

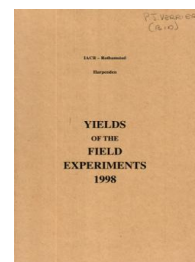
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98/R/CS/477 Continuous Maize - Maize, S. Barley

Rothamsted Research

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98/R/CS/477

CONTINUOUS MAIZE

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

Sponsors: P.R. Poulton, J.L. Gaunt.

The second year, maize and s. barley.

Design: 3 randomised blocks of 6 plots.

Plot dimensions: 12.0 x 25.0.

Treatments:-

| | |
|-------------|---|
| CROP | Crop and straw treatments: |
| BM | Spring barley, straw removed then maize after three years |
| BTM | Continuous spring barley, straw removed plus 10 t maize tops incorporated |
| B | Continuous spring barley, straw removed |
| M | Continuous maize, stubble incorporated |
| MB | Maize, stubble incorporated then s. barley after five years |
| MTB | Maize, stubble plus 10 t maize tops incorporated, then s. barley after five years |

Experimental diary:

19-Sep-97 : T : CROP BTM, MTB: Chopped maize tops at 10 t.
15-Oct-97 : B : Muriate of potash at 180 kg and triple superphosphate at 170 kg.
16-Oct-97 : B : Ploughed.
18-Mar-98 : B : Roundup at 3.0 l in 200 l.
01-Apr-98 : B : Spring-tine cultivated.
 : T : CROP BM, BTM, B: Rotary harrowed, Cooper, dressed Raxil S, drilled at 350 seeds per m².
29-Apr-98 : B : 34.5% N at 275 kg.
07-May-98 : T : CROP M, MB, MTB: Rotary harrowed, Hudson, dressed Mesuro1, drilled at 11 seeds per m².
04-Jun-98 : T : CROP BM, BTM, B: MSS Optica at 2.0 l with Corbel at 0.3 l and Opus at 0.3 l in 200 l.
28-Jun-98 : T : Gesaprim 500 SC at 3.0 l with Chiltern Cropoil at 5.0 l in 200 l.
28-Aug-98 : T : CROP BM, BTM, B: Combine harvested.
16-Sep-98 : T : CROP M, MB, MTB: Hand harvested.

NOTE: Samples of whole crop maize and barley grain and straw were taken for chemical analysis.

98/R/CS/477 MAIZE

WHOLE CROP YIELD TONNES/HECTARE

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

| CROP | |
|------|-------|
| M | 10.39 |
| MB | 10.71 |
| MTB | 10.16 |
| Mean | 10.42 |

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

| CROP |
|-------|
| 0.568 |

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

| Stratum | d.f. | s.e. | cv% |
|---------------------|---------|-------|-----|
| BLOCK.WP | 4 | 0.695 | 6.7 |
| CROP MEAN DM% | 23.4 | | |
| PLOT AREA HARVESTED | 0.00108 | | |

S. BARLEY

GRAIN TONNES/HECTARE

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

| CROP | |
|------|------|
| BM | 5.17 |
| BTM | 4.90 |
| B | 4.80 |
| Mean | 4.95 |

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

| CROP |
|-------|
| 0.188 |

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

| Stratum | d.f. | s.e. | cv% |
|---------------------|---------|-------|-----|
| BLOCK.WP | 4 | 0.230 | 4.6 |
| GRAIN MEAN DM% | 86.1 | | |
| PLOT AREA HARVESTED | 0.00575 | | |