

BEET CURLY TOP VIRUS WEEKLY REPORT



CURLY TOP VIRUS CONTROL PROGRAM

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Weekly Report for Week Ending November 30, 2012

Imperial & Riverside Counties

Host plant survey was performed in Imperial and Riverside Counties during the week. Generally, survey areas in both counties currently exhibit dry conditions with very little beetle leafhopper (BLH) host plants developing. The lack of rain fall coupled with road side weed control, by the Counties and private land owners, has reduced beetle leafhopper host plants. Good BLH sweeping weather was experienced during the trip with warm temperatures, very little wind and a slight overcast.

Curly Top Virus Program staff traveled to Imperial County on Monday the 26th. At Travertine Point, the surrounding desert had no viable vegetation. Conditions on the West Mesa were generally dry. The only host plants observed was goosefoot along a few roadsides and some *Pectis papposa* near the town of Ocotillo. BLH's were found only on the goosefoot averaging 1-2 adults per single sweep with an occasional nymph. Nymphs made up less than 10% of the overall population.

Conditions on the East Mesa were similar to conditions on the West Mesa. The region from Niland to Glamis, on Ted Kipf road, was dry with no host plants. Roadside host plants were found to be minimal in the Winterhaven and Bard areas.

Staff started to see a little more host vegetation along the roadsides in Riverside County near Palo Verde but were more prevalent in the vicinity of Blythe. The BLH counts on roadsides were about the same averaging 1-2 per single sweep.

This trip was useful in familiarizing two new Program employees with the work areas in Imperial and Riverside Counties. A survey trip will be planned in the spring to monitor any changes in host plant conditions that may occur.

Beet Curly Top Virus Control Board Meeting

A meeting of the Beet Curly Top Virus Control Board was held at the Fresno Facility on November 27th. An update of the 2012 fall treatment campaign was given. Approximately 23,800 acres were treated during the fall treatment campaign to control beetle leafhopper populations.

Dr. Bill Wintermantel, USDA Salinas, gave an update and of the two-year study funded jointly by the Beet Curly Top Virus Control Program and the California Tomato Research Institute. The study focused on understanding the dynamics of important reservoir hosts of beet curly top virus.

Bean and shepherds' purse accumulated beet mild curly top virus (BMCTV) better than beet severe curly top virus (BSCTV), while sugarbeet accumulated BSCTV better. Tomato was found to accumulate BMCTV better than BSCTV but both strains accumulate in tomato. The virus strain that accumulates to significantly higher populations in a host plant than the co-infecting strain becomes the more dominant virus and gradually eliminates the less competitive virus. In field sampling studies, two new virus strains were found. The first was only recently discovered and not yet common in California (PepCTV); and, a second strain only known from New Mexico (PYDV). A full sequencing of the genome would be necessary to determine if the two viruses were actually present or if it was just a recombinant in only a portion of the gene. The discovery of these new isolates to California illustrates the importance of continued periodic monitoring for variations in the curtovirus populations in California. These or other viruses may emerge and compete with BMCTV and BSCTV resulting in a shift in virus populations and new issues in virus management.