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Yields of the Field Experiments 1961

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61/R/B/9 N Levels and Residues Rotation

Rothamsted Research

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61/B/9.1

N LEVELS AND RESIDUES ROTATION

Direct and residual effects of sulphate of ammonia - Long Hoos III 1961, the 2nd year.

Rotation: Wheat, potatoes.

Design (each crop): 3 randomised blocks of 9 plots each.

Area of each plot: 0.0212 acres. Area harvested: 0.0141 acres.

Treatments. All combinations of:-

Nitrogen (applied as sulphate of ammonia) at 3 levels in 1960 and at 3 levels in 1961.

To Wheat: None; 0.5; 1.0 cwt N per acre

To Potatoes: None; 0.75; 1.50 cwt N per acre.

Basal dressing (per acre):

To wheat: $2\frac{1}{4}$ cwt compound fertiliser, 14% P_2O_5 , 28% K_2O combine drilled.

To potatoes: 5 cwt compound fertiliser, 14% P_2O_5 , 28% K_2O broadcast on the flat.

Cultivations, etc.:

Wheat: Ground chalk applied at 23 cwt per acre, ploughed:

Mar 7, 1961. Rotary cultivated: Mar 20. Sulphate of ammonia applied, seed combine drilled at 3 bushels per acre: Mar 21.

Sprayed with MCPA/TBA at 4 pints in 40 gallons per acre: May 19.

Combine harvested: Aug 30. Variety: Jufy I.

Potatoes: Ground chalk applied at 23 cwt per acre: Dec 16, 1960.

Ploughed: Dec 29. Basal fertiliser broadcast on flat:

Apr 17, 1961. Rotary cultivated, sulphate of ammonia applied, ridged, potatoes planted: Apr 24. Earthed up: July 6.

Sprayed with zineb at 2 lb in 40 gallons per acre: Aug 3.

Sprayed with undiluted BOV at 15 gallons per acre: Sept 21.

Lifted: Oct 5. Variety: Ulster Supreme.

Standard errors per plot.

Wheat. Grain (at 85% dry matter): 2.18 cwt per acre or 6.5%
(16 d.f.)

Potatoes. Total Tubers: 0.775 tons per acre or 8.4% (16 d.f.)

61/B/9.2

Summary of Results

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

	N: cwt per acre in 1961			Mean
	None	0.5	1.0	
N: cwt per acre to potatoes in 1960		(±1.25)		(±0.73)
None	23.8	34.9	37.9	32.2
0.75	26.1	34.2	39.0	33.1
1.50	31.0	34.5	39.2	34.9
Mean (±0.73)	27.0	34.5	38.7	33.3

Mean dry matter % as harvested: 84.9

Potatoes

	N: cwt per acre in 1961			Mean
	None	0.75	1.50	
N: cwt per acre to wheat in 1960	<u>Total tubers: tons per acre</u>			
		(±0.448)		(±0.258)
None	5.83	9.26	11.70	8.93
0.5	5.73	10.38	11.29	9.13
1.0	6.74	10.00	12.01	9.58
Mean (±0.258)	6.10	9.88	11.67	9.21

N: cwt per acre to wheat in 1960 Percentage ware (1½" riddle)

None	93.9	95.4	97.2	95.5
0.5	94.2	96.3	96.9	95.8
1.0	93.2	96.0	97.6	95.6
Mean	93.8	95.9	97.2	95.6