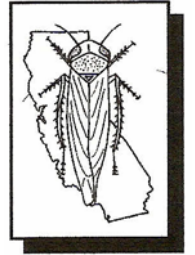


# BEET CURLY TOP VIRUS

# MONTHLY REPORT



## **CURLY TOP VIRUS CONTROL PROGRAM**

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Report for March/April, 2016

### **Program-wide notice**

- Beet leafhopper (BLH) counts were minimal at the beginning of March in most areas. There were some locations with populations beginning to increase, with average counts of 5-7 adults and some nymphs per 10 sweeps. The majority of the peppergrass dried up in February, which encouraged the spring BLH generation to hatch. Filaree and *Plantago* also became stressed by the end of February and more BLH began to hatch. The heavy rainfall in March didn't seem to impact the BLH as much as anticipated. The rain then allowed additional host plants to germinate and kept most of the mature host plants viable longer for the BLH to feed and reproduce on. BLH populations significantly increased toward the end of March, with average counts of 10-15 adults and 10-20 nymphs per sweep. In some locations the nymphs averaged 40-50+ per 10 sweeps.
- The Beet Curly Top Virus Control Program (BCTVCP) began making arrangements for treatment the week of March 21<sup>st</sup>. The spring treatment campaign started on March 25<sup>th</sup> in Kern County, working north to Fresno County. Upon surveying the Kettleman Hills March 26<sup>th</sup> and 27<sup>th</sup>, the Program made arrangements to utilize two planes for more effective coverage since the vegetation was drying quickly. The Program split field crew personnel to allow for treatment in Kern County to take place concurrently with treatment conducted in Kings and Fresno Counties. Treatment concluded on April 7, 2016. There were a few days that treatment was impeded by high winds. Portions of some treatment fields were avoided due to bee boxes within a mile of the treatment boundaries. Every effort was taken to contact bee keepers to have the boxes moved, however, most did not comply.
- **A total of 64,450 acres were treated during the spray campaign. A treatment map is included at the end of the report.**
- The Program will continue to monitor fallow fields and roadside host plants for BLH populations. It is important to have fallow fields surveyed for BLH and, when possible, treat infested fields with an insecticide prior to any disking or mowing.
- The overall incidence of virus in BLH samples submitted for analysis have been approximately 50% positive. The overall incidence of virus in host plant samples submitted have been approximately 30% positive.

### **Fresno County**

- Beet leafhopper surveys were ongoing during March in all the historical "hot spots". Peppergrass was the first host plant to dry up due to a warm, dry February and produced a BLH hatch. Filaree and *Plantago* remained viable and allowed for a second hatch to occur in March. In most of the locations surveyed, the majority of the hillsides were very overgrown with winter grasses.
- On March 30<sup>th</sup>, the Program began treatment in Fresno County, starting in the southern most fields, from Zapatos Canyon working north to Panoche Creek.
- Panoche and Tumey Hills had an abundance of peppergrass, filaree, and *Plantago*.

The peppergrass began to stress early. BLH counts were 8-10 per 10 sweeps in early March and increased to an average of 35-40 adults and nymphs per 10 sweeps during the spray campaign.

- The Chevron and North Chevron properties had low BLH counts at the beginning of March. Counts were 0-1 nymphs per 10 sweeps. The properties were overgrown with winter grasses. Host plants were filaree, peppergrass and *Plantago*. The peppergrass dried quickly. BLH counts the week of treatment had increased slightly with 6-7 adults and nymphs per 10 sweeps, and were inconsistent throughout the property. This area was not treated during the treatment campaign due to low BLH counts.
- A portion of the non-treatable property was granted permission for treatment. It is known as the "Gyp-Pitts" and is south of Manning Avenue, north of Kamm Avenue, west of Interstate 5. BLH counts were on average 45 adult and nymphs per 10 sweeps during the spray campaign.
- The non-treatable property from Kamm Avenue south to Cantua Creek, west of Interstate 5 was granted permission for treatment. BLH counts were moderate at the beginning of March but increased to an average of 40 adult and nymphs per 10 sweeps during the spray campaign.
- The Big "C" and Zapatos Canyon had BLH counts on average of 3-5 adults per 10 sweeps and increased to 10-17 adult and nymphs per 10 sweeps. Some locations within each field had high counts of 20-40 BLH per 10 sweeps.
- Warthan Canyon had good host plant coverage and 3-5 adult BLH per 10 sweeps in early March. There were some locations within Warthan Canyon that had 50+ BLH counts prior to treatment. The Program was not able to treat the south eastern portion of Warthan Canyon due to bee boxes.
- **A total of 25,920 acres were treated in Fresno County.**
- Post treatment BLH averages were low with an average of a 92% reduction.
- Program personnel will continue to monitor roadside host vegetation and fallow fields for BLH populations.
- Thirty-nine (39) host plant samples were collected and sent to the lab for virus analysis. Eight (8) were positive for curly top virus.
- Forty-seven (47) BLH samples were collected and sent to the lab for virus analysis. Twenty-four (24) were positive for curly top virus. There were ten (10) samples not tested and results will be reported next month.

