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Yields of the Field Experiments 1975

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75/ R/CS/123 - Effects of Viruses - Ryegrass, Clover

Rothamsted Research

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75/R/CS/123

EFFECTS OF VIRUSES

Object: To study the effects of virus infection on yield and persistence of ryegrass and red clover in pure and mixed stands - Garden Plot 14.

Sponsors: A.J. Cockbain, R.T. Plumb.

The third year, red clover and Italian ryegrass.

For previous years see 73-74/R/CS/123.

Design: 4 randomised blocks of 8 plots split into 2.

Whole plot dimensions: 3.35 x 1.22.

Treatments: All combinations of:-

Whole plots: 1. Crop and inoculation with virus in 1973:	CROP VIR
Red clover uninoculated	CLOVER/O
Italian ryegrass uninoculated	GRASS/O
Red clover and Italian ryegrass (mixed within rows) uninoculated	CLOGR/O
Red clover inoculated with Pea Mosaic Virus (PMV)	CLOVER/P
Italian ryegrass inoculated with Ryegrass Mosaic Virus (RMV)	GRASS/R
Red clover and Italian ryegrass (mixed) inoculated with PMV	CLOGR/P
Red clover and Italian ryegrass (mixed) inoculated with RMV	CLOGR/R
Red clover and Italian ryegrass (mixed) inoculated with PMV and RMV	CLOGR/PR

NOTE: Inoculation with PMV was unsuccessful.

Sub plots: 2. Aldicarb (kg) after each cut:	ALDICARB
None	0
10	10

Basal applications: Manures: (25:0:16) at 270 kg to grass plots.

Cultivations, etc.: - NK applied: 19 June, 1975. Cut twice: 9 June, 25 July.

NOTES: (1) Mites (*Abacarus hystrix*) were counted on 28 Apr and 23 July on grass plots.

(2) Grass was scored for Ryegrass Mosaic Virus on 20 May.

75/R/CS/123

1ST CUT (6/6/75) DRY MATTER TONNES/HECTARE

*** TABLES OF MEANS ***

	0	10	MEAN
ALDICARB			
CROP VIR			
CLOVER/O	8.37	8.45	8.41
GRASS/O	8.25	7.63	7.94
CLOGR/O	9.53	8.77	9.15
CLOVER/P	8.35	8.31	8.33
GRASS/R	8.08	7.36	7.72
CLOGR/P	9.40	8.76	9.08
CLOGR/R	8.84	8.93	8.89
CLOGR/PR	8.92	8.57	8.75
MEAN	8.72	8.35	8.53

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

TABLE	CROP VIR	ALDICARB	CROP VIR ALDICARB
REP	8	32	4
SED	0.440	0.160	0.544
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:			
CROP VIR			0.451

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

STRATUM	DF	SE	CV%
BLOCK.WP	21	0.623	7.3
BLOCK.WP.SP	24	0.638	7.5

1ST CUT MEAN DM% 25.2

75/R/CS/123

2ND CUT (25/7/75) DRY MATTER TONNES/HECTARE

*** TABLES OF MEANS ***

	0	10	MEAN
ALDICARB			
CROP VIR			
CLOVER/O	3.14	3.89	3.51
GRASS/O	1.89	1.46	1.68
CLOGR/O	3.04	3.09	3.06
CLOVER/P	3.27	3.76	3.51
GRASS/R	1.57	1.65	1.61
CLOGR/P	2.96	2.92	2.94
CLOGR/R	3.30	3.10	3.20
CLOGR/PR	2.76	3.27	3.01
MEAN	2.74	2.89	2.82

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

TABLE	CROP VIR	ALDICARB	CROP VIR ALDICARB
REP	8	32	4
SED	0.378	0.122	0.449
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF: CROP VIR			0.344

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

STRATUM	DF	SE	CV%
BLOCK.WP	21	0.535	19.0
BLOCK.WP.SP	24	0.486	17.3

2ND CUT MEAN DM% 26.8

75/R/CS/123

TOTAL OF 2 CUTS DRY MATTER TONNES/HECTARE

*** TABLES OF MEANS ***

	0	10	MEAN
ALDICARB			
CRCP VIR			
CLOVER/O	11.51	12.34	11.92
GRASS/O	10.14	9.10	9.62
CLOGR/O	12.56	11.86	12.21
CLOVER/P	11.63	12.06	11.84
GRASS/R	9.65	9.01	9.33
CLOGR/P	12.36	11.68	12.02
CLOGR/R	12.14	12.03	12.09
CLOGR/PR	11.68	11.84	11.76
MEAN	11.46	11.24	11.35

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

TABLE	CROP VIR	ALDICARB	CROP VIR ALDICARB
REP	8	32	4
SED	0.695	0.248	0.854
EXCEPT WHEN COMPARING MEANS WITH SAME LEVEL(S) OF:			
CRCP VIR			0.702

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

STRATUM	DF	SE	CV%
BLOCK.WP	21	0.982	8.7
BLOCK.WP.SP	24	0.993	8.8

TOTAL OF 2 CUTS MEAN DM% 26.0

PLOT AREA HARVESTED 0.00011