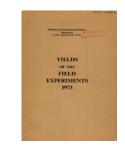
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Yields of the Field Experiments 1973



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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

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 Italian ryegrass uninoculated	Clover/O Grass/O
Red clover and Italian ryegrass (mixed within rows) uninoculated Red clover inoculated with Pea Mosaic Virus (PMV)	CloGr/O 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.

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.)

TABLES OF MEANS

DRY MATTER: TONNES/HECTARE

ALDICARB

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

STANDARD ERRORS OF DIFFERENCES

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

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ALDICARE

	0	10	Mean
CROP/VIR		SAD CAL	
Clover/O Grass/O CloGr/O Clover/P Grass/R CloGr/P CloGr/PR	4.54 3.15 4.41 3.92 3.55 4.58 4.68 4.27	5.06 3.80 4.73 4.14 3.90 4.74 5.05 4.49	4.80 3.47 4.57 4.03 3.73 4.67 4.86
Mean	4.14	4.49	4.31

STANDARD ERRORS OF DIFFERENCES

CROP/VIR		ALDICARB	CROP/VIR ALDICARB	
	0.345	0.142	0.447	
		n com p aring means a level of		
	0	ROP/VIR	0.401	

DRY MATTER: TONNES/HECTARE

ALDICARB

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

STANDARD ERRORS OF DIFFERENCES

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