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Results of the Classical and Other Long-term Experiments 2005

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05/R/CS/477 - Rothamsted Continuous Maize

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05/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 ninth year, forage maize and s. barley.

For previous years see 97-04/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:

07-Oct-04 : T : BT, MT : Maize tops at 300 kg per plot
29-Oct-04 : B : : Muriate of potash at 180 kg.
: B : : Triple superphosphate at 170 kg.
01-Nov-04 : B : : Ploughed 25 cm wide furrows.
07-Apr-05 : B : : Springtined.
: T : (M)B, BT, B: Combination drilled, Optic, tr. Raxil S, at 350 seeds/m² with the Accord drill.
: T : (M)B, BT, B: Rolled.
22-Apr-05 : B : : Sulphur Gold (30% N, 7.6% S) at 400 kg.
05-May-05 : T : (B)M, MT, M: Power harrowed.
: T : (B)M, MT, M: Drilled, Hudson, tr. Thiram, Methiocarb, Fludioxonil, Metalaxyl M, at 10.2 seeds/m² with the Nodet Gougis drill.
11-May-05 : T : (B)M, MT, M: Samson at 1.5 l in 200 l.
15-May-05 : T : (M)B, BT, B: tm)Corbel at 0.75 l in 200 l.
: : : tm)Fandango at 1.0 l in 200 l.
: : : tm)Harmony M SX at 100 g in 200 l.
22-Jun-05 : T : (B)M, MT, M: Dow Shield at 0.5 l in 200 l.
13-Jul-05 : T : (B)M, MT, M: Dow Shield at 1.0 l in 200 l.
30-Aug-05 : T : (M)B, BT, B: Combine harvested plots for yield, swathed straw.
01-Sep-05 : T : (M)B, BT, B: Combine harvested discards, swathed straw.
02-Sep-04 : T : (M)B, BT, B: Baled.
22-Sep-04 : T : (B)M, MT, M: Cut sample areas by hand, weighed and sampled.
17-Oct-05 : T : (B)M, MT, M: Harvested discards.

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

05/R/CS/477

MAIZE

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

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

CROP	
M	11.94
(B)M	13.99
MT	12.34
Mean	12.76

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

CROP
0.970

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

Stratum	d.f.	s.e.	cv%
Blocks.Plots	4	1.188	9.3

MEAN DM% 30.3

PLOT AREA HARVESTED 0.00108

SPRING BARLEY

GRAIN TONNES/HECTARE

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

CROP	
(M)B	5.31
BT	5.37
B	5.04
Mean	5.24

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

CROP
0.281

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

Stratum	d.f.	s.e.	cv%
Blocks.Plots	4	0.344	6.6

GRAIN MEAN DM% 89.4

PLOT AREA HARVESTED 0.00525