UC Citrus Entomology Monitoring Program **Citrus E-Newsletter**
May 2001 No. 4
University of California Kearney Agricultural Center Cooperative Extension

Citrus Cutworm

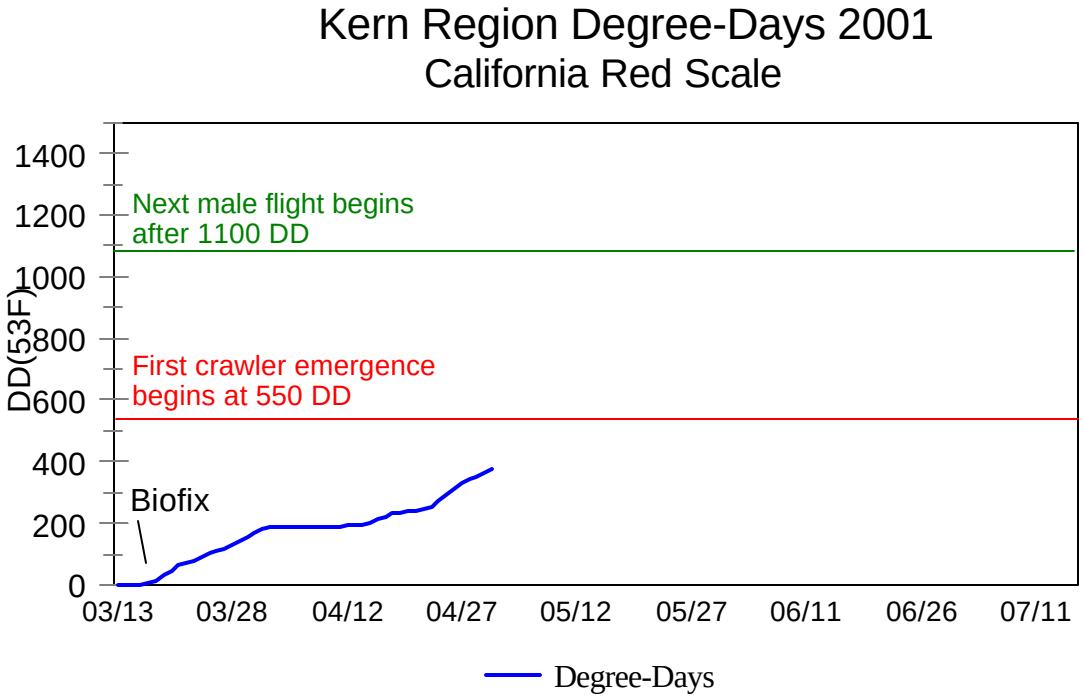
Source of Information: Lindcove Research and Extension Center
Biofix: January 8, 2001 for the Exeter and Ivanhoe area
Lower developmental threshold: 45.6°F
Begin Sampling for Cutworm Larvae: 250 DD
Current Degree-Day Accumulation: 800 DD
Expect to find 1st and 2nd instar larvae: 350-400 DD
Apply microbials (Bt products): 400-550 DD

We are only finding a few late instar larvae now in our research blocks; most citrus cutworm have dropped to the soil to build pupation chambers and sleep the rest of the summer away. Only one of our orchards reached the economic injury level, and reports of cutworm damage to citrus have been few this year. Petal fall in Tulare District 1 will be declared on May 3, with District 2 probably being declared several days later.

California Red Scale

Biofix: March 19 (South Valley and Foothill)
March 26 (Central Valley and Madera)
Lower developmental threshold: 53ºF
First crawler emergence: 550 DD
Second male flight: 1100 DD

Degree-day accumulations for California red scale this spring began quickly, with warmer than normal temperatures late in March. Cold weather in early April, however, may delay the start of first crawler emergence considerably. If daily high temperatures stay in the mid 80s we are projecting the beginning of



crawler emergence in Kern County and the warmer citrus growing regions during the week of May 21, which is about two weeks later than last year. Emergence of crawlers will be earlier if the weather warms up. If you are using sticky tape traps to monitor crawler emergence, it would a good idea to set them out now. California red scale degree-days for all citrus growing regions of the San Joaquin Valley are updated weekly at http://www.uckac.edu/citrusent.

Generally, the organophosphate (Lorsban and Supracide) and carbamate (Sevin) insecticides work better if applied when the crawlers are first emerging. The newly registered Admire can be administered through the irrigation system any time during May-June. It will take about 3 weeks to begin to kill the scale population, but will provide season long control of scale on the fruit. Esteem should be applied before the 1st or 2nd generation of white caps molt into second instars.

Admire and Provado Fully Registered for Scale Control in Citrus

Admire and Provado are two formulations of imidacloprid, a class of insecticide (neonicotinoid) that is effective in killing sucking insects such as aphids, whiteflies, scales and sharpshooters. The Admire formulation is applied to the soil through the irrigation system and taken up into the tree systemically. The Provado formulation is applied to the foliage of the tree. This class of insecticide attacks the nicotinic receptors in insects and has a different mode of action than previously used classes of insecticides such as organophosphates, carbamates, and pyrethroids. For the past ten years, we have been testing Admire and Provado at the Lindcove Research and Extension Center to determine their efficacy against various citrus pests including California red scale, citricola scale, and more recently glassy-winged sharpshooter.

Admire (32 oz/acre, 24 hour PHI, 24 hour REI): California red scale is best controlled by the Admire formulation of imidacloprid because Admire is more effective, longer-lived, and less toxic to most natural enemies than Provado. The grower should keep in mind that uptake of any systemic insecticide will vary and so will the control of the pest. Admire works best in young, rapidly growing, healthy trees, with a uniform irrigation system, when the soil has been lightly prewetted and the application is made during May-July. The full 32 oz rate is needed no matter what size the tree is. Admire works best if applied over a 2-hour period (this time period will vary depending on the length of the row and size of the irrigation system). It should always be preceded by a short interval of pre-irrigation (2 hours), and then be followed up with another short interval of irrigation (2-4) hours. Avoid excessive wetting before or after the application and avoid applying Admire if rain is expected. Growers should be aware that Admire kills vedalia beetle when it feeds on poisoned cottony cushion scale. Thus, if the orchard has cottony cushion scale, the Admire treatment should be delayed until June to allow vedalia time to completely clean up the cottony cushion scale. If cottony cushion scale is still present in June, Admire should not be used in that orchard. Admire (32 oz/acre) also helps to reduce glassy-winged sharpshooter populations by about 85% and helps to inhibit their egg-laying in citrus.

Provado (10-20 oz/acre, 24 hour PHI, 24 hour REI): The best use of Provado appears to be for citricola scale. This insecticide is fairly broad spectrum, but breaks down rapidly and so its effect on natural enemies is fairly short-lived. The higher 20 oz rate is much more effective against citricola scale than the lower rate. Like Admire, Provado is toxic to vedalia beetles and so should not be used in situations where cottony cushion scale is present.