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

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Rothamsted Research

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## 04/R/CS/477 - Rothamsted Continuous Maize

### Rothamsted Research

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04/R/CS/477

**CONTINUOUS MAIZE**

**Object:** To monitor the fate of organic carbon in the soil organic matter -  
Hoosfield.

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

The eighth year, forage maize and s. barley.

For previous years see 97-03/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:**

26-Sep-03 : B : : Muriate of potash at 180 kg.  
          : B : : Triple superphosphate at 170 kg.  
05-Nov-03 : T : BT, MT: Maize tops at 300 kg per plot  
          : B : : Ploughed 30 cm wide furrows.  
09-Apr-04 : B : : Glydate at 3.0 l in 200 l to maize plots.  
14-Apr-04 : B : : Power harrow.  
          : T : (M)B, BT, B: Combination drilled, Optic, tr. Raxil S, at  
              350 seeds/m<sup>2</sup> with the Accord 2 drill.  
          : T : (M)B, BT, B: Rolled.  
26-Apr-04 : B : : Sulphur Gold (30% N, 7.6% S) at 320 kg.  
03-May-04 : T : (M)B, BT, B: Harmony M at 60 g in 200 l.  
14-May-04 : T : (B)M, MT, M: Flexitined.  
19-May-04 : T : (B)M, MT, M: Power harrowed.  
20-May-04 : T : (B)M, MT, M: Drilled, Hudson, tr. Mesuro1, at 10.2  
              seeds/m<sup>2</sup> with the Nodet Gougis drill.  
22-Jun-04 : T : (B)M, MT, M tm)Samson at 1.5 l in 200 l.  
26-Aug-04 : T : (M)B, BT, B: Combine harvested plots for yield, swathed  
              straw.  
01-Sep-04 : T : (M)B, BT, B: Baled.  
20-Sep-04 : T : (B)M, MT, M: Cut sample areas by hand, weighed and  
              sampled.

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

04/R/CS/477

**MAIZE**

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

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

CROP	
M	11.28
(B)M	12.26
MT	11.45
Mean	11.66

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

CROP
1.113

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

Stratum	d.f.	s.e.	cv%
Blocks.Plots	4	1.364	11.7
MEAN DM%	27.0		
PLOT AREA HARVESTED	0.00108		

**SPRING BARLEY**

GRAIN TONNES/HECTARE

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

CROP	
(M)B	4.46
BT	3.98
B	3.90
Mean	4.11

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

CROP
0.110

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

Blocks.Plots	4	0.134	3.3
GRAIN MEAN DM%	83.2		
AVERAGE PLOT AREA HARVESTED	0.00512		