ROTHAMSTED RESEARCH

Yields of the Field Experiments 2010

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

Rothamsted Research

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10/R/CS/477

CONTINUOUS MAIZE

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

Sponsors: A. J. Macdonald

The 14th year, forage maize and s. barley

For previous years see Yield Books for 97-09/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

			Rate	Unit
14-Sep-09	a	Spread maize on plots - 300 kg on each plot	10.00	t/ha
29-Sep-09	f	MOP	181.00	kg/ha
	f	TSP	171.00	kg/ha
	a	Spread fertiliser		
	a	Spread fertiliser		
06-Oct-09	a	Subsoiled - Headlands only		
09-Oct-09	a	Plough		
11-Mar-10	p	Rosate 36 - 200 lt water	6.00	l/ha
06-Apr-10	a	Springtined		
	a	Flexitined - tramlines only		
07-Apr-10	a	Flexitined - Headlands only		
08-Apr-10	s	Optic - Spring barley plots	350.00	seeds/m2
	a	Flexitined		
	a	Combination Drilled		
09-Apr-10	a	Rolled		
26-Apr-10	f	Double Top	356.00	kg/ha
	a	Power harrowed - Maize area		
	a	Flexi Tined - Maize area		
27-Apr-10	s	Hudson	10.20	seeds/msq
	a	Nodet Drilled		
28-Apr-10	a	Rolled - Maize plots		

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24-May-10	p	Kestral - started	0.50	l/ha
	p	Jenton - started	0.50	l/ha
	p	Bravo 500 - started	1.00	l/ha
25-May-10	p	Kestral	0.50	l/ha
	p	Jenton	0.50	l/ha
	p	Bravo 500	1.00	l/ha
26-May-10	p	Headland Charge - 200 lt water	1.50	l/ha
	p	Harmony M SX - 200 lt water	100.00	g/ha
31-May-10	p	Pirlid- 200 lt water	0.35	l/ha
04-Jun-10	p	Axial - 200 lt water	0.40	l/ha
	p	Axial - 200 lt water	0.40	l/ha
	p	Adigor - 200 lt water	1.00	l/ha
	p	Adigor - 200 lt water	1.00	l/ha
	p	Callisto - 200 lt water	0.75	l/ha
	p	Samson Extra - 200 lt water	0.50	l/ha
18-Jun-10	a	Cut paths		
23-Jun-10	p	Bravo 500 - 200 lt water	1.00	l/ha
	p	Bravo 500 - 200 lt water	1.00	l/ha
	p	Mobius - 200 lt water	0.43	l/ha
	p	Standon Fenpropimorph 750 - 200 lt water	0.50	l/ha
	p	Corbel - 200 lt water	0.50	l/ha
14-Jul-10	a	Mow / Rotavate paths		
21-Aug-10	a	Combine harvest barley plots for yield		
	a	Baled		
27-Sep-10	a	Harvest Maize Plots		
	a	Other operation, - cut maize discards		
28-Sep-10	a	Other operation, - cut maize discards		

MAIZE

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

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

Treatment	
M	11.02
MT	10.32
Mean	10.67

Standard errors of differences of means

Table	Treatment
s.e.d.	1.684

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Stratum standard errors and coefficients of variation

Stratum	d.f.	s.e.	cv%
Blocks.Plots	2	2.062	19.3

MEAN DM% 31.4

PLOT AREA HARVESTED 0.00108

SPRING BARLEY

GRAIN TONNES/HECTARE

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

Treatment	
(M)B	3.25
BT	3.87
B	2.88
B(M)	4.21
Mean	3.55

Standard errors of differences of means

Table	Treatment
s.e.d.	0.319

Stratum standard errors and coefficients of variation

Stratum	d.f.	s.e.	cv%
Blocks.Plots	6	0.390	11.0

Grain mean dm% 83.0

Plot area harvested 0.00525

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10/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 14th year, forage maize and s. barley

For previous years see Yield Books for 97-09/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

			Rate	Unit
16-Sep-09	a	Spread maize on plots - BT and MT plots	10.00	t/ha
21-Sep-09	p	Nufosate Ace - 200 lt water	4.00	l/ha
23-Sep-09	f	MOP	181.00	kg/ha
	a	Broadcast		
	f	TSP	171.00	kg/ha
14-Oct-09	a	Plough		
11-Apr-10	a	Harrowed		
19-Apr-10	s	Optic tr Raxil Pro	350.00	seeds/m2
19/04/2010	a	Combination Drilled		
	a	Rolled		
28-Apr-10	s	Hudson tr Mesurol	10.20	seeds/m2
	a	Nodet Drilled		
17-May-10	f	Double top	356.00	kg/ha
02-Jun-10	p	Opus - 200 lt water	0.60	l/ha
	p	Corbel - 200 lt water	0.50	l/ha
22-Jun-10	p	Callisto - 220 lt water	1.00	l/ha
	p	Samson - 220 lt water	0.75	l/ha
09-Sep-10	a	Combine harvest, plots for yield - barley		
	a	Swath straw		
21-Sep-10	a	Baled and removed		
30-Sep-10	a	Harvest Maize Plots - weighed and sampled		
09-Oct-10	a	Mown - maize plots		

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MAIZE

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

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

Treatment	
M	7.06
MT	5.53
Mean	6.29

Standard errors of differences of means

Table	Treatment
s.e.d.	0.484

Stratum standard errors and coefficients of variation

Stratum	d.f.	s.e.	cv%
Blocks.Plots	2	0.593	9.4

MEAN DM% 39.7

PLOT AREA HARVESTED 0.00108

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SPRING BARLEY

GRAIN TONNES/HECTARE

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

Treatment	
(M)B	2.21
BT	2.25
B	1.94
B(M)	3.26
Mean	2.41

Standard errors of differences of means

Table	Treatment
s.e.d.	0.124

Stratum standard errors and coefficients of variation

Stratum	d.f.	s.e.	cv%
Blocks.Plots	6	0.151	6.3

Grain mean dm%	84.4
Plot area harvested	0.00525

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