ROTHAMSTED RESEARCH

Yields of the Field Experiments 1978

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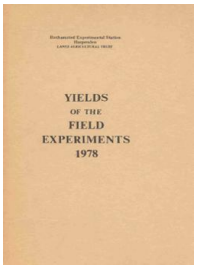

78/R/CS/204 Clover Varieties in Grass/CLOVER Mixtures - Ryegrass, Clover

Rothamsted Research

Rothamsted Research (1979) *78/R/CS/204 Clover Varieties in Grass/CLOVER Mixtures - Ryegrass, Clover ;* Yields Of The Field Experiments 1978, pp 275 - 284 **- DOI: https://doi.org/10.23637/ERADOC-1-30**

78/R/CS/204

CLOVER VARIETIES IN GRASS/CLOVER MIXTURES

Object: To study the effects of controlling pests and diseases on the persistence of different varieties of white clover in mixed grass/clover swards - Long Hoos IV 2.

Sponsors: I.F. Henderson, R.T. Plumb, J.F. Jenkyn.

The second year, white clover, ryegrass.

For previous year see 77/R/CS/204

Design: 2 randomised blocks of 40 plots.

Whole plot dimensions: 1.83 x 6.10.

Treatments: All combinations of:-

1. VARIETY — Varieties and species:

S23	S.23 ryegrass
S23/BLAN	S.23 ryegrass + Blanca white clover
S23/KWW	S.23 ryegrass + Kent wild white clover
S23/LAD	S.23 ryegrass + Ladino white clover
S23/MIL	S.23 ryegrass + Milkanova white clover

2. CHEMICAL — Chemicals for pest and disease control:

NONE	None
ALDICARB	Aldicarb at 5 kg
BENOMYL	Benomyl at 0.5 kg
PHOR+MET	Phorate at 5 kg + metaldehyde at 1.8 kg

3. NITROGEN — Nitrogen fertiliser (kg N as 'Nitro-Chalk 25'):

N 1	100 in spring
N 2	100 in spring + 50 after each cut except the last

NOTES: (1) Aldicarb was applied on 20 Mar, 1978, and 7 July.
(2) Benomyl was applied on 23 Sept, 1977, 25 Oct, 22 Nov, 20 Dec, 24 Jan, 1978, 23 Feb.
(3) Phorate and metaldehyde were applied on 17 Mar, 1978, 24 Apr, 12 May, 23 June, 7 Aug, 19 Sept.
(4) This was the first year of the test of nitrogen.

Basal applications: Manures: (0:14:28) at 720 kg.

Cultivations, etc.:- PK applied: 24 Nov, 1977. Spring N applied: 10 Mar, 1978. Cut 5 times: 9 May, 19 June, 31 July, 11 Sept, 11 Oct. N applied: 10 May, 20 June, 1 Aug, 12 Sept.

NOTE: The proportions of grass, clover, monocotyledonous and dicotyledonous weeds were determined. Plots were vacuum sampled for insect pests at fortnightly intervals between late April and mid October.

https://doi.org/10.23637/ERADOC-1-30

78/R/CS/204

1ST CUT (9/5/78) DRY MATTER TONNES/HECTARE

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

NITROGEN	N 1	N 2	MEAN
CHEMICAL			
NONE	4.02	3.91	3.97
ALDICARB	3.90	4.02	3.96
BENOMYL	4.03	4.35	4.19
PHOR+MET	4.25	3.98	4.12
MEAN	4.05	4.06	4.06

VARIETY	S23	S23/BLAN	S23/KWW	S23/LAD	S23/MIL	MEAN
CHEMICAL						
NONE	4.58	3.69	3.69	4.16	3.70	3.97
ALDICARB	4.34	3.62	4.16	3.76	3.92	3.96
BENOMYL	4.40	4.14	3.92	4.07	4.41	4.19
PHOR+MET	4.44	3.72	4.23	4.43	3.77	4.12
MEAN	4.44	3.79	4.00	4.11	3.95	4.06