## Kern County

- Beet leafhopper surveys were ongoing during March with the south western region of Kern County in the hills, slopes, and valleys of Taft, Maricopa, Dustin Acres, Derby Acres, Valley Acres, Fellows, McKittrick, Buttonwillow, and Lokern monitored closely due to an abundance of host plants and their history of having high counts of BLH.
- BLH counts in Lake Webb Flats, Elk Hills, Buena Vista Hills, Western Minerals, Gardner Field Road, the flats along Lokern Road west of Buttonwillow, the Water Bank, 36 Hills, Kitty Care, and Elkhorn averaged 0-2 adults and 0-1 nymphs per 10 sweeps at the beginning of the month. The first BLH nymphs were observed on March 1<sup>st</sup>. Host plants such as filaree, peppergrass, and *Plantago* were beginning to stress after a warm, dry February.
- By the third week of March, BLH nymph counts began to increase in all areas surveyed. Average counts for nymphs were 18-20+ per 10 sweeps in some locations such as 36 Hills, Elk Hills, Kitty Care, and the Buena Vistas.
- The Program began making arrangements for treatment to begin the week of March 21<sup>st</sup>. Treatment for Kern County began March 25<sup>th</sup> and was completed April 3<sup>rd</sup>.
- The area west of Buttonwillow off Lokern Road was treated in areas that the Program had access to and that did not indicate conservation or endangered species. After those areas had been treated, the Program was notified that permission for treatment should not have been granted and in the future, the area will not be allowed to be treated. That property had been designated as conservation land by Chevron and USFWS. There were very high BLH counts in the area at time of treatment, with counts as high as 35 adult BLH and 20+ nymphs per 10 sweeps.
- **A total of 28,380 acres were treated in Kern County.**
- Post treatment BLH averages were low with an average of a 90% reduction.
- Due to recent rainfall on some of the hills that were dried in early April, some host plants have reemerged.
- Program personnel will continue to monitor roadside host vegetation and fallow

fields for BLH populations. Some ground rig treatment was conducted in fallow fields after the spray campaign ended. There was a fallow field that should be treated, however, the Program was notified it is conservation land and is not treatable. This property is off South Lake Road, township 32, range 25, section 19.

- Fifty-seven (57) host plant samples were collected and sent for virus testing. Twenty-six (26) were positive for curly top virus.
- Twenty-one (21) BLH samples were obtained and sent for virus analysis. Eleven (11) were positive for curly top virus.

## Kings County

- Treatment began in the Kettleman Hills north of Highway 41 on March 28<sup>th</sup>, 2016. The hills north of Highway 41 had an abundance of filaree and peppergrass with patches of *Plantago*. BLH counts in early March were 7-10 adults and 5-7 nymphs per 10 sweeps. BLH increased to an average of 50 BLH adults and nymphs per 10 sweeps during the spray campaign. There was an area on the north east side of the field that was avoided due to bees within an almond orchard.
- The Kettleman Hills south of Highway 41 was treated on March 29<sup>th</sup>. BLH counts were 5-7 adults and nymphs in early March and increased to an average of 35 adults and nymphs per 10 sweeps. Host plants were the same as the north Kettleman Hills.
- Surveys took place along Utica Avenue from Interstate 5 east to 10<sup>th</sup> Avenue. Fallow fields along Utica Avenue were inspected for BLH and host plants. Primarily there was London rocket and Russian thistle. BLH counts were minimal and inconsistent with 1-3 adult BLH and 3-4 nymphs per 10 sweeps.
- **A total of 10,150 acres were treated in Kings County.**
- Post treatment BLH averages were low with an average of a 90% reduction.
- Program personnel will continue to monitor roadside host vegetation and fallow fields for BLH populations.
- Five (5) host plant samples were collected and sent for virus analysis. Five (5) were negative for curly top virus.
- Six (6) BLH sample was collected and sent for virus analysis. Two (2) samples were positive for curly top virus. One sample has not been tested and will be reported next month.

## Merced County

- Surveys were conducted near the San Luis Reservoir. Vegetation was predominantly winter grasses mixed with some filaree. There were no BLH adults or nymphs observed on the hillsides in March. There were a lot of sharpshooters and non-target leafhoppers. There were no bees observed in sweep surveys.
- Surveys in late April were conducted along roadsides. BLH counts were minimal.
- One (1) BLH sample was collected and sent for virus analysis. It has not been tested and results will be reported next month.
- Personnel will continue to monitor BLH populations and collect both host plant and BLH samples for virus analysis.

## San Joaquin County

- BLH and host plant surveys were conducted west of Highway 580 and south of Corral Hollow Road. Vegetation was thick and was predominately winter grasses with a mix of filaree and peppergrass. Only trace amounts of *Plantago* was observed. Only two BLH nymphs per 10 sweeps were observed in sweep surveys.
- One (1) host plant sample was collected and sent for virus analysis. It was negative for curly top virus.
- One (1) BLH sample was obtained and sent for virus analysis. It was positive for curly top virus.
- Personnel will continue to monitor BLH populations and collect both host plant and BLH samples for virus analysis.

## **Stanislaus County**

- Surveys took place on the Simon Newman Conservation property. BLH host and non-host vegetation was thick and widespread. There was some peppergrass already showing signs of stress. There were no BLH adults or nymphs observed in early March. There were a lot of sharpshooters and non-target leafhoppers.
- Two (2) BLH samples were collected in late April and sent for virus analysis. Results are pending and will be reported next month.
- Personnel will continue to monitor BLH populations and collect both host plant and BLH samples for virus analysis

