

PRELIMINARY STUDY OF  
ROOT APHID INFESTATION IN WILLCOX

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The root aphid (Pemphigus populivenae Fitch), is a common root feeding pest which appears in small areas of many commercial fields by late summer. It can cause foliage to yellow and the infested areas desiccate and in time can die.

The aphid spots became evident in late July, 1975, throughout the Willcox district. The spots enlarged in many fields until 50% to 60% of the many fields were wilted. Harvest of these fields showed severe reduction in tonnage, sucrose percent, and loss of roots through the harvester.

Harvest samples were taken from five fields where the aphid damage was severe. Samples in each field were taken in the centers of badly infested areas and compared with nearby samples where the damage was slight. The five fields showed the following sucrose percent levels:

	PERCENT SUCROSE				
	<u>GILBERT</u>	<u>SETLIFF</u>	<u>WINCHESTER</u>	<u>MOSER</u>	<u>YAMASAKI</u>
High Infestation	5.3	10.5	10.9	12.2	11.8
Low or No Infestation	<u>13.1</u>	<u>12.9</u>	<u>15.2</u>	<u>15.0</u>	<u>14.1</u>
Difference	7.8	2.4	4.3	2.8	2.3

The above comparisons show the serious loss in harvest quality that occurred. In addition, it can be conservatively estimated that several tons per acre in yield were lost from badly infected fields.

Control of the insect is difficult because it seems to appear in July, or later, and attacks the roots. The aphid is quite mobile and multiplies rapidly, so early detection and a systemic insecticide would be required. The mechanics of applying systemic insecticides to the soil and moving them into the beet root will be difficult and time consuming, but no other approach seems reasonable at this time.

Fortunately, several registered insecticides can be considered for use. Two of these, Temik and Counter, will be applied in 1976, and these products will be compared with Furadan, and perhaps other granular insecticides.