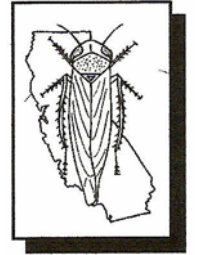


BEET CURLY TOP VIRUS MONTHLY REPORT



CURLY TOP VIRUS CONTROL PROGRAM

2895 N. Larkin, Suite A
Fresno, CA 93727
PHONE: (559) 294-2031
FAX: (559) 294-2037

Monthly Report for February, 2014

February had about 5 days of rain; some rainfall at the beginning of the month and more heavily the last few days of the month. The weather systems that passed through the valley produced approximately 1.65" of precipitation for the month, based on information from the Hanford weather station on The National Weather Service website. The west side received some much needed precipitation. The hillsides and canyons on the west side that were void of beet leafhopper (BLH) host plants in January should begin to develop filaree by early March.

Looking back and comparing this year with last year, the beet leafhopper populations are not likely to build up to the extremely high counts that were seen last year. Lack of rainfall to germinate BLH host plants in the hillsides and canyons has been the limiting factor in keeping BLH populations low. Estimating what the BLH populations will be like in spring is uncertain. However, populations probably won't have enough time to cycle through generations to create large numbers. BLH populations will most likely be below average. However, Beet Curly Top Virus (BCTV) personnel will continue to monitor the BLH winter range weekly for host plant and leafhopper numbers, until the hosts finally dry out completely in late spring. Treatments will be based on the latest survey information.

Results from the host plant samples that were collected and tested for virus show there is virus in the perennial plant, *Atriplex*. Although pest pressure may be low for the spring, the Curly Top Virus is present and can still be transmitted to tomatoes. Collection and testing for virus of the annual host plants, such as filaree and pepper grass, will be conducted once those plants begin to develop.

Fresno County

The table below compares last year with this year in terms of BLH populations and host plant availability for Fresno County.

January 2013	February 2013	January 2014	February 2014
Widespread filaree; patchy pepper grass.	Widespread filaree; patchy pepper grass.	Lack of and sparse filaree; no other host plants in foothills.	Lack of and sparse filaree; no other host plants in foothills.
Adult BLH 25-30 per 10 sweeps.	Adult BLH 2-8 per 10 sweeps.	Adult BLH less than 1 per 10 sweeps.	Adult BLH less than 1 per 10 sweeps.
Nymphs just beginning to be found, isolated areas.	Nymphs 10-20 per sweep.	No nymphs detected.	No nymphs detected.

- Host plant surveys were conducted in the Tumey Hills, Pepper Grass Flats, and Panoche Creek properties. The rainfall rejuvenated the filaree and annual grasses in these areas.
- A total of 100 sweeps were conducted on the property from the Manning entrance to the Panoche Road entrance. Zero BLH adults and zero nymphs were detected.
- In the Panoche Creek area, 100 sweeps were conducted from the south end to the goat pens on the north. 2 adult BLH were detected and zero nymphs. The adults were checked for eggs, but no eggs were detected.
- In the Panoche Creek area and parts of the Tumey Hills, low counts of adult Agallia's were present in sweep surveys. Sweep counts averaged 2 adult Agallia's per 10 sweeps. Beet leafhopper counts were less than 1 per 10 sweeps.
- Host plant surveys were conducted in the Chevron, North Chevron, Shell Camp, and Domengine Ranch properties. There was limited filaree development toward the end of January. It had begun to stress and dry but the February rain may rejuvenate the filaree in these areas.
- Coalinga's "Big C", Zapato's Canyon, and Warthon Canyon were dry and void of host plant development.
- Yellow panel sticky traps were deployed in three trap lines in Fresno County. 24 traps were placed along the Three Rocks trap line, 15 traps were placed along the South Coalinga trap line, and 14 traps were placed along the Coalinga East trap line. Please review the attached map for trap line locations.
- The yellow panel sticky traps will be monitored 2-3 times a week for BLH. Any BLH identified on the traps will be sent for testing to determine if Curly Top Virus is present. The traps will also be used to determine the BLH migration from the hills to the valley floor.

