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Yields of the Field Experiments 1951

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51/CA/4 Wheat - Control of Powdery Mildew - Rothamsted

Rothamsted Research

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51/Ca/4.1

WHEAT

Control of Powdery Mildew - Sawyers III 1951.

System of replication: 2^5 factorial in 4 blocks of 8 plots each, 3 high order interactions being confounded with block differences.

Area of each plot: 0.0252 acre. Area harvested: 0.0197 acre.

Treatments: All combinations of:-

Sulphate of ammonia: None; 0.6 cwt N per acre.

Superphosphate: None; 0.6 cwt P_2O_5 per acre.

Muriate of potash: None; 1.2 cwt K_2O per acre.

Lime sulphur spray, concentration 1 in 80 applied in three doses, each at the rate of 160 gallons per acre: None; in winter; in late spring; in winter and in late spring.

Basal manuring: None.

Cultivations, etc.: - Ploughed: Sept 21. Superphosphate and muriate of potash applied: Oct 26. Seed drilled at 3 bushels per acre: Oct 27. Sulphate of ammonia applied: May 25. Spraying dates: Winter:- Jan 24, Feb 28, Mar 14. Late Spring:- Apr 3, May 14, June 18. Harvested: Aug 27. Variety: Bersec. Previous crop: Wheat.

Standard error per plot:

Grain: 2.08 cwt per acre or 25.1% (9 d.f.)

Notes

- (1) The crop was severely infested with eyespot, take-all and weeds.
- (2) Counts of Powdery Mildew infection were made and are available.

Summary of Results

	Spraying				Mean
	None	In winter	In late spring	In winter and in late spring	
Grain: cwt per acre					
Sulphate of ammonia					
None (± 1.04)	6.3	6.9	6.9	7.6	6.9
0.6 cwt N per acre	9.7	9.6	10.4	8.7	9.6
Response to N (± 1.47)	3.4	2.7	3.5	1.1	2.7 ⁽¹⁾
Superphosphate					
None (± 1.04)	6.9	6.9	8.6	8.1	7.6
0.6 cwt P ₂ O ₅ per acre	9.1	9.6	8.8	8.1	8.9
Response to P (± 1.47)	2.2	2.7	0.2	0.0	1.3 ⁽¹⁾
Muriate of potash					
None (± 1.04)	8.5	7.9	9.7	8.6	8.7
1.2 cwt K ₂ O per acre	7.5	8.6	7.7	7.7	7.9
Response to K (± 1.47)	-1.0	0.7	-2.0	-0.9	-0.8 ⁽¹⁾
Mean (± 0.73)	8.0	8.2	8.7	8.1	8.3
Straw: cwt per acre					
Sulphate of ammonia					
None	11.6	11.2	11.8	11.7	11.6
0.6 cwt N per acre	20.7	20.4	22.5	20.0	20.9
Response to N	9.1	9.2	10.7	8.3	9.3
Superphosphate					
None	15.1	14.9	16.9	17.0	16.0
0.6 cwt K ₂ O per acre	17.2	16.6	17.4	14.8	16.5
Response to P	2.1	1.7	0.5	-2.2	0.5
Muriate of Potash					
None	15.8	15.1	17.8	15.5	16.0
1.2 cwt K ₂ O per acre	16.6	16.4	16.5	16.2	16.4
Response to K	0.8	1.3	-1.3	0.7	0.4
Mean	16.2	15.8	17.1	15.9	16.2

(1) ± 0.73

51/Ca/4.3

Responses to Treatments

Response to	Sulphate of ammonia		Superphosphate		Muriate of potash	
	abs.	pres.	abs.	pres.	abs.	pres.
Grain: cwt per acre						
			(±1.04)			
Sulphate of ammonia	-	-	2.8	2.6	2.3	3.1
Superphosphate	1.4	1.2	-	-	0.8	1.8
Muriate of potash	-1.2	-0.4	-1.3	-0.3	-	-
Straw: cwt per acre						
Sulphate of ammonia	-	-	10.0	8.6	8.5	10.1
Superphosphate	1.2	-0.2	-	-	-0.2	1.2
Muriate of potash	-0.4	1.2	-0.3	1.1	-	-