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Results of the Classical and Other Long-term Experiments 2006

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Rothamsted Research

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06/R/CS/477 - Rothamsted Continuous Maize

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06/R/CS/477

CONTINUOUS MAIZE

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

Sponsors: P.R. Poulton and A.J. Macdonald.

The 10th year, forage maize and s. barley.

For previous years see 97-05/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:

19-Oct-05	: T	: BT, MT	: Maize tops at 10 t
08-Nov-05	: B	:	: Muriate of potash at 180 kg.
	: B	:	: Triple superphosphate at 170 kg.
09-Nov-05	: B	:	: Ploughed 25 cm wide furrows.
03-Apr-06	: B	:	: Springtined.
05-Apr-06	: T	: (M)B, BT, B	: Combination drilled, Optic, tr. Raxil Pro, at 350 seeds/m ² with the Accord drill.
	: T	: (M)B, BT, B	: Rolled.
26-Apr-06	: B	:	: Double Top (27% N, 12% S) at 355 kg.
10-May-06	: T	: (B)M, MT, M	: Flexitined
11-May-06	: T	: (B)M, MT, M	: Flexitined, drilled, Hudson, tr. Thiram, Methiocarb, Fludioxonil, Metalaxyl M, at 10.2 seeds/m ² with the Nodet Gougis drill.
17-May-06	: T	: (M)B, BT, B	: tm)Acanto at 0.5 l in 200 l tm)Unix at 0.5 l in 200 l tm)Quantum SX at 30 g in 200 l tm)Duplosan KV at 2.0 l in 200 l
08-Jun-06	: T	: (B)M, MT, M	: tm)Jester at 0.5 kg in 200 l. tm)Griffin Gex 1664 at 0.2 l in 200 l.
11-Aug-06	:	: (M)B, BT, B	: Combine harvested discards, swathed straw, baled.
16-Aug-06	: T	: (M)B, BT, B	: Combine harvested plots for yield, swathed straw. Combined remaining barley, swathed straw. Baled.
28-Sep-06	: T	: (B)M, MT, M	: Cut sample areas by hand, weighed and sampled.
30-Sep-06	: T	: (B)M, MT, M	: Harvested discards.

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

06/R/CS/477 MAIZE

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

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

CROP	
M	7.39
(B)M	9.69
MT	7.15
Mean	8.08

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

CROP
1.039

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

Stratum	d.f.	s.e.	cv%
Blocks.Plots	4	1.272	15.7

MEAN DM% 35.6

PLOT AREA HARVESTED 0.00108

SPRING BARLEY

GRAIN TONNES/HECTARE

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

CROP	
(M)B	4.57
BT	4.47
B	4.38
Mean	4.47

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

CROP
0.304

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

Stratum	d.f.	s.e.	cv%
Blocks.Plots	4	0.373	8.3

GRAIN MEAN DM% 85.4

PLOT AREA HARVESTED 0.00525