

UC Citrus Entomology Monitoring Program

Citrus E-Newsletter

March 2003 No. 1

University of California Kearney Agricultural Center

Citrus Cutworm

Biofix: January 6, 2002 for the Oroshi and Orange Cove areas

Lower developmental threshold: 45.6°F

Begin Sampling for Cutworm Larvae: 250 DD

Expect to find 1st and 2nd instar larvae: 350-400 DD

Apply microbials (Bt products): 400-550 DD

Current Accumulated Degree Day Units: 380 as of 3/10/03

Lisa Munoz (UCCE Tulare Co.) is monitoring for citrus cutworm moths and larvae in 10 Oroshi and Orange Cove orchards through funding received from the Citrus Research Board. Citrus cutworm moth activity has been much higher in 2003 compared to 2002 as seen in the tables below. This is probably because of the mild winter we had this year that allowed more pupae to survive. In addition, degree days (DD) above the 45.6°F threshold accumulated rapidly during February of 2003 (see the graph below). We have accumulated 380 DD in the Oroshi and Orange Cove areas and larvae were found in two of 10 orchards surveyed during the week of March 3. This is a week earlier than the previous year. You should be using a visual search, beat sheet, or net shake survey for larvae now. On the average, most of the larval populations appear at 350-400 DD. At that time you will see a mixture of 1st and 2nd instar larvae. We will keep you informed of the degree-day units as they accumulate on the Internet at <http://www.uckac.edu/citrusent/>.

Treatment threshold before petal fall: The treatment threshold is 15 worms (per 25 net shakes, per 1 hour search, or per 20 trees sampled with a beating sheet) before petal fall and 3-5 worms after petal fall. The threshold is lower after petal fall because the larvae prefer to feed on the fruit. The microbial insecticides and Kryocide work well before petal fall if the cutworm are smaller instars. Microbial pesticides are most effective when applied approximately 400 degree days after moths begin flying, when the population consists primarily of 1st and 2nd instar larvae. Degree day estimates predict that the 400-550 DD point will be reached during the last week of March and the first week of April in Tulare County. That would be the optimal time to apply microbials or Kryocide. See your Citrus IPM manual or guidelines for details of how to sample. Insecticide treatment recommendations can be found in the citrus guidelines that you can purchase from your UC Cooperative Extension Office, or as Publication 3339 from UC DANR Communication Services (800-994-8849), or on the World Wide Web (<http://www.ipm.ucdavis.edu>).

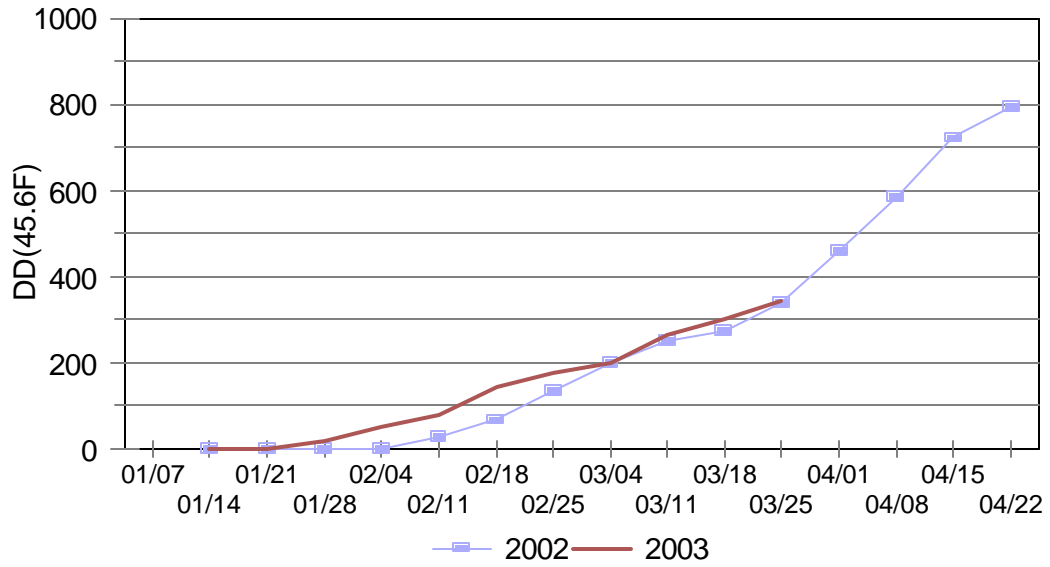
Total number of male cutworm moths collected/trap in 2002. In 2002, the maximum number of moths caught during any week was 110. Note that that higher or lower moths does not necessarily correspond with higher or lower larvae. We use the moth counts primarily to determine the biofix for predicting when larvae will appear.

Orchard	Jan 2	Jan 7	Jan 14	Jan 21	Jan 28	Feb 4	Feb 11	Feb 17	Feb 24	Mar 4	Mar 11	Mar 18	Mar 25	Apr 1	Apr 8	Apr 15	Apr 22
1	0	0	2	0	0	0	6	7	16	7	19	4	4	0	0	0	0
2	0	0	0	0	0	0	0	2	8	2	0	1	0	0	0	0	0
3	0	1	0	0	0	0	0	2	17	2	0	0	0	0	0	0	0
4	1	4	1	0	0	0	6	12	25	12	4	1	0	3	4	2	0
5	0	1	0	0	0	0	1	7	8	2	4	0	2	3	2	1	0
6	0	1	0	0	1	0	5	8	15	17	0	3	2	2	1	0	0
7	0	0	0	0	0	0	0	2	13	16	5	2	2	0	17	1	0
8	0	1	0	0	1	0	0	2	5	3	1	0	0	0	0	0	0
9	8	36	4	0	5	0	110	54	70	74	34	10	6	2	18	0	0
10	1	1	0	0	1	0	0	0	11	4	0	0	0	0	0	0	0

Total number of male cutworm moths collected/trap 2003. In 2003, most orchards are experiencing very high moth counts. This may or may not result in high larval counts. The larvae are reduced by rains and parasites.

Orchard	Jan 29	Feb 5	Feb 12	Feb 19	Feb 26	Mar 3	Mar 11	Mar 18	Mar 25	Apr 1	Apr 8	Apr 15	Apr 22
1	6	0	4	0	4	6							
2	103	16	31	32	23	6							
3	139	23	54	25	33	46							
4	319	89	114	67	79	52							
5	235	37	72	30	99	56							
6	236	66	146	88	48	17							
7	171	47	73	48	64	35							
8	125	46	30	17	21	20							
9	0	0	1	1	55	70							
10	41	19	17	13	10	5							

Citrus Cutworm Degree-Days 2002 and 2003



The accumulation of degree-day units for citrus cutworm is nearly identical for the week of March 10 for the years 2002 and 2003.