VARIETY	S23	S23/BLAN	S23/KWW	S23/LAD	S23/MIL	MEAN
NITROGEN						
N 1	4.51	3.78	4.00	4.19	3.78	4.05
N 2	4.38	3.81	4.00	4.02	4.12	4.06
MEAN	4.44	3.79	4.00	4.11	3.95	4.06

VARIETY	NITROGEN	N 1	N 2
	CHEMICAL		
S23	NONE	4.81	4.36
	ALDICARB	4.11	4.57
	BENOMYL	4.37	4.44
	PHOR+MET	4.74	4.14
S23/BLAN	NONE	3.68	3.70
	ALDICARB	3.68	3.57
	BENOMYL	3.94	4.35
	PHOR+MET	3.81	3.62
S23/KWW	NONE	3.80	3.58
	ALDICARB	4.23	4.09
	BENOMYL	3.59	4.24
	PHOR+MET	4.39	4.07
S23/LAD	NONE	4.31	4.01
	ALDICARB	3.77	3.76
	BENOMYL	4.02	4.13
	PHOR+MET	4.68	4.18
S23/MIL	NONE	3.51	3.90
	ALDICARB	3.72	4.12
	BENOMYL	4.24	4.59
	PHOR+MET	3.65	3.88

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78/R/CS/204

1ST CUT (9/5/78) DRY MATTER TONNES/HECTARE

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

TABLE	VARIETY	CHEMICAL	NITROGEN	VARIETY CHEMICAL
SED	0.164	0.147	0.104	0.328

TABLE	VARIETY NITROGEN	CHEMICAL NITROGEN	VARIETY CHEMICAL NITROGEN
SED	0.232	0.208	0.464

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

STRATUM	DF	SE	CV%
BLOCK.WP	39	0.464	11.4

1ST CUT MEAN DM% 15.9

2ND CUT (19/6/78) DRY MATTER TONNES/HECTARE

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

NITROGEN / CHEMICAL	N 1	N 2	MEAN
NONE	2.75	3.55	3.15
ALDICARB	2.73	3.56	3.14
BENOMYL	2.91	3.66	3.29
PHOR+MET	2.46	3.38	2.92
MEAN	2.71	3.54	3.12

VARIETY / CHEMICAL	S23	S23/BLAN	S23/KWW	S23/LAD	S23/MIL	MEAN
NONE	1.87	3.73	3.56	2.79	3.80	3.15
ALDICARB	2.05	3.63	3.40	2.84	3.80	3.14
BENOMYL	1.87	3.64	3.91	3.19	3.84	3.29
PHOR+MET	1.95	3.54	3.09	2.72	3.28	2.92
MEAN	1.94	3.64	3.49	2.88	3.68	3.12

VARIETY / NITROGEN	S23	S23/BLAN	S23/KWW	S23/LAD	S23/MIL	MEAN
N 1	1.23	3.26	3.07	2.54	3.47	2.71
N 2	2.64	4.01	3.91	3.23	3.89	3.54
MEAN	1.94	3.64	3.49	2.88	3.68	3.12

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2ND CUT (19/6/78) DRY MATTER TONNES/HECTARE

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

VARIETY	NITROGEN / CHEMICAL	N 1	N 2
S23	NONE	1.21	2.52
	ALDICARB	1.34	2.76
	BENOMYL	1.09	2.66
	PHOR+MET	1.28	2.62
S23/BLAN	NONE	3.47	3.99
	ALDICARB	3.17	4.09
	BENOMYL	3.24	4.04
	PHOR+MET	3.18	3.90
S23/KWW	NONE	3.00	4.12
	ALDICARB	3.00	3.80
	BENOMYL	3.57	4.24
	PHOR+MET	2.69	3.50
S23/LAD	NONE	2.52	3.05
	ALDICARB	2.42	3.25
	BENOMYL	2.95	3.42
	PHOR+MET	2.27	3.18
S23/MIL	NONE	3.52	4.07
	ALDICARB	3.74	3.87
	BENOMYL	3.72	3.96
	PHOR+MET	2.89	3.68

