

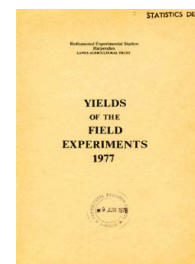
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Yields of the Field Experiments 1977

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77/R/CS/162 Times of Applying Acaricide - Ryegrass

Rothamsted Research

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77/R/CS/162

TIMES OF APPLYING ACARICIDE

Object: To study the effects of times of applying the acaricide endosulfan, on the incidence of ryegrass mosaic virus and its mite vectors and on the yield of ryegrass - Claycroft.

Sponsors: R.W. Gibson, R.T. Plumb.

The third year, ryegrass.

For previous years see 75-76/R/CS/162.

Design: Originally 4 randomised blocks of 18 plots - 9 plots Italian ryegrass and 9 plots perennial ryegrass. In 1977 yields were taken only from plots sown to Italian ryegrass. Design: 4 randomised blocks of 9 plots with CULTIVTN on blocks.

Whole plot dimensions: 4.27 x 6.10.

Treatments: All combinations of:-

Blocks

- | | |
|-------------|---|
| 1. CULTIVTN | Cultivations to existing, failing, sward before resowing Italian ryegrass (S22) in autumn 1976: |
| NONE | Seed sown into undisturbed sward, heavy spring-tine in and rolled |
| MANY | Sward destroyed before sowing by many cultivations, seed sown, harrowed in and rolled |

Plots

2. ACA TIME(757) Times of applying endosulfan 1975-1977

	1975	1976	1977
- - -	Never	Never	Never
- JN JL	Never	June	July (duplicated)
JL JL JL	July	July	July
SE AU -	September	August	Never
OC - -	October	Never	Never
OC NO -	October	November	Never
ALL	July-October	June-November	July
POST-CUT	July	June-November	July

NOTE: Endosulfan was applied at 0.35 kg in 430 l on 21 July, 1977.

Basal applications: Manures: (25:0:16) at 800 kg in spring, at 600 kg after each of the first two cuts.

Seed: S.22, sown at 36 kg.

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Cultivations, etc.:-

All blocks: NK applied: 4 Mar, 1977, 1 June, 26 July. Cut three times:
25 May, 14 July, 24 Nov.

CULTIVTN NONE blocks only: Seed sown, heavy spring-tine cultivated twice:
21 Sept, 1976. Rolled: 22 Sept.

CULTIVTN MANY blocks only: Deep-tine cultivated twice, heavy spring-tine
cultivated: 14 Sept, 1976. Rotary cultivated, spring-tine cultivated,
harrowed: 20 Sept. Sown, harrowed: 21 Sept.

NOTE: Mites were counted and virus scores made at intervals during the
season.

1ST CUT (25/5/77) DRY MATTER TONNES/HECTARE

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

CULTIVTN	NONE	MANY	MEAN
ACA TIME(757)			
- - -	5.32	4.74	5.03
- JN JL	5.49	5.06	5.28
JL JL JL	5.09	4.59	4.84
SE AU -	5.10	4.27	4.68
OC - -	5.38	4.50	4.94
OC NO -	5.59	4.97	5.28
ALL	5.74	5.00	5.37
POST-CUT	5.44	5.18	5.31
MEAN	5.40	4.82	5.11

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	ACA TIME(757)	CULTIVTN*	
		ACA TIME(757)	
SED	0.292	0.413	MIN REP
	0.253	0.358	MAX-MIN

* WITHIN SAME LEVEL OF CULTIVTN ONLY

ACA TIME
MAX-MIN - JN JL V ANY OF REMAINDER
MIN REP ANY OF REMAINDER

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

STRATUM	DF	SE	CV%
BLOCK.WP.SP	18	0.413	8.1
1ST CUT MEAN DM%	15.2		

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2ND CUT (14/7/77) DRY MATTER TONNES/HECTARE

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

CULTIVTN	NONE	MANY	MEAN
ACA TIME(757)			
- - -	4.91	4.78	4.84
- JN JL	4.94	5.20	5.07
JL JL JL	4.71	5.00	4.86
SE AU -	4.58	5.14	4.86
OC - -	5.07	4.79	4.93
OC NO -	4.70	4.60	4.65
ALL	4.47	5.28	4.88
POST-CUT	4.68	4.98	4.83
MEAN	4.78	5.00	4.89

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	ACA TIME(757)	CULTIVTN*	
	ACA TIME(757)		
SED	0.267	0.378	MIN REP
	0.231	0.327	MAX-MIN

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

STRATUM	DF	SE	CV%
BLOCK.WP.SP	18	0.378	7.7
2ND CUT MEAN DM%	19.5		

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3RD CUT (24/11/77) DRY MATTER TONNES/HECTARE

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

CULTIVTN	NONE	MANY	MEAN
ACA TIME(757)			
- - -	3.62	3.74	3.68
- JN JL	3.67	3.86	3.76
JL JL JL	3.77	3.96	3.86
SE AU -	3.50	3.36	3.43
OC - -	4.23	3.70	3.97
OC NO -	3.58	4.07	3.83
ALL	3.64	4.16	3.90
POST-CUT	3.80	3.98	3.89
MEAN	3.72	3.85	3.79

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	ACA TIME(757)	CULTIVTN*	
		ACA TIME(757)	
SED	0.371	0.524	MIN REP
	0.321	0.454	MAX-MIN

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

STRATUM	DF	SE	CV%
BLOCK.WP.SP	18	0.524	13.8
3RD CUT MEAN DM%	19.9		

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TOTAL OF 3 CUTS DRY MATTER TONNES/HECTARE

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

CULTIVTN	NONE	MANY	MEAN
ACA TIME(757)			
- - -	13.84	13.26	13.55
- JN JL	14.10	14.12	14.11
JL JL JL	13.57	13.55	13.56
SE AU -	13.17	12.77	12.97
OC - -	14.68	12.99	13.84
OC NO -	13.88	13.64	13.76
ALL	13.85	14.45	14.15
POST-CUT	13.93	14.13	14.03
MEAN	13.90	13.67	13.79

***** STANDARD ERRORS OF DIFFERENCES OF MEANS *****

TABLE	ACA TIME(757)	CULTIVTN*	
		ACA TIME(757)	
SED	0.617	0.873	MIN REP
	0.534	0.756	MAX-MIN

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

STRATUM	DF	SE	CV%
BLOCK.WP.SP	18	0.873	6.3
TOTAL OF 3 CUTS MEAN DM%	18.2		
PLOT AREA HARVESTED	0.00062		