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Yields of the Field Experiments 2012

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Results of the
Classical and other
Long-term Experiments
2012

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

Rothamsted Research

Rothamsted Research (2013) *R/CS/477 & W/CS/478 Continuous Maize* ; Yields Of The Field Experiments 2012, pp 57 - 61 - DOI: <https://doi.org/10.23637/ERADOC-1-222>

12/R/CS/477

CONTINUOUS MAIZE

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

Sponsors: A. J. Macdonald

The 16th year, forage maize and s. barley

For previous years see Yield Books for 97-11/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
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

Experimental diary

Date		Application	Rate	Units
29-Sep-11	f	Applied Triple Super Phosphate, as per plan	-	
29-Sep-11	f	Applied Muriate of Potash, as per plan	-	
01-Oct-11	a	Spread Maize Tops, as per plan	10	t/ha
01-Oct-11	a	Ploughed	-	
27-Mar-12	s	Flexi tined before drilling	-	-
27-Mar-12	a	Drilled Tipple Sp. Barley tr Beret Multi	350	Seeds/m ²
28-Mar-12	a	Rolled - Finished	-	
13-May-12	s	Drilled Hudson (Maize - dressed with Mesural)	10.2	Seed/m ²
13-May-12	a	Powerharrowed	-	
22-May-12	P	Sprayed Spring Barley w/ Amistar, Corbel and Duplosan	Am@1.0 Co@0.25 Du@2.0	l/ha
23-May-12	f	Broadcast Double Top; 27% N, 30% SO ₃ - Maize and Barley	356	kg/ha
10-Jun-12	p	Sprayed w/ Seguris, Harmony and Inka used to top up in 200l/ha of water	Se@0.7, Ha@100* In@60*	l/ha, *g/ha
20-Jun-12	p	Sprayed Samson Extra and Callisto in 200l/ha of water	Sa@0.75 Ca@1.5	l/ha
12-Jul-12	p	Sprayed Dow Shield in 200l/ha of water	0.5	l/ha
01-Aug-12	a	Marking out Experiment	-	

07-Aug-12	a	Paths Cut and Cultivated	-	
24-Aug-12	a	Harvested Barley	-	
24-Aug-12	a	Sampled Baled and Weighed	-	
31-Aug-12	a	Harvested odds and ends	-	
20-Sep-12	p	Sprayed Whole field w/ Weedazol EW	20	l/ha
27-Sep-12	a	Harvested Maize for Yield	-	
27-Sep-12	a	Harvested and Chopped Maize odds and ends	-	
28-Sep-12	f	Spread MOP and TSP	MOP181 TSP171	kg/ha
05-Oct-12	a	Applied Maize tops to plots 3,6,9,12,16,18 @300kg/plot	10	t/ha

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

12/R/CS/477

MAIZE

WHOLE CROP TONNES/HECTARE (100% DM)

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

Treatment	
M	7.13
MT	8.01
M(B)	8.90
Mean	8.02

Standard errors of differences of means

Table	Treatment
s.e.d.	1.549

Stratum standard errors and coefficients of variation

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Stratum	d.f.	s.e.	cv%
Blocks.Plots	4	1.897	23.7

GRAIN MEAN DM% 24.7

Plot area harvested 0.00108

SPRING BARLEY

GRAIN TONNES/HECTARE

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

Treatment	
BT	5.92
B	5.23
B(M)	5.74
Mean	5.63

Standard errors of differences of means

Table	Treatment
s.e.d.	0.280

Grain mean DM% 83.7

Plot area harvested 0.00525

12/W/CS/478

CONTINUOUS MAIZE

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

Sponsors: A. J. Macdonald

The 16th year, forage maize and s. barley

For previous years see Yield Books for 97-11/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) 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

Experimental diary

Date		Application	Rate	Units
23-Nov-10	a	Spread chopped maize as per plan.	-	
23-Nov-10	a	Ploughed, dowdeswell 4 furrow at 14".	-	
25-Mar-11	a	Flexi Tined.	-	
25-Mar-11	a	Combination Drilled Optic on spring barley plots only. Cambridge rolled.	350	seeds/m ²
25-Apr-11	f	Broadcast Double Top; 27% N, 30% SO ₃ - Maize and Barley	356	kg/ha
05-May-11	a	Rotary Harrowed. Drilled Hudson (Maize) dressed Mesurool.	10.2	seeds/m ²
20-May-11	p	Sprayed Thor in 200 l/ha of water on spring barley plots only	20	g/ha
07-Jun-11	p	Sprayed Callisto with Samson in 200l/ha of water on Maize plots only	Ca@1.0 Sa@0.75	l/ha
01-Sep-11	a	Combined Barley plots	-	
02-Sep-11	a	Combined O+Es	-	
07-Sep-11	a	Baled and removed straw	-	
26-Sep-11	a	Cut Maize for yields	-	
06-Oct-11	a	Cut remainder of maize including discards, bale and clear bales	-	

NOTE: Samples of barley grain and maize (whole crop) were taken for chemical analyses.
12/W/CS/478

MAIZE

WHOLE CROP TONNES/HECTARE (100% DM)

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

Treatment	
M	6.72
MT	6.76
M(B)	5.68
Mean	6.39

Standard errors of differences of means

Table	Treatment
s.e.d.	1.367

Stratum standard errors and coefficients of variation

Stratum	d.f.	s.e.	cv%
Blocks.Plots	4	1.674	26.2

MEAN DM% 24.5

PLOT AREA HARVESTED 0.00108

SPRING BARLEY

GRAIN TONNES/HECTARE

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

Treatment	
BT	5.04
B	4.55
B(M)	5.08
Mean	4.89

Standard errors of differences of means

Table	Treatment
s.e.d.	0.095

Stratum standard errors and coefficients of variation

Stratum	d.f.	s.e.	cv%
Blocks.Plots	4	0.116	2.4

GRAIN MEAN DM% 84.3

PLOT AREA HARVESTED 0.00525