



# INSECTS AND WEEDS IN FOCUS

ROUTE 2, BOX 589 - CORPUS CHRISTI, TX 78406

ROY D. PARKER  
EXTENSION ENTOMOLOGIST  
PHONE: 361-265-9203

EMIL (TREY) D. BETHKE III  
EXTENSION AGENT-ENTOMOLOGY  
OFFICE: 361-387-7101  
MOBILE: 215-1166

JOHN E. BREMER  
EXTENSION WEED SPECIALIST  
PHONE: 361-265-9203

Web site: <http://entowww.tamu.edu>

VOL. XXIV NO. 3

ENTO/WS

April 2, 1999

## IN THIS ISSUE

- **BOLL WEEVIL SITUATION IN THE COASTAL BEND**
- **FURADAN SECTION 18 APPROVED**
- **STATUS REPORT ON IPM SURVEY PROGRAM**
- **AREA WIDE COTTON SITUATION**
- **CORN AND SORGHUM SITUATION**
- **INTERESTING INSECTS**

trap/month, Nueces and San Patricio Counties.

Month	6 yr avg	1981	1998	1999
Jan.	5.3	0.5	.22	.22
Feb.	5.5	0.3	.27	.00
Mar.	7.7	0.4	3.00	.33

NOTE: 6 yr avg is 1977-1982 by Segers et al.

## FURADAN SECTION 18 APPROVED

The EPA has granted an exemption for use of Furadan 4F for control of aphids on cotton under Section 18 rules of the FIFRA. Use is restricted to similar rules we have followed during the last several years. The entire text of the Section 18 is available on the Texas Department of Agriculture web site ([www.agr.state.tx.us](http://www.agr.state.tx.us)) under the pesticide and crop section. Key points as I understand them are summarized as follows:

- An emergency situation is considered to be in effect when growers have suffered aphid infestations within the crop season and have attempted control of aphids using a registered alternative product, and obtained less than 80% control. A region (Extension District) may be authorized for use of Furadan once 4 non-adjacent sites within the Extension district have been certified to meet the criteria for an emergency situation. Interpretation of the Section 18 as to exactly when Furadan can be used is somewhat unclear; we will continue to seek clarification.
- Flowable carbofuran may be used under this exemption either as an early-season (pre-bloom) treatment, or as a mid- to late- season ("plant growth stage") treatment.
  - Early season is defined as the period when the cotton plants have developed their sixth (6th) set of leaves until they bloom. During this period, if a registered alternative product has been used and has not controlled the aphid infestation, flowable carbofuran may be applied when aphid populations reach the treatment threshold of 50 aphids per leaf as

## BOLL WEEVIL SITUATION IN THE COASTAL BEND

We have monitored boll weevil traps in Nueces and San Patricio Counties since early 1997 and Segers et al., Texas Agricultural Experiment Station, conducted a 6-year trapping study in the same counties from 1977-1982. That information has been used for historical comparison in previous issues of this newsletter. The average boll weevil catch for the 6-year period, was much higher during the first 3 months of the year compared to 1999 (Table 1). If the single year of 1981 is compared to 1999, figures are much closer (both followed drought the previous season). However, the first 3 months of 1999 were on average 7.4°F warmer than 1981. The key point is that without continued diligent effort in the eradication zone, boll weevil populations could easily return to normal levels by August. For example, the average catch per trap per month for the first 6 months of 1981 was 0.82 compared to 279.9 per trap per month during last 6 months of that year. For comparison, the average catch per trap per month during the last 6 months of 1998 was 11.04. This number is dramatically lower than any on record. I expect pockets of heavier boll weevil activity will be found. The importance of finding these locations early will be critical in the effort to further reduce weevil numbers. RDP

Table 1. Number of boll weevils captured per pheromone

determined by the following sampling plan:

Sample 1 top leaf (first fully expanded leaf) and 1 mid leaf per plant on 5 randomly selected plants 100 feet from edge of field. Repeat in each of the four quadrants of the field until a total of 40 leaves are collected. Treat only if aphid populations exceed an average of 50 per leaf.

- The mid season plant growth stage is defined as the period beginning when the cotton plants have bloomed. During this period, if a registered alternative product has been used and has not controlled the aphid infestation, flowable carbofuran may be applied when aphid populations reach the treatment threshold of 100 aphids per leaf as determined by the following sampling plan:

Sample 1 top leaf (first fully expanded leaf) and 1 mid leaf (5 nodes below "top" leaf) per plant on 5 randomly selected plants 100 feet from edge of field. Repeat in each of the four quadrants of the field until a total of 40 leaves are collected. Treat only if aphid populations exceed an average of 100 per leaf.

- When 5% of the bolls in a field have opened, that field may be treated when a threshold of 15 aphids per leaf is identified. To determine the number of aphids per leaf, use the sampling plan as described in the following sampling plan:

Sample 1 top leaf (first fully expanded leaf) and 1 mid leaf (5 nodes below "top" leaf) per plant on 5 randomly selected plants 100 feet from edge of field. Repeat in each of the four quadrants of the field until a total of 40 leaves are collected. Treat only if aphid populations exceed the averages stated above depending on condition of the bolls.

