

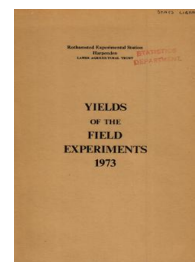
Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED
RESEARCH

Yields of the Field Experiments 1973

[Full Table of Content](#)



73/R/CS/123 - Effects of Viruses - Ryegrass, Red Clover

Rothamsted Research

Rothamsted Research (1974) *73/R/CS/123 - Effects of Viruses - Ryegrass, Red Clover* ; Yields Of The Field Experiments 1973, pp 281 - 285 - DOI: <https://doi.org/10.23637/ERADOC-1-98>

73/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 and R.T. Plumb.

The first year, red clover and Italian ryegrass.

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

Whole plot dimensions: 3.35 x 1.22. Area harvested: 0.00015.

Treatments: All combinations of:-

Whole plots: 1. Crop and inoculation with virus:	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
Sub plots: 2. Aldicarb (kg) before sowing, repeated after each cut:	ALDICARB
None	0
10	10

Basal applications: Manures: Ground chalk at 2.4 tonnes, (0:20:20) at 780 kg, 'Nitro-Chalk' at 300 kg at sowing and after first cut.
Irrigation: 15 mm after first cut.

73/R/CS/123

Seed: Hungaropoly clover and R.V.P ryegrass both sown at 40 kg in pure stands and 32 kg clover with 8 kg ryegrass in mixture.

Cultivations, etc.: - Ploughed: 1 Dec, 1972. Seed sown and aldicarb applied: 18 Apr, 1973. Cut: 31 July and 10 Oct. Irrigation applied: 3 Aug. Aldicarb applied: 8 Aug.

NOTES. Crop was scored for:-

- (1) Ryegrass mosaic virus: 23 July and 16 Aug.
- (2) Mites (*Abacarus hystrix*): 27 July.
- (3) Clover virus (PMV) : 24 Sept.
- (4) Mildew (*Erysiphe polygoni*) on clover: 23 Aug.

Standard errors per plot. Dry matter, tonnes/hectare:

1st cut:	Whole plot: 0.695 or 11.4% (21 d.f.)
	Sub plot: 0.515 or 8.4% (24 d.f.)
2nd cut:	Whole plot: 0.489 or 11.3% (21 d.f.)
	Sub plot: 0.567 or 13.1% (24 d.f.)
Total of 2 cuts:	Whole plot: 0.836 or 8.0% (21 d.f.)
	Sub plot: 0.922 or 8.9% (24 d.f.)

73/R/CS/123

TABLES OF MEANS

DRY MATTER: TONNES/HECTARE

ALDICARB

	0	10	Mean
	1ST CUT		
CROP/VIR			
Clover/O	5.74	6.32	6.03
Grass/O	5.94	6.17	6.05
CloGr/O	6.22	6.91	6.57
Clover/P	5.43	5.42	5.42
Grass/R	6.88	6.66	6.77
CloGr/P	5.31	6.44	5.88
CloGr/R	5.50	6.22	5.86
CloGr/PR	5.97	6.41	6.19
Mean	5.87	6.32	6.10

STANDARD ERRORS OF DIFFERENCES

CROP/VIR	ALDICARB	CROP/VIR ALDICARB
0.491	0.129	0.555
Except when comparing means with same level of CROP/VIR		
		0.364

73/R/05/123

DKV MATTER: TOINFES/ECOTARD

ALDICARB

	0	10	Mean
	2ND CUT		
CROP/VIR			
Clover/O	4.54	5.06	4.80
Grass/O	3.15	3.80	3.47
CloGr/O	4.41	4.73	4.57
Clover/P	3.92	4.14	4.03
Grass/R	3.55	3.90	3.73
CloGr/P	4.59	4.74	4.67
CloGr/R	4.68	5.05	4.86
CloGr/PR	4.27	4.49	4.38
Mean	4.14	4.49	4.31

STANDARD ERRORS OF DIFFERENCES

CROP/VIR	ALDICARB	CROP/VIR ALDICARB
0.345	0.142	0.447
Except when comparing means with same level of CROP/VIR		
		0.401

73/R/CS/123

DRY MATTER: TONNES/HECTARE

ALDICARE

	0	10	Mean
	TOTAL OF 2 CUTS		
CROP/VIR			
Clover/O	10.28	11.39	10.83
Grass/O	9.08	9.97	9.53
CloGr/O	10.63	11.64	11.13
Clover/P	9.35	9.55	9.45
Grass/R	10.43	10.56	10.49
CloGr/P	9.91	11.18	10.55
CloGr/R	10.18	11.27	10.72
CloGr/PR	10.24	10.90	10.57
Mean	10.01	10.81	10.41

STANDARD ERRORS OF DIFFERENCES

CROP/VIR	ALDICARE	CROP/VIR ALDICARE
0.591	0.231	0.750
Except when comparing means with same level of CROP/VIR		
		0.652
Mean D.M. %	1st cut:	19.0
	2nd cut:	22.3
	Total of 2 cuts:	20.7