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Yields of the Field Experiments 1971

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71/R/CS/14 N P K to Old Grass - Old Grass

Rothamsted Research

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71/R/CS/14

NPK TO OLD GRASS

Object: To study the effects of a range of P and K levels on yields of permanent pasture on sites with much or little P and K in the soil - Park Grass old plots 5/1 and 5/2.

The seventh year, old grass.

For previous years see 65/C/22(t), 66/C/13(t), 67/C/9(t), 68/C/7, 69 - 70/R/CS/14.

Whole plot dimensions: 1.83 x 10.1. Area harvested: 0.00086.

Cultivations, etc.: P and K applied: 8 Dec, 1970. N applied: 9 Mar, 1971. Cut twice: 7 June and 4 Oct. N applied after 1st cut.

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

Plot 5/1: 1st cut:	0.394 or 12.2% (11 d.f.)
2nd cut:	0.302 or 9.9% (11 d.f.)
Total of 2 cuts:	0.538 or 8.5% (11 d.f.)
Plot 5/2: 1st cut:	0.549 or 13.3% (11 d.f.)
2nd cut:	0.287 or 8.8% (11 d.f.)
Total of 2 cuts:	0.564 or 7.6% (11 d.f.)

71/R/CS/14

SUMMARY OF RESULTS

PLOT 5/1: DRY MATTER, TONNES/HECTARE

1ST CUT

Excluding K1 and K6 plots

	P0	P1	P2	P4	Mean
Mean (± 0.139)	2.41	3.69	4.08	3.88	3.51
		(± 0.279)			(± 0.139)
K0	2.13	3.19	3.21	2.84	2.84
K2	2.78	4.48	4.41	4.32	4.00
K4	2.46	3.70	4.42	4.27	3.71
K8	2.26	3.38	4.27	4.07	3.50
		(± 0.197)			(± 0.098)
N1	2.24	3.17	3.43	3.40	3.06
N2	2.58	4.20	4.73	4.35	3.96
	K0	K2	K4	K8	
		(± 0.197)			
N1	2.85	3.44	2.99	2.95	
N2	2.84	4.55	4.43	4.04	
K1 and K6 plots					
	K1*	K6*	Mean		
		(± 0.279)	(Mean ± 0.197)		
N1	2.13	1.50	1.82		
N2	2.57	2.41	2.49		
Mean (± 0.197)	2.35	1.95	2.15		

* Applied 1965

General mean: 3.24

Mean D.M. %: 23.2

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PLOT 5/1: DRY MATTER, TONNES/HECTARE

2ND CUT

Excluding K1 and K6 plots

	P0	P1	P2	P4	Mean
Mean (± 0.107)	3.09	3.12	3.34	3.20	3.19
		(± 0.214)			(± 0.107)
K0	2.85	2.43	2.65	2.24	2.54
K2	2.92	3.13	3.53	2.90	3.12
K4	3.25	3.26	3.51	3.74	3.44
K8	3.35	3.66	3.66	3.91	3.64
		(± 0.151)			(± 0.076)
N1	2.67	2.67	2.65	2.95	2.73
N2	3.52	3.56	4.02	3.45	3.64
	K0	K2	K4	K8	
		(± 0.151)			
N1	2.34	2.65	2.82	3.13	
N2	2.74	3.59	4.07	4.15	

K1 and K6 plots

	K1*	K6*	Mean
		(± 0.214)	(± 0.151)
N1	2.57	1.92	2.25
N2	2.75	2.89	2.82
Mean (± 0.151)	2.66	2.41	2.53

* Applied 1965

General mean: 3.06
 Mean D.M. %: 28.3

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PLOT 5/1: DRY MATTER, TONNES/HECTARE

