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Yields of the Field Experiments 1959

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59/R/CE/3 and 59/W/CE/3 Beans - Time of Sowing, Spraying P and K

Rothamsted Research

Rothamsted Research (1960) *59/R/CE/3 and 59/W/CE/3 Beans - Time of Sowing, Spraying P and K ; Yields Of The Field Experiments 1959*, pp 89 - 91 - DOI: <https://doi.org/10.23637/ERADOC-1-179>

Summary of Results

Grain (at 85% dry matter): cwt per acre

	Sown		Diff.	P ₂ O ₅ : cwt per acre			K ₂ O: cwt per acre			Mean
	Autumn	Spring		None	0.5	1.0	None	1.0	2.0	
<u>Great Knott III, Rothamsted</u>										
<u>Spray</u>				(±0.66)*			(±0.66)*			
None	26.6	13.9	-12.7	19.8	20.0	20.8	20.1	19.8	20.8	20.2
Demeton-methyl	28.8	18.8	-10.0	23.7	23.4	24.3	24.2	24.5	22.7	23.8

Diff.	+2.2	+4.9	+2.7	+3.9	+3.4	+3.5	+4.1	+4.7	+1.9	+3.6
			(±2.36)	(±0.94)**			(±0.94)**			
<u>Sown</u>				(1) and (2)			(1) and (2)			
Autumn				26.8	27.9	28.4	27.4	27.9	27.9	27.7
Spring				16.7	15.5	16.8	16.9	16.5	15.6	16.3
Mean (±0.47)				21.8	21.7	22.6	22.1	22.2	21.7	22.0
Diff.(±1.41)				-10.1	-12.4	-11.6	-10.5	-11.4	-12.3	-11.4
										(±1.18)

(1) ±0.99 for use in diagonal comparisons only.

(2) ±0.66 for use in horizontal and interaction comparisons only.

* For use in horizontal comparisons only.

** For use only in testing the difference of two differences.

Mean dry matter % as harvested: Autumn sown, 85.2; spring sown, 85.1.

59/Ca/3.3

Grain (at 85% dry matter): cwt per acre

	Sown		Diff.	P ₂ O ₅ : cwt per acre			K ₂ O: cwt per acre			Mean	
	Autumn	Spring		None	0.5	1.0	None	1.0	2.0		
<u>Mill Dam Close, Woburn</u>											
<u>Spray</u>				(±2.06)*			(±2.06)*				
None	27.4	23.3	-4.1	24.4	27.9	23.8	25.8	24.3	25.9	25.4	
Demeton-methyl	30.0	17.8	-12.2	25.6	26.2	19.9	19.5	24.9	27.2	23.9	
-----	-----										
Diff.	+2.6	-5.5	-8.1	+1.2	-1.7	-3.9	-6.3	+0.6	+1.3	-1.5	
				(±3.26)			(±2.91)**			(±2.91)**	
<u>Sown</u>				(1) and (2)			(1) and (2)				
Autumn				27.4	34.7	24.1	27.3	28.1	30.8	28.7	
Spring				22.6	19.4	19.7	18.1	21.2	22.3	20.5	
Mean (±1.46)				25.0	27.0	21.9	22.7	24.6	26.6	24.6	
Diff.(±2.88)				-4.8	-15.3	-4.4	-9.2	-6.9	-8.5	-8.2	
											(±1.63)

- (1) ±2.04 for use in diagonal comparisons only.
- (2) ±2.06 for use in horizontal and interaction comparisons only.

* For use in horizontal comparisons only.

** For use only in testing the difference of two differences.

Mean dry matter % as harvested: Autumn sown, 75.5; spring sown, 82.9.

59/Cf/1.1

POTATOES

Forms and levels of K - Rothamsted (R) Sawyers I and Woburn (W)
Lansome Field 1959.

Design (each field): 4 blocks of 8 plots with certain high order
interactions partially confounded with block differences.

Area of each plot: 0.0141 acres. Area harvested: 0.0071 acres.

Treatments: No potash (2 plots per block) and all combinations of:-

Forms of K: Potassium bi-carbonate, KHCO_3 (C);
Potassium sulphate, K_2SO_4 (S);
Potassium chloride, KCl (M);

Levels of K: 1.25; 2.50 cwt K_2O per acre.

All the above in combination with:-

Levels of N: 0.75; 1.50 cwt N per acre as sulphate of ammonia.

Basal dressing (each field): 1.0 cwt P_2O_5 per acre as superphosphate.

Cultivations, etc.:

Sawyers I (R): Ploughed: Feb 19, 1959. Ridged, fertilizers
applied by hand: Apr 20. Potatoes hand planted: Apr 21.
Earthed up: July 6. Sprayed with copper fungicide, 5 lb in
40 gallons per acre: Aug 24. Sprayed with sulphuric acid at
15% BOV in 100 gallons per acre: Sept 29. Lifted: Oct 12.
Variety: Majestic. Previous crop: Barley.

Lansome Field (W): Sprayed with dalapon at 10 lb and 5 lb in
40 gallons per acre: Nov 8, 1958 and Nov 22 respectively.
Ploughed: Jan 23 - Feb 2, 1959. Ridged: Apr 4. Fertilizers
applied and potatoes hand planted: Apr 10. Earthed up: June 22.
Sprayed with zineb at 2 lb and demeton methyl (against aphids)
at 12 fluid oz (50% active ingredients) in 40 gallons per acre:
Aug 15. Tops destroyed mechanically: Sept 22. Lifted:
Sept 29. Variety: Majestic. Previous crop: Barley.

Standard errors per plot. Total tubers:

Sawyers I (R): 1.215 tons per acre or 12.5% (14 d.f.)

Lansome (W): 1.076 tons per acre or 16.4% (13 d.f.)

Note (1): Chemical analyses were made of % N, P, K, Cl and S on
haulm and tubers at Rothamsted and on tubers at Woburn.

Note (2): At Woburn the plant was poor and irregular and the
yields were adjusted for plant number.