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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

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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/m² 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/m² 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
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GRAIN MEAN DM% 83.2

AVERAGE PLOT AREA HARVESTED 0.00512