ROTHAMSTED RESEARCH

Yields of the Field Experiments 1973

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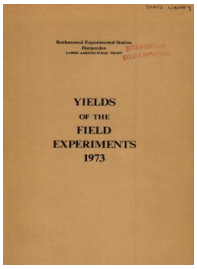

73/R/CS/106 - Chemical Control of Pathogens - Ryegrass

Rothamsted Research

Rothamsted Research (1974) *73/R/CS/106 - Chemical Control of Pathogens - Ryegrass ;* Yields Of The Field Experiments 1973, pp 261 - 265 **- DOI: https://doi.org/10.23637/ERADOC-1-98**

73/R/CS/106

CHEMICAL CONTROL OF PATHOGENS

Object: To study the effects of a range of chemicals on the yield and pathogens of ryegrass - Claycroft.

Sponsors: J.F. Jenkyn, E.W. Broom, R.T. Plumb.

The first year, ryegrass.

Design: 3 randomised blocks of 10 plots split into 3.

Whole plot dimensions: 4.27 x 16.7. Area harvested: 0.00050.

Treatments: All combinations of:-

Whole plots: 1. Chemicals (kg a.i.):-

	CHEMICAL
None, 3 plots per block	0
BAS 3170F 1.12 kg per cut	BA
Benomyl 1.12 kg per cut	BE
Captafol 2.24 kg per cut	CA
Dazomet 400 kg September 1972 only	DA
Endosulfan 2.8 l of 'Thiodan' per cut	EN
Menazon 0.7 l of 'Saphi-Col' per cut	ME
Endosulfan + menazon at above rates	EN+ME

Sub plots: 2. Compound fertiliser 25:0:16 applied for each cut (kg N)

	NPERCUT
38	38
75	75
150	150

NOTE: All chemicals in 1973 were applied in 290 l except endosulfan, in 580 l.

Basal applications: Manures: (0:14:28) at 1300 kg.

Seed: Gremie sown at 45 kg.

Cultivations, etc.:- Ploughed: 13 Sept, 1972. Disced twice: 18 Sept. Dazomet applied and all plots rotary cultivated: 20 Sept. Deep-tine cultivated: 3 Nov. Basal PK applied: 26 Mar, 1973. Power harrowed: 27 Mar. NK treatments applied: 30 Mar, 23 July. Seed sown: 10 Apr. All chemicals (except dazomet) applied: 4 June. Cut twice: 18 July, 11 Sept. All chemicals (except captafol and dazomet) applied: 24 July. Captafol applied: 30 July. Previous crops: Wheat 1971 and 1972.

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NOTE: Observations were made in autumn of Crown rust (Puccinia coronata) Mildew (Erysiphe graminis) and Ryegrass Mosaic Virus.

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

1st cut:	Whole plot:	0.256 or 7.4%	(20 d.f.)
	Sub plot:	0.368 or 10.6%	(44 d.f.)
2nd cut:	Whole plot:	0.258 or 14.6%	(20 d.f.)
	Sub plot:	0.290 or 16.4%	(44 d.f.)
Total of 2 cuts:	Whole plot:	0.457 or 8.7%	(20 d.f.)
	Sub plot:	0.542 or 10.4%	(44 d.f.)

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T3/R/CS/106

TABLES OF MEANS

DRY MATTER: TONNES/HECTARE

1ST CUT

CHEMICAL

	O	BA	BE	CA	DA	EI	ME	FN+ME	Mean
NPERCUT									
38	2.76	2.93	2.73	2.79	4.21	2.69	3.10	2.86	2.96
75	3.34	3.41	3.52	2.86	4.37	3.51	3.18	3.23	3.41
150	3.83	4.24	4.00	3.64	4.72	3.37	4.57	3.91	3.99
Mean	3.31	3.53	3.42	3.10	4.43	3.19	3.62	3.33	3.45

STANDARD ERRORS OF DIFFERENCES

	NPERCUT	CHEMICAL	NPERCUT CHEMICAL
	0.095		
O v any of remainder		0.170	0.263
Between any of remainder		0.209	0.322
Except when comparing means with same level of CHEMICAL			
O			0.173
O v any of remainder			0.245
Between remainder			0.300

Mean D.M. % 16.3

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DRY MATTER: TONNES/HECTARE

2ND CUT

CHEMICAL

	0	BA	BE	CA	DA	EN	ME	EN+ME	Mean
NPERCUT									
38	0.99	0.97	1.07	0.85	1.80	0.65	1.07	1.08	1.05
75	1.81	2.12	2.00	1.36	2.11	1.70	1.84	2.06	1.86
150	2.40	2.62	2.67	2.10	2.58	1.93	2.43	2.59	2.41
Mean	1.73	1.90	1.91	1.44	2.17	1.43	1.78	1.91	1.77

STANDARD ERRORS OF DIFFERENCES

	NPERCUT	CHEMICAL	NPERCUT CHEMICAL
	0.075		
0 v any of remainder		0.172	0.234
Between any of remainder		0.211	0.286
Except when comparing means with same level of CHEMICAL			
0			0.137
0 v any of remainder			0.194
Between remainder			0.237

Mean D.M. % 33.3

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DRY MATTER: TONNES/HECTARE

TOTAL OF 2 CUTS

CHEMICAL

	0	EA	EE	CA	DA	EM	ME	EE+ME	Mean
NPERCUT									
38	3.75	3.89	3.81	3.65	6.01	3.34	4.16	3.94	4.00
75	5.14	5.54	5.52	4.22	6.49	5.22	5.02	5.29	5.27
150	6.23	6.05	6.67	5.74	7.31	5.30	7.01	6.50	6.41
Mean	5.04	5.43	5.33	4.53	6.60	4.62	5.40	5.24	5.23

STANDARD ERRORS OF DIFFERENCES

	NPERCUT	CHEMICAL	NPERCUT CHEMICAL
	0.140		
0 v any of remainder		0.305	0.424
Between any of remainder		0.373	0.520
Except when comparing means with same level of CHEMICAL			
0			0.256
0 v any of remainder			0.361
Between remainder			0.443

Mean D.M.% 24.8

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