

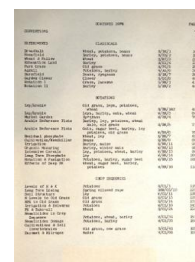
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76/R/CS/131 Effects of Earthworm Destruction - Old Grass

Rothamsted Research

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76/R/CS/131

EFFECTS OF EARTHWORM DESTRUCTION

Object: To study the effects of eliminating earthworms on yield and soil structure of old grass - Appletree.

Sponsor: J.R. Lofty.

The third year, old grass.

For previous years see 74-75/R/CS/131.

Design: 4 blocks of 4 plots.

Whole plot dimensions: 7.62 x 7.62.

Treatments: Chemicals:-

CHEMICAL

| | |
|----------|--------------------------------------------------|
| NONE | None (2 plots per block) |
| BENOMYL | Benomyl at 5 kg in 1974 and at 2.5 kg Sept, 1976 |
| CHLORDAN | Chlordane at 10 kg in 1974 only |

Basal applications: Manures: (0:14:28) at 500 kg in winter, (25:0:16) at 440 kg in spring and at 220 kg after the first cut. Weedkiller: Mecoprop at 2.7 l in 220 l.

Cultivations, etc.:- PK applied: 28 Nov, 1975. NK applied: 25 Feb, 1976, 21 May. Weedkiller applied: 19 Mar. Cut three times: 20 May, 5 July, 2 Nov.

NOTE: Earthworm populations were assessed in April.

1ST CUT (20/5/76) DRY MATTER TONNES/HECTARE

***** TABLES OF MEANS *****

| | | | | |
|----------|------|---------|----------|------|
| CHEMICAL | NONE | BENOMYL | CHLORDAN | MEAN |
| | 5.34 | 5.56 | 5.19 | 5.36 |

| | |
|-------|---------------|
| TABLE | CHEMICAL |
| ----- | ----- |
| SED | 0.294 MIN REP |
| | 0.255 MAX-MIN |

CHEMICAL
 MAX-MIN NONE ANY OF REMAINDER
 MIN REP ANY OF REMAINDER

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

| | | | |
|------------------|------|-------|-----|
| STRATUM | DF | SE | CV% |
| BLOCK.WP | 10 | 0.416 | 7.8 |
| 1ST CUT MEAN DM% | 19.8 | | |

76/R/CS/131

2ND CUT (5/7/76) DRY MATTER TONNES/HECTARE

***** TABLES OF MEANS *****

| CHEMICAL | NONE | BENOMYL | CHLORDAN | MEAN |
|----------|------|---------|----------|------|
| | 0.99 | 0.98 | 0.86 | 0.96 |

| TABLE | CHEMICAL |
|-------|--------------------------------|
| SED | 0.168 MIN REP 0.145 MAX-MIN |

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

| STRATUM | DF | SE | CV% |
|----------|----|-------|------|
| BLOCK.WP | 10 | 0.237 | 24.8 |

2ND CUT MEAN DM% 40.7

3RD CUT (2/11/76) DRY MATTER TONNES/HECTARE

***** TABLES OF MEANS *****

| CHEMICAL | NONE | BENOMYL | CHLORDAN | MEAN |
|----------|------|---------|----------|------|
| | 2.05 | 1.90 | 1.61 | 1.90 |

| TABLE | CHEMICAL |
|-------|--------------------------------|
| SED | 0.253 MIN REP 0.219 MAX-MIN |

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

| STRATUM | DF | SE | CV% |
|----------|----|-------|------|
| BLOCK.WP | 10 | 0.357 | 18.8 |

3RD CUT MEAN DM% 14.2

TOTAL OF 3 CUTS DRY MATTER TONNES/HECTARE

***** TABLES OF MEANS *****

| CHEMICAL | NONE | BENOMYL | CHLORDAN | MEAN |
|----------|------|---------|----------|------|
| | 8.38 | 8.45 | 7.65 | 8.22 |

| TABLE | CHEMICAL |
|-------|--------------------------------|
| SED | 0.439 MIN REP 0.381 MAX-MIN |

***** STRATUM STANDARD ERRORS AND COEFFICIENTS OF VARIATION *****

| STRATUM | DF | SE | CV% |
|----------|----|-------|-----|
| BLOCK.WP | 10 | 0.621 | 7.6 |

TOTAL OF 3 CUTS MEAN DM% 24.0

PLOT AREA HARVESTED 0.00046