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

TABLE	VARIETY	CHEMICAL	NITROGEN	VARIETY CHEMICAL
SED	0.095	0.085	0.060	0.190

TABLE	VARIETY NITROGEN	CHEMICAL NITROGEN	VARIETY CHEMICAL NITROGEN
SED	0.135	0.120	0.269

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

STRATUM	DF	SE	CV%
BLOCK.WP	39	0.269	8.6

2ND CUT MEAN DM% 24.3

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3RD CUT (31/7/78) DRY MATTER TONNES/HECTARE

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

NITROGEN	N 1	N 2	MEAN
CHEMICAL			
NONE	1.72	1.92	1.82
ALDICARB	1.77	1.96	1.86
BENOMYL	1.68	2.05	1.86
PHOR+MET	1.90	2.05	1.97
MEAN	1.77	2.00	1.88

VARIETY	S23	S23/BLAN	S23/KWW	S23/LAD	S23/MIL	MEAN
CHEMICAL						
NONE	0.40	2.37	1.88	2.23	2.24	1.82
ALDICARB	0.48	2.32	2.04	2.20	2.29	1.86
BENOMYL	0.41	2.39	2.12	1.90	2.50	1.86
PHOR+MET	0.26	2.54	2.28	2.56	2.23	1.97
MEAN	0.39	2.40	2.08	2.22	2.31	1.88

VARIETY	S23	S23/BLAN	S23/KWW	S23/LAD	S23/MIL	MEAN
NITROGEN						
N 1	0.08	2.35	2.00	2.15	2.25	1.77
N 2	0.70	2.45	2.16	2.29	2.37	2.00
MEAN	0.39	2.40	2.08	2.22	2.31	1.88

VARIETY	NITROGEN	N 1	N 2
	CHEMICAL		
S23	NONE	0.03	0.77
	ALDICARB	0.11	0.84
	BENOMYL	0.12	0.71
	PHOR+MET	0.04	0.48
S23/BLAN	NONE	2.14	2.59
	ALDICARB	2.28	2.37
	BENOMYL	2.37	2.40
	PHOR+MET	2.63	2.45
S23/KWW	NONE	1.82	1.93
	ALDICARB	1.95	2.13
	BENOMYL	1.96	2.28
	PHOR+MET	2.27	2.30
S23/LAD	NONE	2.35	2.11
	ALDICARB	2.21	2.19
	BENOMYL	1.46	2.34
	PHOR+MET	2.60	2.52
S23/MIL	NONE	2.28	2.20
	ALDICARB	2.31	2.26
	BENOMYL	2.47	2.53
	PHOR+MET	1.96	2.50

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3RD CUT (31/7/78) DRY MATTER TONNES/HECTARE

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

TABLE	VARIETY	CHEMICAL	NITROGEN	VARIETY CHEMICAL
SED	0.092	0.083	0.058	0.185

TABLE	VARIETY NITROGEN	CHEMICAL NITROGEN	VARIETY CHEMICAL NITROGEN
SED	0.131	0.117	0.261

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

STRATUM	DF	SE	CV%
BLOCK.WP	39	0.261	13.9

3RD CUT MEAN DM% 18.2

4TH CUT (11/9/78) DRY MATTER TONNES/HECTARE

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

NITROGEN CHEMICAL	N 1	N 2	MEAN
NONE	1.36	1.65	1.51
ALDICARB	1.36	1.86	1.61
BENOMYL	1.38	1.62	1.50
PHOR+MET	1.34	1.77	1.55
MEAN	1.36	1.72	1.54