Tumey Hills- 2013



Tumey Hills- 2014



Kern County

The table below compares last year with this year in terms of BLH populations and host plant availability for Kern County.

January 2013	February 2013	January 2014	February 2014
Widespread filaree;	Widespread filaree; patchy <i>Plantago</i> and pepper grass.	Lack of and sparse host plant development.	Lack of and sparse host plant development.
Adult BLH 3 per 10 sweeps.	Adult BLH 7-8 per 10 sweeps.	Adult BLH 0-2 per 10 sweeps.	Adult BLH less than 1 per 10 sweeps.
No nymphs detected.	No nymphs detected.	No nymphs detected.	No nymphs detected.

- The west side of Kern County, in Taft and Maricopa, remained dry and void of host plant development.
- Personnel continue to monitor the *Atriplex* for BLH activity. Sweeps produce less than 1 adult BLH per sweep.
- South of Mettler, along the East and West corridor of Interstate 5, personnel detected a hatch of *Agallia*'s. BLH were not detected.
- Surveys along Coles Levee, Buena Vista Hills, and Kitty Care produced less than 1 adult BLH per 10 sweeps. These areas were also dry and void of host plant development.
- Yellow panel sticky traps were deployed in several trap lines in Kern County. Traps were placed along the McKittrick, Dustin Acres, Taft 1, and Taft 2 trap lines. Some adjustments were needed and approximately 30 traps were placed. A final trap count will be reported on next month. Please review the attached map for trap line locations.



Elkhorn Grade 2013



Elkhorn Grade 2014

Kings County

January 2013	February 2013	January 2014	February 2014
Filaree and patchy pepper grass.	Widespread filaree; patchy pepper grass.	Dry and void of host plant development.	Dry and void of host plant development.
Adult BLH 4-8 per 10 sweeps.	Adult BLH 15+ per 10 sweeps.	Adult BLH 7-10 per sweep (isolated) - roadside treatment conducted.	Adult BLH less than 1 per 10 sweeps.
Early nymph hatch.	Nymphs 12 per 10 sweeps.	No nymphs detected.	No nymphs detected.

- Host plant surveys were conducted in the Kettleman Hills. This area remained void of any host plant development.
- The Devil's Den area up north to the Kettleman Hills remained dry and void of host plant development.
- Yellow panel sticky traps were deployed along the Kettleman City trap line. A total of 17 yellow panel traps will be monitored in this area. Please review the attached map for trap line locations.
- Yellow panel traps will be monitored 2-3 times a week for BLH. Any BLH identified on the traps will be sent for testing to determine if Curly Top Virus is present. The traps will also be used to determine the BLH migration from the hills to the valley floor.
- At the end of January, in rural Kings County on Hwy 41, west of Highway 33, there was a section with dense *Atriplex*. BLH sweep surveys produced counts of 7-10 adult BLH per 10 sweeps. A total of 80 gallons of tank mixed Malathion was applied by ground rig application.

Merced County

- Roadside vegetation and beet leaf hopper population monitoring was conducted throughout the month.
- Grasses and other hosts, such as filaree and mallow, are developing along the roadsides.
- Sweeps along Arbura Road west of Interstate 5, produced less than 1 adult BLH per 10 sweeps and zero nymphs.
- Sweeps along Alvarado Trail east of Canyon Road produced less than 1 adult BLH per 10 sweeps and zero nymphs.
- Sweeps along Husman Road west of Ingomar Road produced less than 1 adult BLH per 10 sweeps and zero nymphs.
- Sweeps along Henry Miller Road west of Volta Road produced less than 1 adult BLH per 10 sweeps and zero nymphs.
- Sweeps along Butts Road west of Whitworth Road, Snyder Road east of Orchard Road and Orchard Road north of Snyder Road all had BLH counts that were less than 1 adult and zero nymphs, per 10 sweeps.

Riverside/Imperial Counties

- A survey of the desert counties will be conducted in March. Sweep survey data for BLH populations and host plant observations will be included in next month's report.

CTV-beet leafhopper Possible trap lines for monitoring BLH migration