- State pesticide authorities or crop consultants must document resistance and infestation levels before "prescribing" foliar use on cotton.
- Furadan 4F (flowable carbofuran) may be applied as a foliar application, using ground or aerial equipment, at a rate of 8 oz. product (0.25 lb. a.i.). A maximum of two (2) applications may be applied under this exemption. Do not apply more than 0.5 lb. a.i. per acre. A 27-day pre-harvest interval must be observed.
- A copy of the section 18 labeling must be in the user's possession at the time of application.
- Use of closed mixing and loading systems for both aerial and ground application is required.
- All areas where Furadan is applied under this specific exemption are required to be posted with signs developed and distributed in accordance with EPA's Worker Protection Standard (WPS).
- There are many sections dealing with safety issues for wildlife, water contamination, drift prevention, endangered species, applicators, field workers and others. RDP

## **STATUS REPORT ON IPM SURVEY PROGRAM**

As of last week, Dr. Parker and I have completed field selection in San Patricio County. Eleven fields were located for inclusion in the survey program and scouting should begin in most fields there as early as next week. Monday I visited all the fields and found many of them under water in places. Cotton in the San Patricio County area is generally at the cotyledon stage with a few fields up to 2<sup>nd</sup> true leaf stage.

Field selection in Nueces County was completed yesterday (March 31). As in San Patricio County, eleven fields were selected and scouting should begin next week. Cotton that has been planted in Nueces County ranges from the cotyledon stage to some more mature fields in the southeast part of the county which are at the 3<sup>rd</sup>-4<sup>th</sup> true leaf stage.

Kleberg County selection will commence Friday or early next week with scouting to begin as soon as possible. Kleberg producers should be prepared to let us know about fields beyond the survey program they would like to have ~~EDB~~ EDB.

## **AREA WIDE COTTON SITUATION**

Cotton growth stages ranged from not yet planted to 4 true leaves (a few fields exceed 4 true leaves). Aphid populations are currently none to low, thrips populations are generally very light and a few bollworms have been observed feeding on seedling cotton. Cutworm infestations are very light and are generally confined to the northern growing areas with fewer reports since the rainfall of March 27-28.

We have observed fleahopper nymphs feeding on horsemint and other alternate host plants. Since rainfall triggers fleahopper egg hatch, it appears to have occurred at about the correct time to result in infestations in cotton later. We have demonstrated 80, 200 and 30 lb/acre increases in lint yields over untreated cotton in tests conducted over a 3 year period, respectively. In these tests fleahoppers averaged 50-72/100 terminals in the untreated cotton from matchhead square to first bloom; two treatments were made in these tests spaced 6 to 7 days apart. Detailed results are available in research reports.

RDP

## **CORN AND SORGHUM SITUATION**

Reports of cutworm infestations in corn have declined during the past week but there were reports of fall armyworm causing problems in isolated fields. In the case of fall armyworm, I would expect most plants to grow out of the type damage reported to date. Pyrethroid insecticides have provided good control of both caterpillars but very few fields have required treatment.

Yellow sugarcane aphid (YSA) and greenbug numbers remain

at very low levels on sorghum but fields should be inspected weekly to determine population status. The YSA should be given special attention since it can cause substantial damage when plants are small. For example, on 3 true-leaf sorghum (does not count the two seed leaves), if 100% of the plants had one entire leaf discolored due to YSA, a 31% yield loss would be estimated. Fortunately, seldom do we see 100% infestations. This information would be useful in estimating potential losses when inspecting sorghum.

A very good publication, "Managing Insect and Mite Pests of Texas Sorghum," B-1220, dated June 1998, is available free of charge from this office or it can be obtained from the following Web site: <http://agpublications.tamu.edu>RDP

## INTERESTING INSECTS

Social Insects - Ants may seem unique because of their cooperative behavior. But they aren't the only insects that cooperate. Some bees, wasps, and all species of termites also work together in a similar way. These are called social insects. Social insects live in communities where labor is divided among different individuals within the colony. These individuals belong to separate castes. Entomologists can tell to which caste a member of the colony belongs by its form and function. For example:

- The queen is the focal point of the insect community. Each ant, bee, and wasp colony must have at least one queen. New queens mate, then either stay in the nest and take over for the old queen or leave to start a new nest. Then they lay eggs-something that they do all their lives. Termite colonies have both a king and queen.
- Most of the eggs that the queen lays become workers. This caste is responsible for protecting the colony, building the nest, procuring food, and caring for the young and the queen. All ant, bee, and wasp workers are female, but termite workers can be male or female. Bee and wasp workers don't do the same job all their lives, but change tasks as they grow older.
- Ant, bee, and wasp queens sometimes lay eggs that become males, or drones. Drones don't work for the community at all, and they are soon driven out. But they're still valuable. After they leave the nest or hive, drones mate with new queens, thereby enabling the queens to begin new communities.
- Termites have a separate caste of soldiers. Soldiers specialize in protecting the nest, and have large, strong mandibles.
- Sociality has big advantages for insects. Individual ants will soon die if they are kept separate from their colony, but they thrive when they are part of the colony. Ants make up about 66% of all insect biomass even though they account for only about 2% of all insect species!

\*\*\*\*\*

Educational programs conducted by the Texas Agricultural Extension Service serve people of all ages regardless of socioeconomic level, race, color, sex, religion, handicap or national origin. The information given herein is for educational purposes only. References to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Cooperative Extension Service is implied.

---

The Texas A&M University System, U.S. Department of Agriculture, and the Commissioners Courts of Texas Cooperating