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# Results of the Classical and Other Long-term Experiments 2004

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## 04/W/CS/478 - Woburn Continuous Maize

### Rothamsted Research

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04/W/CS/478

**CONTINUOUS MAIZE**

**Object:** To monitor the fate of organic carbon in the soil organic matter -  
Woburn, Stackyard A I.

**Sponsors:** P.R. Poulton.

The eighth year, forage maize and s. barley.

For previous years see 97-03/W/CS/478.

**Design:** 3 randomised blocks of 6 plots.

**Plot dimensions:** 9.0 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 spring barley, straw removed
BT	Continuous spring barley, straw removed plus 10 t maize tops incorporated
B	Continuous spring barley, straw removed

**Experimental diary:**

05-Sep-03 : T : BT, MT: Maize tops applied at 225 kg per plot.  
02-Oct-03 : B : : Muriate of potash at 250 kg.  
          : B : : Triple superphosphate at 180 kg.  
07-Oct-03 : B : : Ploughed 30 cm wide furrows.  
09-Apr-04 : B : : Glydate at 3.0 l in 200 l.  
12-Apr-04 : B : : Power harrowed.  
          : T : (M)B, BT, B: Drilled, Optic, tr. Sibutol, at 400  
  seeds/m<sup>2</sup> with the Accord drill, rolled.  
07-May-04 : B : : Sulphur Gold (30% N, 7.6% S) at 320 kg.  
12-May-04 : T : (B)M, MT, M: Rotary harrowed.  
          : T : (B)M, MT, M: Drilled, Hudson, tr. Mesuro1, at 10.2  
  seeds/m<sup>2</sup> with the Nodet drill.  
03-Jun-04 : B : (M)B, BT, B: tm)Opus at 0.4 l in 200 l.  
          : B : : tm)Acanto at 0.5 l in 200 l.  
04-Sep-04 : T : (M)B, BT, B: Combine harvested plots for yield.  
          : T : (M)B, BT, B: Swathed straw  
08-Sep-04 : T : (M)B, BT, B: Baled.  
22-Sep-04 : T : (B)M, MT, M: Cut sample areas, weighed, and sampled.  
05-Oct-04 : T : (B)M, MT, M: Cut discards.

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

04/W/CS/478

**MAIZE**

Whole Crop (at 100% dry matter) TONNES/HECTARE

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

CROP	
M	7.77
MT	7.26
(B)M	5.42
Mean	6.82

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

CROP
0.893

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

Stratum	d.f.	s.e.	cv%
Blocks.Plots	4	1.094	16.0

MEAN DM% 37.8  
PLOT AREA HARVESTED 0.00108

**SPRING BARLEY**

GRAIN TONNES/HECTARE

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

CROP	
(M)B	3.54
BT	2.85
B	2.27
Mean	2.88

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

CROP
0.140

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

Stratum	d.f.	s.e.	cv%
Blocks.Plots	4	0.171	5.9

GRAIN MEAN DM% 86.5  
PLOT AREA HARVESTED 0.00525