VARIETY CHEMICAL	S23	S23/BLAN	S23/KWW	S23/LAD	S23/MIL	MEAN
NONE	0.45	1.77	1.61	1.98	1.71	1.51
ALDICARB	0.45	2.12	1.57	2.07	1.85	1.61
BENOMYL	0.40	1.65	1.61	1.93	1.91	1.50
PHOR+MET	0.43	1.81	1.58	2.09	1.87	1.55
MEAN	0.43	1.84	1.59	2.02	1.83	1.54

VARIETY NITROGEN	S23	S23/BLAN	S23/KWW	S23/LAD	S23/MIL	MEAN
N 1	0.05	1.66	1.41	1.95	1.74	1.36
N 2	0.82	2.01	1.78	2.09	1.93	1.72
MEAN	0.43	1.84	1.59	2.02	1.83	1.54

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4TH CUT (11/9/78) DRY MATTER TONNES/HECTARE

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

VARIETY	NITROGEN CHEMICAL	N 1	N 2
S23	NONE	0.05	0.86
	ALDICARB	0.05	0.85
	BENOMYL	0.06	0.74
	PHOR+MET	0.04	0.82
S23/BLAN	NONE	1.66	1.89
	ALDICARB	1.78	2.46
	BENOMYL	1.38	1.92
	PHOR+MET	1.84	1.78
S23/KWW	NONE	1.31	1.90
	ALDICARB	1.29	1.84
	BENOMYL	1.71	1.52
	PHOR+MET	1.32	1.84
S23/LAD	NONE	2.01	1.95
	ALDICARB	1.97	2.18
	BENOMYL	1.97	1.90
	PHOR+MET	1.83	2.34
S23/MIL	NONE	1.78	1.65
	ALDICARB	1.73	1.98
	BENOMYL	1.78	2.03
	PHOR+MET	1.68	2.05

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

TABLE	VARIETY	CHEMICAL	NITROGEN	VARIETY CHEMICAL
SED	0.055	0.049	0.035	0.109

TABLE	VARIETY NITROGEN	CHEMICAL NITROGEN	VARIETY CHEMICAL NITROGEN
SED	0.077	0.069	0.155

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

STRATUM	DF	SE	CV%
BLOCK.WP	39	0.155	10.0

4TH CUT MEAN DM% 21.2

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5TH CUT (23/10/78) DRY MATTER TONNES/HECTARE

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

NITROGEN	N 1	N 2	MEAN
CHEMICAL			
NONE	0.22	0.46	0.34
ALDICARB	0.26	0.46	0.36
BENOMYL	0.22	0.44	0.33
PHOR+MET	0.23	0.52	0.37
MEAN	0.23	0.47	0.35

VARIETY	S23	S23/BLAN	S23/KWW	S23/LAD	S23/MIL	MEAN
CHEMICAL						
NONE	0.22	0.34	0.24	0.59	0.32	0.34
ALDICARB	0.22	0.41	0.29	0.57	0.32	0.36
BENOMYL	0.30	0.33	0.19	0.61	0.25	0.33
PHOR+MET	0.24	0.37	0.30	0.61	0.34	0.37
MEAN	0.24	0.36	0.26	0.59	0.31	0.35

VARIETY	S23	S23/BLAN	S23/KWW	S23/LAD	S23/MIL	MEAN
NITROGEN						
N 1	0.02	0.25	0.13	0.54	0.23	0.23
N 2	0.47	0.47	0.38	0.64	0.38	0.47
MEAN	0.24	0.36	0.26	0.59	0.31	0.35

