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Yields of the Field Experiments 2013



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

Rothamsted Research

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13/R/CS/477

CONTINUOUS MAIZE

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

Sponsors: A. J. Macdonald

The 17th year, forage maize and s. barley

For previous years see Yield Books for 97-12/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)	S. barley, after ten years of Maize, straw removed
BÌ	Continuous spring barley, straw removed plus 10 t maize tops incorporated
В	Continuous spring barley, straw removed

Note: Cropping was changed from Maize to S. barley on the BM treatment in 2010

Experimental diary

Date		Application	Rate	Units
28-Sept-12	f	TSP applied – all plots	171	kg/ha
		MOP applied – all plots	181	kg/ha
05-Oct-12	а	Maize tops spread on plots 3, 9,18, 6, 12, 16	10	t/ha
02-Apr-13	а	Spring tined		
03-Apr-13	s	Drilled Barley only, var. Tipple dr Rancona	350	seeds/m ²
6-Apr-13	р	Sprayed Kula	3.5	l/ha
16-May-13	а	flexitined maize plots	_	_
20-May-13	а	Power-harrowed maize plots	_	_
20-May-13	а	Drilled Maize, Hudson tr Mesurol	as plan	
21-May-13	f	Applied Doubletop to Maize and Barley	@356	kg/ha
26-May-13	р	Sprayed Refine Max, Compitore Plus, Mobius,	re@75	g/ha
		Cyflomid	co@1.0	g/ha
			mo@0.6	l/ha
			cyf@0.125	l/ha
00 1 40		0 1441	00.4	l/ha
26-Jun-13	р	Sprayed Mobius	@0.4	l/ha
26-Jun-13	р	Sprayed Samson and Callisto, Maize sprayed only	Both @0.5	l/ha
10-Jul-13	а	Pulling Wild Oats	_	_
19-Jul-13	а	Cut Paths.	_	_
12-Aug-13	а	Claas - Harvested opened up exp.	_	_

27-Aug-13	а	Claas - Harvested OE's	_	_
27-Aug-13	а	Sampo - Harvested all plots	_	_
29-Aug-13	а	Claas - Harvested, cleared OE's	_	_
25-Sep-13	а	Harvested all Maize plots	_	_
25-Sep-13	а	Cleared OE's Maize	_	_
26-Sep-13	а	Cut Maize OE's	_	_

NOTE: Samples of barley grain and maize (whole crop) were taken for chemical analyses.

MAIZE

WHOLE CROP TONNES/HECTARE (100% DM)

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

Treatment	
M	2.33
MT	2.72
M(B)	2.94
(B) M	1.87
Mean	2.47

Note: Maize yields were adversely affected by the accidental application of residual herbicide (Topik). Therefore, yields are unreliable.

Standard errors of differences of means

Table	Treatment
rep.	3
d.f.	6
e e d	0 678

Stratum standard errors and coefficients of variation

Variate: TPlDm Total plant dry matter tonnes/hectare

Stratum	d.f.	s.e.	cv%	
Blocks	2	0.437	17.7	
Blocks.Plots	6	0.830	33.7	

MEAN DM% 23.8

Plot area harvested 0.00108

13/R/CS/477

SPRING BARLEY

Grain tonnes/hectare

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

Treatment

BT 5.10 B 4.85

Mean 4.98

Standard errors of differences of $\ensuremath{\mathsf{means}}$

Table Treatment rep. 3 d.f. 2 s.e.d. 0.086

Stratum standard errors and coefficients of variation

Variate: Grain85% Grain (at 85% dry matter) tonnes/hectare

 Stratum
 d.f.
 s.e.
 cv%

 Blocks
 2
 0.299
 6.0

 Blocks.Plots
 2
 0.106
 2.1

GRAIN MEAN DM% 87.1

Plot area harvested 0.00525

13/W/CS/478

CONTINUOUS MAIZE

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

Stackyard Al

Sponsors: A. J. Macdonald

The 17th year, forage maize and s. barley

For previous years see Yield Books for 97-12/W/CS/478

Design: 3 randomised blocks of 6 plots.

Plot dimensions: 9.0 x 25.00

Treatments:-

CROP	Crop and straw treatments:
•	orop and chaw troutmonto.

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) S. barley, after ten years of maize, straw removed

BT Continuous spring barley, straw removed plus 10 t maize tops incorporated

B Continuous spring barley, straw removed

Note: Cropping was changed from Maize to S. barley on the BM treatment in 2010

NOTE: Samples of barley grain and maize (whole crop) were taken for chemical analyses.

Experimental diary

Date		Application	Rate	Units
23-Oct-12	а	Applied Maize tops, plots 2, 4, 12, 13, 16, 17.	10	t/ha
06-Nov-12	а	Ploughed North	_	_
15-Mar-13	а	Spring tined	_	_
04-Apr-13	S	Drilled NFC Tipple, tr Rancona	350	seeds/m ²
04-Apr-13	а	Rolled, rolled Oats/sp Barley	_	_
20-Apr-13	f	Applied TSP	171	kg/ha
22-Apr-13	f	Applied MOP	181	kg/ha
23-Apr-13	f	Applied Double Top, applied to Sp. Barley and maize seedbed	356	kg/ha
22-May-13	s	Drilled Maize, Hudson tr Mesurol	10.1	seeds/m ²
02-Jul-13	р	Sprayed Harmony M, Mobius and Hatchet Xtra, sprayed spring barley only	Har @ 0.1 Mob @ 0.5 Hat @ 0.7	kg/ha l/ha l/ha
05-Jul-13	р	Sprayed Mobius, sprayed spring barley only	0.4	l/ha
05-Jul-13	p	Sprayed Samson and Callisto, Maize plots only	0.5 0.5	l/ha l/ha
31-Aug-13	а	Cut plots for yield	_	_

04-Sep-13aCombined——06-Sep-13aBaled——07-Oct-13aCut Maize for yields——07-Oct-13aMowed and Baled, only two bales of maize——

MAIZE WHOLE CROP TONNES/HECTARE (100% DM)

**** Tables of means ****

Treatment

M 2.79
T 4.22
M(B) 3.11
(B)M 3.34
Mean 3.36

Standard errors of differences of means

Table Treatment rep. 3

d.f. 6 s.e.d. 0.628

Stratum standard errors and coefficients of variation $% \left(1\right) =\left(1\right) \left(1\right)$

 Stratum
 d.f.
 s.e.
 cv%

 Blocks
 2
 0.390
 11.6

 Blocks.Plots
 6
 0.769
 22.8

Mean DM% 26.5

Plot area harvested 0.00108

13/W/CS/478

SPRING BARLEY

GRAIN TONNES/HECTARE

**** Tables of means ****

Treatment

BT 3.93 B 3.06

Mean 3.49

Standard errors of differences of means

Table Treatment rep. 3 d.f. 2 s.e.d. 0.247

Stratum standard errors and coefficients of variation $% \left(1\right) =\left(1\right) \left(1\right)$

 Stratum
 d.f.
 s.e.
 cv%

 Blocks
 2
 0.203
 5.8

 Blocks.Plots
 2
 0.303
 8.7

Grain mean DM% 88.0

Plot area harvested 0.00525

Standard errors of differences of means

Table Treatment s.e.d. 0.095

Stratum standard errors and coefficients of variation

Blocks.Plots 4 0.116 2.4

GRAIN MEAN DM% 84.3

PLOT AREA HARVESTED 0.00525