ROTHAMSTED RESEARCH

Yields of the Field Experiments 2007

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R/CS/477 & W/CS/478 Continuous Maize

Rothamsted Research

Rothamsted Research (2007) *R/CS/477 & W/CS/478 Continuous Maize ;* Yields Of The Field Experiments 2007, pp 55 - 60 **- DOI: https://doi.org/10.23637/ERADOC-1-217**

07/R/CS/477

CONTINUOUS MAIZE

Object: To monitor the fate of organic carbon in the soil organic matter – Hoosfield

Sponsors: P. R. Poulton and A. J. Macdonald

The 11th year, forage maize and s. barley

For previous years see Yield Books for 97-06/R/CS/477

Design: 3 randomised blocks of 6 plots.

Plot dimensions: 12.0 x 25.0

Treatments:-

CROP	Crop and straw treatments:
M	Continuous maize, stubble incorporated
(M)B	S. barley after five years maize, stubble incorporated
MT	Maize, stubble plus 10 t maize tops incorporated
(B)M	Maize, after three years of s. barley with straw removed
BT	Continuous spring barley, straw removed plus 10 t maize tops incorporated
B	Continuous spring barley, straw removed

Experimental diary:

				Rate	Unit
03-Oct-06	f	BT,MT	Maize tops - Plots 3, 6, 9, 12, 16, 18	10.00	t/ha
12-Oct-06	f		Triple Superphosphate	171.00	kg/ha
	f		Muriate of Potash	181.00	kg/ha
19-Oct-06	a		Plough/ N		
12-Mar-07	a		Springtined		
04-Apr-07	a	(M)B, BT,B	Combination Drilled		
	s		Optic tr Raxil Pro	350.00	seeds/m^2
	a	(M)B, BT,B	Rolled whole experiment		
25-Apr-07	f		Double Top	356.00	kg/ha
01-May-07	a	(B)M, MT, M	Flexitined maize plots		
02-May-07	a	(B)M, MT, M	Power harrowed maize plots		
	a	(B)M, MT, M	Nodet drilled maize plots		
	s		Hudson tr Mesurol	10.20	seeds/m^2
	a	(B)M, MT, M	Rolled maize plots		
17-May-07	p		Fandango	1.00	l/200 l/ha
	p		Flexity	0.30	l/200 l/ha
	p		Alpha Briotril Plus 19/19	1.50	l/200 l/ha
	p		Optica	2.00	l/200 l/ha
02-Jun-07	p	(M)B, BT,B	Amistar Opti - barley	1.00	l/200 l/ha
	p		Corbel - barley	0.50	l/200 l/ha
14-Jun-07	p	(B)M, MT, M	Samson - maize plots	1.50	l/200 l/ha
19-Jun-07	p	(B)M, MT, M	Callisto - maize plots	0.75	l/200 l/ha

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20-Jun-07	a		Mow / Rotavate paths
03-Sep-07	a	(M)B, BT, B	Combine harvest discards
	a		Swath straw
04-Sep-07	a	(M)B, BT, B	Combine harvest, plots for yield
	a		Swath straw
18-Sep-07	a	M, MT, (B) M	Cut harvest strips, weighed and sampled maize
25-Sep-07	a	M, MT, (B) M	Cut maize discards

NOTE: Forage maize and barley grain samples were taken for N analysis.

MAIZE

WHOLE CROP (AT 100% DRY MATTER) TONNES/HECTARE

Treatment	
M	6.90
(B)M	8.30
MT	7.20
Mean	7.46

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

Treatment
1.342

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

Stratum	d.f.	s.e.	cv%
Blocks.Plots	4	1.643	22.0

Plot area harvested 0.00108

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SPRING BARLEY

GRAIN TONNES/HECTARE

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

Treatment	
(M)B	4.71
BT	5.48
B	5.33
Mean	5.17

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

Treatment
0.242

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

Stratum	d.f.	s.e.	cv%
Blocks.Plots	4	0.297	5.7

Grain mean dm% 83.1

Plot area harvested 0.00504

https://doi.org/10.23637/ERADOC-1-217

07/W/CS/478

CONTINUOUS MAIZE

Object: To monitor the fate of organic carbon in the soil organic matter – Woburn, Stackyard AI

Sponsors: P. R. Poulton and A. J. Macdonald

The 11th year, forage maize and s. barley

For previous years see Yield Books for 97-06/W/CS/478

Design: 3 randomised blocks of 6 plots.

Plot dimensions: 9.0 x 25.00

Treatments:-

CROP	Crop and straw treatments:
M	Continuous maize, stubble incorporated
(M)B	S. barley after five years maize, stubble incorporated
MT	Maize, stubble plus 10 t maize tops incorporated
(B)M	Maize after three years of s. barley with straw removed
BT	Continuous spring barley, straw removed plus 10 t maize tops incorporated
B	Continuous spring barley, straw removed

Experimental diary:

				Rate	Unit
16-Oct-06	a	BT, MT	Applied maize tops to plots 2, 4, 12, 13, 16, 17	10.00	t/ha
07-Nov-06	a		Topped		
	f		Triple Superphosphate	171.00	kg/ha
	f		Muriate of Potash	181.00	kg/ha
14-Nov-06	a		Plough/ NE		
03-Apr-07	a		Flexitined		
05-Apr-07	a		Power Harrowed		
	a		Combination Drilled		
	s		Optic tr Raxil Pro	350.00	seeds/m^2
	a		Rolled		
01-May-07	a		Nodet Drilled		
	s		Hudson tr Mesurol	10.20	seeds/m^2
02-May-07	f		Double Top	355.00	kg/ha
20-May-07	p		Fandango	1.00	l/200 l/ha
	p		Flexity	0.30	l/200 l/ha
	p		Alpha Briotril 24/16	1.50	l/200 l/ha
	p		Duplosan KV	2.00	l/200 l/ha
01-Jun-07	p	(B)M, MT, M	Callisto - maize	1.50	l/200 l/ha
19-Jun-07	p		Amistar Opti - barley	1.00	l/200 l/ha
	p		Standon Fenpropimorph 750 - barley	0.50	l/200 l/ha

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05-Sep-07	a	(M)B, BT, B	Combine harvest, plots for yield
	a		Swath straw
08-Sep-07	a	(B)M, MT, M	Baled
18-Sep-07	a		Cut harvest strips, weighed and sampled
25-Sep-07	a	(B)M, MT, M	Mowed and baled maize plots

Note: Forage maize and barley grain were taken for N analysis.

MAIZE

WHOLE CROP (100% DM) TONNES/HECTARE

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

Treatment	
M	6.06
MT	8.61
(B)M	7.12
Mean	7.26

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

Treatment
0.903

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

TPlDm Total plant dry matter tonnes/hectare

Stratum	d.f.	s.e.	cv%
Blocks.Plots	4	1.106	15.2

MEAN DM% 27.4

PLOT AREA HARVESTED 0.00108

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SPRING BARLEY

GRAIN TONNES/HECTARE

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

Treatment	
(M)B	4.51
BT	5.59
B	4.82
Mean	4.97

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

Treatment
0.079

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

Stratum	d.f.	s.e.	cv%
Blocks.Plots	4	0.097	2.0

GRAIN MEAN DM% 84.7

PLOT AREA HARVESTED 0.00525

https://doi.org/10.23637/ERADOC-1-217