

FIELD EXPERIMENTS 19 55

Crop: Potatoes

Field: White Woman

Experiment: Control of Leaf Roll and Rugose Mosaic (virus Y) by insecticide spraying, so that the potato stock may be maintained over several years. Records of aphid population and virus infection are to be kept and the same stocks used for a period of up to 5 years. 1st year of Trial.

## Treatments &amp; Layout:

1. Sprayed 6 times: first at 100% emergence, second after 10 days and last four at fortnightly intervals.
2. Sprayed on 2nd and 4th occasions
3. Sprayed on 2nd occasion
4. Sprayed on 4th occasion
5. Unsprayed.

D.D.T. emulsion used throughout at 2 lb active ingredient per acre. The treatments are arranged in a latin square.

Plot Size: Treatment: 31 yd x 31 yd (4 rows @ 28"). Enough area is harvested to provide seed for each treatment in the following year. Manuring with dates of:

10 cwt per acre of 1:10:15 compound (Case & Steward)

Date of Drilling: April      Variety: K. Edward      Seed Rate: 18" spacing  
 Date of 1st spray: 6th June  
 Date of 2nd spray: 16th June  
 Date of 3rd spray: 1st July      Spraying Volume Rate: 50 galls/acre.  
 Date of 4th spray: 15th July  
 Date of 5th spray: 29th July  
 Date of 6th spray: 12th August  
 Remarks (previous cropping, cultivations, etc.)

Dates of Aphid Counts: 20th July and 22nd August.  
 Date of Haulm Destruction ( $H_2SO_4$ ): 12th September.  
 Date of Harvest: 30th September.

The trial was sprayed twice against blight ("Blitor")

1955 Potato Spraying Trial Data

Aphids In the Air (as caught by aphid trap)

	<u>Myzus persicae</u>	<u>Total</u>
May	0	35
June	2	550
July	4	360
August	6	718
September	1	19
Total	13	1,682

Aphid Counts on the Crop (Aphids per 100 leaves)

Treatment.	<u>M. persicae</u>				<u>A. rhamni</u>				<u>Others</u>			
	<u>Alates</u>		<u>Apterae</u>		<u>Alates</u>		<u>Apterae</u>		<u>Alates</u>		<u>Apterae</u>	
	<u>Ads.</u>	<u>Npms</u>	<u>Ads.</u>	<u>Npms</u>	<u>Ads.</u>	<u>Npms</u>	<u>Ads.</u>	<u>Npms</u>	<u>Ads.</u>	<u>Npms</u>	<u>Ads.</u>	<u>Npms</u>
<u>1st Count (20th July)</u>												
1,2,3,4,5 & 6	-	-	-	1	-	-	-	4	2	-	-	-
2 & 4	-	-	3	5	-	-	-	2	3	-	1	3
2	-	-	88	241	6	-	116	474	3	-	34	132
4	-	-	4	8	-	-	1	-	1	-	1	4
No spray.	2	3	84	281	-	-	20	90	1	-	21	132
<u>2nd Count (22nd August)</u>												
1,2,3,4,5 & 6	1	-	2	9	-	1	30	166	1	-	6	56
2 & 4	-	3	41	192	4	20	261	1662	1	-	49	303
2	-	-	7	58	1	5	54	407	1	1	5	15
4	-	1	43	184	1	7	151	865	1	-	36	265
No spray.	-	-	10	63	-	3	69	394	-	-	9	26

No virus disease counts were made in  
1955