VARIETY	NITROGEN	N 1	N 2
	CHEMICAL		
S23	NONE	0.02	0.43
	ALDICARB	0.01	0.42
	BENOMYL	0.01	0.58
	PHOR+MET	0.02	0.47
S23/BLAN	NONE	0.28	0.39
	ALDICARB	0.26	0.55
	BENOMYL	0.25	0.40
	PHOR+MET	0.21	0.54
S23/KWW	NONE	0.08	0.40
	ALDICARB	0.21	0.38
	BENOMYL	0.06	0.32
	PHOR+MET	0.16	0.44
S23/LAD	NONE	0.48	0.69
	ALDICARB	0.62	0.51
	BENOMYL	0.55	0.67
	PHOR+MET	0.52	0.71
S23/MIL	NONE	0.23	0.41
	ALDICARB	0.20	0.43
	BENOMYL	0.25	0.26
	PHOR+MET	0.23	0.44

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5TH CUT (23/10/78) DRY MATTER TONNES/HECTARE

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

TABLE	VARIETY	CHEMICAL	NITROGEN	VARIETY CHEMICAL
SED	0.039	0.035	0.025	0.079

TABLE	VARIETY NITROGEN	CHEMICAL NITROGEN	VARIETY CHEMICAL NITROGEN
SED	0.056	0.050	0.112

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

STRATUM	DF	SE	CV%
BLOCK.WP	39	0.112	31.7

5TH CUT MEAN DM% 22.4

TOTAL OF 5 CUTS DRY MATTER TONNES/HECTARE

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

NITROGEN	N 1	N 2	MEAN
CHEMICAL			
NONE	10.07	11.49	10.78
ALDICARB	10.03	11.85	10.94
BENOMYL	10.22	12.13	11.18
PHOR+MET	10.19	11.69	10.94
MEAN	10.13	11.79	10.96

VARIETY	S23	S23/BLAN	S23/KWW	S23/LAD	S23/MIL	MEAN
CHEMICAL						
NONE	7.53	11.90	10.98	11.74	11.77	10.78
ALDICARB	7.53	12.10	11.45	11.44	12.18	10.94
BENOMYL	7.38	12.14	11.75	11.70	12.91	11.18
PHOR+MET	7.33	11.98	11.48	12.41	11.48	10.94
MEAN	7.44	12.03	11.42	11.82	12.08	10.96

VARIETY	S23	S23/BLAN	S23/KWW	S23/LAD	S23/MIL	MEAN
NITROGEN						
N 1	5.88	11.31	10.60	11.37	11.47	10.13
N 2	9.01	12.75	12.23	12.27	12.70	11.79
MEAN	7.44	12.03	11.42	11.82	12.08	10.96

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TOTAL OF 5 CUTS DRY MATTER TONNES/HECTARE

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

VARIETY	NITROGEN / CHEMICAL	N 1	N 2
S23	NONE	6.12	8.94
	ALDICARB	5.62	9.44
	BENOMYL	5.65	9.12
	PHOR+MET	6.12	8.53
S23/BLAN	NONE	11.23	12.57
	ALDICARB	11.16	13.04
	BENOMYL	11.17	13.10
	PHOR+MET	11.67	12.29
S23/KWW	NONE	10.02	11.93
	ALDICARB	10.68	12.23
	BENOMYL	10.89	12.61
	PHOR+MET	10.82	12.15
S23/LAD	NONE	11.67	11.81
	ALDICARB	10.98	11.90
	BENOMYL	10.94	12.46
	PHOR+MET	11.90	12.92
S23/MIL	NONE	11.32	12.22
	ALDICARB	11.70	12.65
	BENOMYL	12.46	13.36
	PHOR+MET	10.41	12.55

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

TABLE	VARIETY	CHEMICAL	NITROGEN	VARIETY CHEMICAL
SED	0.228	0.204	0.144	0.456

TABLE	VARIETY NITROGEN	CHEMICAL NITROGEN	VARIETY CHEMICAL NITROGEN
SED	0.323	0.289	0.646

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

STRATUM	DF	SE	CV%
BLOCK.WP	39	0.646	5.9

TOTAL OF 5 CUTS MEAN DM% 20.4

PLOT AREA HARVESTED 0.00059

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