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Yields of the Field Experiments 1957

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57/R/CF/1 Potatoes - Virus Spread (Insecticide Spray)

Rothamsted Research

Rothamsted Research (1958) *57/R/CF/1 Potatoes - Virus Spread (Insecticide Spray)* ; Yields Of The Field Experiments 1957, pp 94 - 95 - DOI: <https://doi.org/10.23637/ERADOC-1-177>

57/Cf/1.1

POTATOES

Control of virus spread by insecticide spray - Highfield V and VI 1957.

Design: 5 × 5 Latin square.

Area of each plot: 0.0608 acres. Area harvested: 0.0091 acres.

Treatments: Number of sprayings with DDT emulsion, 2 lb active ingredient in 25 gallons per acre.

None; 1, at 4th spraying; 2, at 3rd and 4th sprayings; 3, at 2nd, 3rd and 4th sprayings; 4. too dense

✓ Infector plants: 6 leaf roll and 6 virus Y infected plants planted in each plot.

Note. The tractor used for spraying was driven over all plots on each occasion always passing over the same rows. The yields shown were taken from the undamaged rows and an estimate of the loss of yield due to tractor damage was made from a total area of 0.2280 acres.

Basal dressing per acre: 4 cwt sulphate of ammonia, 3 cwt muriate of potash.

Cultivations, etc.: Ploughed twice: Nov 16 - 20, 1956 and Jan 25 - 29, 1957. Sulphate of ammonia applied on flat: Apr 16. Potatoes machine planted: Apr 16 - 23. Muriate of potash applied: May 3. Earthed up: May 28. Sprayed with copper fungicide, 5 lb in 40 gallons per acre: Aug 3 and again Aug 22. Sprayed with sulphuric acid, 20% BOV, 100 gallons per acre: Sept 23. Lifted: Oct 7 - 10. Variety: Majestic. Previous crop: Wheat.

Dates of DDT sprayings: June 3, June 19 - 21, July 4, July 30.

Standard error per plot:

Total tubers: 1.25 tons per acre or 8.8% (12 d.f.)

✓ Note. Aphid counts were made and tuber samples taken to assess virus spread.

57/Cf/1.2

Summary of Results

	Number of sprayings with DDT					Mean
	None	1	2	3	4	
Total tubers: tons per acre						
Mean (± 0.559)	13.96	14.88	14.37	13.90	14.05	14.23
Increase (± 0.791)		+0.92	+0.41	-0.06	+0.09	
Percentage ware ($1\frac{1}{2}$ " riddle)						
Mean	77.9	82.3	80.0	78.9	78.4	79.5
Increase		+4.4	+2.1	+1.0	+0.5	

Estimated loss of yield due to 5 passages of the tractor: 11.7%

Estimated loss of yield in whole crop due to 5 passages
of the tractor along 4 rows out of 6: 7.8%