 l.
	B	tm) Cropoil at 1.0 l in 200 l.
11-Apr-00	B	34.5% N at 278 kg.
30-Apr-00	B	tm) Marshland Liquid Manganese Complex at 2.0 l in 200 l.
	B	tm) Opus at 0.3 l in 200 l.
	B	tm) BASF 3C Chlormequat 720 at 2.0 l in 200 l.
20-May-00	B	Opus at 0.75 l in 200 l.
20-Aug-00	B	Combine harvested.
25-Aug-00	B	Straw baled and carted.

NOTE: Samples of grain were taken for chemical analysis.

https://doi.org/10.23637/ERADOC-1-55

00/W/RN/12

GRAIN TONNES/HECTARE

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

CROPSEQ / **TREATMNT**	WHEAT A	WHEAT B	Mean
(LC 8 GM)	4.63	5.11	4.87
(LC 8 PT)	5.07	4.82	4.95
(LC 6 LC)	5.10	4.62	4.86
(LC 6 LN)	5.27	5.13	5.20
(FYM)	5.17	5.37	5.27
(STRAW)	5.19	4.41	4.80
(FERT-FYM)	4.07	4.45	4.26
(FERT-STR)	4.95	3.99	4.47
Mean	4.93	4.74	4.83

*** Standard errors of differences of means ***

TREATMNT	**CROPSEQ*** **TREATMNT**
0.323	0.457

* Within the same level of **CROPSEQ** only

***** Stratum standard errors and coefficients of variation *****

Stratum	d.f.	s.e.	cv%
BLOCK.WP	14	0.457	9.5

GRAIN MEAN DM% 84.4

AVERAGE PLOT AREA HARVESTED 0.01149

https://doi.org/10.23637/ERADOC-1-55