TOTAL OF 2 CUTS

Excluding K1 and K6 plots

	P0	P1	P2	P4	Mean
Mean (± 0.190)	5.50	6.81	7.41	7.08	6.70
		(± 0.380)			(± 0.190)
K0	4.99	5.62	5.86	5.09	5.39
K2	5.69	7.61	7.94	7.22	7.12
K4	5.71	6.96	7.93	8.01	7.15
K8	5.61	7.04	7.92	7.98	7.14
		(± 0.269)			(± 0.134)
N1	4.90	5.85	6.08	6.35	5.79
N2	6.10	7.77	8.75	7.80	7.60
	K0	K2	K4	K8	
		(± 0.269)			
N1	5.19	6.09	5.81	6.08	
N2	5.58	8.14	8.49	8.19	
K1 and K6 plots					
	K1*	K6*	Mean		
		(± 0.380)	(± 0.269)		
N1	4.70	3.42	4.06		
N2	5.32	5.30	5.31		
Mean (± 0.269)	5.01	4.36	4.69		

* Applied 1965

General mean: 6.30

Mean D.M. %: 25.8

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PLOT 5/2: DRY MATTER, TONNES/HECTARE

1ST CUT

Excluding K1 and K6 plots

	P0	P1	P2	P4	Mean
Mean (± 0.194)	4.02	4.19	4.19	3.82	4.06
		(± 0.388)			(± 0.194)
K0	3.76	3.59	3.59	3.45	3.60
K2	3.99	4.51	4.67	4.17	4.34
K4	4.63	4.39	4.58	4.03	4.41
K8	3.71	4.29	3.93	3.63	3.89
		(± 0.274)			(± 0.137)
N1	2.91	2.39	2.85	2.60	2.69
N2	5.14	5.99	5.54	5.04	5.43
	K0	K2	K4	K8	
		(± 0.274)			
N1	2.34	2.87	2.95	2.59	
N2	4.85	5.80	5.86	5.19	
	K1 and K6 plots				
	K1*	K6*	Mean		
		(± 0.388)	(± 0.274)		
N1	3.04	3.31	3.17		
N2	5.31	5.94	5.63		
Mean (± 0.274)	4.18	4.63	4.40		

* Applied 1965

General mean: 32.9

Mean D.M. %: 25.6

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PLOT 5/2: DRY MATTER, TONNES/HECTARE

2ND CUT

Excluding K1 and K6 plots

	P0	P1	P2	P4	Mean
Mean (± 0.102)	3.27	3.12	3.21	3.31	3.23
		(± 0.203)			(± 0.102)
K0	3.46	3.49	2.91	3.46	3.33
K2	3.28	2.97	3.50	3.20	3.24
K4	3.35	2.90	3.30	3.27	3.20
K8	3.00	3.13	3.13	3.33	3.15
		(± 0.144)			(± 0.072)
N1	3.04	2.62	2.96	2.81	2.86
N2	3.50	3.62	3.46	3.82	3.60

	K0	K2	K4	K8
		(± 0.144)		
N1	2.94	3.12	2.76	2.62
N2	3.72	3.35	3.65	3.67

K1 and K6 plots

	K1*	K6*	Mean
		(± 0.203)	(± 0.144)
N1	3.30	2.97	3.14
N2	3.65	3.44	3.55
Mean (± 0.144)	3.48	3.21	3.34

* Applied 1965

General mean: 3.25

Mean D.M. %: 32.5

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PLOT 5/2: DRY MATTER, TONNES/HECTARE

TOTAL OF 2 CUTS

Excluding K1 and K6 plots

	P0	P1	P2	P4	Mean
Mean (± 0.200)	7.29	7.31	7.40	7.14	7.29
		(± 0.399)			(± 0.200)
K0	7.22	7.08	6.50	6.92	6.93
K2	7.27	7.48	8.17	7.37	7.57
K4	7.98	7.29	7.88	7.30	7.61
K8	6.71	7.42	7.06	6.96	7.03
		(± 0.282)			(± 0.141)
N1	5.95	5.02	5.81	5.41	5.55
N2	8.63	9.61	8.99	8.87	9.03
	K0	K2	K4	K8	
		(± 0.282)			
N1	5.28	5.99	5.71	5.21	
N2	8.58	9.15	9.51	8.86	
	K1 and K6 plots				
	K1*	K6*	Mean		
		(± 0.399)	(± 0.282)		
N1	6.34	6.28	6.31		
N2	8.97	9.38	9.18		
Mean (± 0.282)	7.65	7.83	7.74		

* Applied 1965

General mean: 7.38
 Mean D.M. %: 25.6