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## Yields of the Field Experiments 1976

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### 76/R/CS/162 Times of Applying Acaricide - Ryegrass

#### Rothamsted Research

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76/R/CS/162

TIMES OF APPLYING ACARICIDE

Object: To study the effects of applying the acaricide endosulfan, at a range of times, 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 second year, ryegrass.

For previous year see 75/R/CS/162.

Design: 4 randomised blocks of 18 plots.

Whole plot dimensions: 4.27 x 6.10.

Treatments: All combinations of:-

- |             |  |
|-------------|--|
| 1. VARIETY  | Varieties:   |
| S 22        | Italian, S.??  |
| S 24        | Perennial, S.24  |
| 2. ACA TIME | Times of applying acaricide (cumulative to 1975 treatments): |
| NEVER       | Never  |
| JUNE        | June (4 June, 1976) (None in 1975) (duplicated)              |
| JULY        | July (22 July)   |
| AUGUST      | August (20 August)   |
| SEPTEMBER   | September (28 September)                                     |
| NOVEMBER    | November (18 November)                                       |
| MAY/NOV     | May-November   |
| POST CUT    | After each cut   |

- NOTES: (1) Endosulfan was applied at 0.35 kg in 430 l.  
(2) It was intended to apply a MAY level of ACA TIME but this was postponed by weather, hence duplication of ACA TIME JUNE.  
(3) VARIETY S.22 started to fail during the summer and plots of this treatment were destroyed in September and re-sown. ACA TIME SEPTEMBER was accordingly not applied to VARIETY S.22 and only two cuts were taken from this variety.  
(4) ACA TIME POST CUT was applied on 4 June, 22 July, 17 Nov to both varieties.

Basal applications: Manures: (0:14:28) at 500 kg in autumn. (25:0:16) at 800 kg in February. (25:0:16) at 600 kg in May and July.

Cultivations, etc.: - PK applied: 28 Nov, 1975. NK applied: 25 Feb, 1976, 21 May, 9 July. Cut: 17 May, 5 July, 5 Nov. 2 blocks VARIETY S.22, rotary cultivated, spring-tine cultivated, harrowed: 20 Sept. Remaining blocks VARIETY S.22 heavy spring-tine cultivated twice: 21 Sept.

- NOTES: (1) Mites (*Abacarus hystrix*) were counted on 14 May, 8 June, 19 Aug and 11 Oct.  
(2) Virus scores were made on 4 May, 9 May, 8 June and 11 Oct.

76/R/CS/162

1ST CUT (17/5/76) DRY MATTER TONNES/HECTARE

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

VARIETY	S 22	S 24	MEAN
ACA TIME			
NEVER	5.53	4.91	5.22
JUNE	5.36	4.83	5.09
JULY	5.78	5.07	5.43
AUGUST	5.56	4.82	5.19
SEPTEMBER	5.52	5.05	5.29
NOVEMBER	5.49	4.91	5.20
MAY/NOV	5.94	5.08	5.51
POST CUT	5.64	4.60	5.12
MEAN	5.57	4.90	5.24

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

TABLE	ACA TIME	VARIETY	ACA TIME VARIETY
SED	0.164		0.232 MIN REP
	0.142	0.077	0.201 MAX-MIN
			0.164 MAX REP

ACA TIME  
 MAX REP JUNE  
 MAX-MIN JUNE V ANY OF REMAINDER  
 MIN REP ANY OF REMAINDER

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

STRATUM	DF	SE	CV%
BLOCK.WP	53	0.328	6.3

1ST CUT MEAN DM% 18.7

76/R/CS/162

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

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

VARIETY	S 22	S 24	MEAN
ACA TIME			
NEVER	2.43	3.73	3.08
JUNE	2.40	3.87	3.13
JULY	2.29	4.20	3.25
AUGUST	2.78	3.40	3.09
SEPTEMBER	2.92	4.28	3.60
NOVEMBER	2.77	3.57	3.17
MAY/NOV	2.83	3.67	3.25
POST CUT	2.87	4.20	3.53
MEAN	2.63	3.86	3.25

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

TABLE	ACA TIME	VARIETY	ACA TIME VARIETY
SED	0.260		0.368 MIN REP
	0.225	0.123	0.318 MAX-MIN
			0.260 MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	53	0.520	16.0

2ND CUT MEAN DM% 34.5



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TOTAL OF 2 CUTS DRY MATTER TONNES/HECTARE

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

VARIETY	S 22	S 24	MEAN
ACA TIME			
NEVER	7.96	8.64	8.30
JUNE	7.76	8.69	8.23
JULY	8.07	9.27	8.67
AUGUST	8.34	8.22	8.28
SEPTEMBER	8.44	9.33	8.88
NOVEMBER	8.27	8.48	8.37
MAY/NOV	8.77	8.76	8.76
POST CUT	8.51	8.80	8.65
MEAN	8.21	8.77	8.49

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

TABLE	ACA TIME	VARIETY	ACA TIME VARIETY
SED	0.303		0.428 MIN REP
	0.262	0.143	0.371 MAX-MIN
			0.303 MAX REP

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

STRATUM	DF	SE	CV%
BLOCK.WP	53	0.605	7.1
TOTAL OF 2 CUTS MEAN DM%	26.6		

76/R/CS/162

DRY MATTER TONNES/HECTARE

VARIETY S24 ONLY

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

	3RD CUT (5/11/76)	TOTAL OF 3 CUTS
ACA TIME		
NEVER	3.22	11.86
JUNE	3.33	12.03
JULY	3.86	13.13
AUGUST	3.20	11.43
SEPTEMBER	3.76	13.09
NOVEMBER	3.24	11.72
MAY/NOV	3.21	11.96
POST CUT	3.64	12.44
MEAN	3.42	12.19

3RD CUT (5/11/76) DRY MATTER TONNES/HECTARE

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

TABLE	ACA TIME
-----	-----
SED	0.255 MIN REP
	0.221 MAX-MIN

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

STRATUM	DF	SE	CV%
BLOCK.WP	25	0.360	10.5

3RD CUT MEAN DM% 12.3

TOTAL OF 3 CUTS DRY MATTER TONNES/HECTARE

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

TABLE	ACA TIME
-----	-----
SED	0.561 MIN REP
	0.436 MAX-MIN

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

STRATUM	DF	SE	CV%
BLOCK.WP	25	0.793	6.5

TOTAL OF 3 CUTS MEAN DM% 20.6

PLOT AREA HARVESTED 0.00062