

FIELD EXPERIMENTS 1956

Crop: Potatoes

Field: Belt Piece.

Experiment: Control of leaf Roll and Rugose Mosaic (Virus Y) by insecticide spraying so that potato stock may be maintained over several years. Records of aphid population and virus infestation to be kept and the same seed stocks to be used for up to 5 years.

Treatments & Layout: 2nd Year of Trial

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: 36 yds x 23.3 yds (30 rows @ 25")

Most of the produce of each plot was kept to provide seed for 1957.

Manuring with dates of:

10 cwt. per acre of 10:10:15 compound (Case & Steward)  
Applied by combine planter.

Date of Drilling: 13th & 16th Apr. Variety: King Edward. Seed Rate: 18" spacing  
 Date of 1st Spraying: 31st May  
 Date of 2nd " 13th June  
 Date of 3rd " 26th June Spraying volume rate:- 50 gals/acre.  
 Date of 4th " 10th July  
 Date of 5th " 24th July  
 Date of 6th " 8th August  
 Remarks (previous cropping, cultivations, etc.)  
 Date of Disease counts: 6th July.  
 Date of Aphid counts: 24th July and 21st August.  
 Date of haulm destruction (H<sub>2</sub>SO<sub>4</sub>): 28th August.  
 Date of Harvest: 22nd & 23rd October.  
 The trial was sprayed against blight ("blitox") 5 times during July and August.

Note Book No.

1956 Potato Spraying Trial Data.

Aphids in the Air (As caught by Aphid Trap)

	<u>Myzus persicae</u>	<u>Total</u>
June	0	75
July	8	189
August	135	342
September	1	10
Total	144	616

Aphid counts on the Crop (Aphids per 100 leaves)

Treatment.	<u>M. persicae</u>				<u>A. thaliani</u>				Others				
	Alates		Apterae		Alates		Apterae		Alates		Apterae		
	Ads.	Npms.	Ads.	Npms.	Ads.	Npms.	Ads.	Npms.	Ads.	Npms.	Ads.	Npms.	
<u>1st Count (20th July)</u>													
1,2,3,4,5 & 6	2	-	-	3	-	-	-	-	-	-	-	-	1
2 & 4	1	-	-	7	-	-	-	-	-	-	1	-	2
2	1	1	1	42	-	-	2	5	1	-	-	-	2
4	-	-	1	10	1	-	-	1	2	-	-	-	10
No spray.	6	64	102	982	-	-	-	5	4	3	11	-	41
<u>2nd Count (21st August)</u>													
1,2,3,4,5 & 6	1	-	1	23	-	-	1	8	-	-	3	-	8
2 & 4	2	1	25	113	-	-	3	3	1	-	4	-	21
2	-	7	10	32	-	-	-	1	-	-	1	-	4
4	2	5	27	119	-	-	2	10	-	-	3	-	18
No spray.	1	1	4	21	-	-	1	5	1	-	-	-	2

Virus Disease Incidence on 6th July.

<u>Treatment.</u>	Plants infected with	
	<u>Leaf Roll</u>	<u>Virus Y.</u>
1,2,3,4 & 6	0.2	0.17
2 & 4	0.37	0.07
2	0.07	0.03
4	0.13	0.43
No spray.	0.29	0.27
Mean of Treatments	0.21	0.19