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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/W/CS/478 - Woburn Continuous Maize

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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:

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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/m2 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. Mesurol, at 10.2
                seeds/m2 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.

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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		