



# INSECTS AND WEEDS IN FOCUS

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### COTTON CONSULTANTS & FIELD SCOUTS (Egg Identification Workshop)



It is critically important each cotton season to determine when a field infestation shifts from bollworm to tobacco budworm because certain insecticides (pyrethroids) effective on bollworm are not effective on tobacco budworm in this area of Texas. Many instances of field treatments in past years have been observed where control was not obtained, larvae continued to increase in size and, finally, another treatment was applied after significant damage occurred. It turned out that the population had shifted to high levels of budworm.

On Wednesday, May 10, we plan to host a demonstration on how to process heliothine eggs using the Agdia, Incorporated, egg identification kit (Hel-ID) at the TAMU Agricultural Research and Extension Center,

Corpus Christi, on Highway 44 west of Clarkwood. The workshop will begin at 8:30 a.m. and conclude at noon. We are not sure how many people will be interested in attending; therefore, please call (361) 265-9203 to let us know you will attend (we will not hold the workshop without some interest). For those of you who are extremely busy it might be possible to at least introduce you to the initial steps which would take the first hour.

Willye Bryan of Agdia, Incorporated, will conduct the workshop. She has worked with entomologists across the Cotton Belt during the past two seasons. The ID kit is accurate, relatively easy to use but takes several processing steps. This will be a good opportunity to find out more about this new technology which promises to be an excellent tool for bollworm/budworm decision making.

Currently we are catching more tobacco budworm moths than during the past several seasons. Remember, let us know if you plan to attend.  
RDP, EDB



### COTTON INSECT REPORT

Cotton in the Lower Coastal Bend ranges from the first-third grown square

stage to a few fields that are still at the cotyledon stage. I would say that most of the cotton in area fields are of the maturity where the plant squares are moving from the pinhead stage to matchhead. Cotton and grain, particularly in the sandier soils, are in dire need of a good two inch rain. We're starting to see some sorghum and cotton that's showing water stress in these areas.

This week aphids continue to cause the greatest worry. Aphid abundance, particularly on pre-squaring cotton, has remained pretty high on some fields that have not been treated so far. However, lots of fields have been treated with Furadan, Bidrin, or Provado for aphids. It still appears to us that most of the more mature cotton, well into squaring, is avoiding severe aphid problems. Also, we are finally starting to see a great number of lady beetles, pirate bugs, and wasp-parasitized aphids. The emergence of these natural enemies will hopefully alleviate some of the potential aphid problems. A little hard rain would be great too.

Cotton fleahoppers are still not occurring in great abundance. The highest level found this week was 12% found in a field in Kleberg County. I looked at some of this pest's wild hosts (horsemint) this week just to see if fleahoppers were consistently present – they were. If your cotton is squaring or about to begin squaring keep a watchful eye on these pests. As pastures and right-of-ways continue to dry down, you should expect fleahoppers to move into your fields.

We are still seeing a few bollworms here and there, but still nothing to be concerned about at this time. Few bollworm eggs have been found to date, but don't be surprised by an early season egg lay as the cotton crop moves nearer bloom.

**Pest to Watch For – Beet Armyworm**

I was going to discuss cotton bollworms and tobacco budworms in this column this week, but instead I'm going to write about beet armyworms because of reports coming from the Rio Grande Valley this week. John Norman, EA-IPM in the Rio Grande Valley, is reporting that beet armyworm (BAW) moth captures have really jumped since last week in his area. Additionally, Valley-area consultants and chemical reps are reporting large numbers of hits in fields located all the way from the river to Willacy County. Specifically, as many as 46 hits have been reported in individual fields. Here are the moth trap capture numbers:

Location	3/29	4/05	4/12	4/19	4/26
San Benito	1.5	6.5	4.0	4.0	5.0
Lyford(SW)	20.0	9.0	58.0	52.5	176.5
Weslaco	16.0	70.5	56.5	63.5	145.5
Lyford(E)	53.5	6.0	16.5	40.0	151.6

Thanks to John Norman for this important information.

So, in case we're in for another BAW year, here is some additional information to allow you to be as prepared as possible. Unlike bollworms, BAWs lay their eggs on either surface of a cotton leaf in masses that are covered by a whitish, velvety material. Newly hatched BAW larvae "web up" and feed together (gregarious) on leaves (skeletonizing them), but eventually they will disperse and become solitary in nature. The egg masses and/or sites where the larvae are gregariously feeding are called "hits." Early in the cotton season BAWs will feed on leaves and terminals causing extensive lateral growth and delayed maturity. Later in the season the worms will feed on all the above, plus squares, blooms, and bolls.

What are the factors that facilitate the outbreak of BAWs? There are many factors including:

- ✓ mild winters
- ✓ late planting
- ✓ heavy early season insecticide use
- ✓ prolonged hot, dry weather (drought)
- ✓ weather conditions that support long-distance migration (strong, southerly winds)
- ✓ delayed crop maturity
- ✓ presence of beet armyworms prior to bloom

Characteristics of high risk fields that consistently appear to fit a pattern for developing BAW problems are:

- ✓ sandy, droughty soils
- ✓ drought stressed plants
- ✓ skip-row planting
- ✓ skippy, plant stand
- ✓ pigweed infestations

Control of BAW can be based on two different thresholds – “early detection” thresholds and “remedial” thresholds. Early detection thresholds refer to unhatched and newly hatching egg masses only, while remedial thresholds are based on relatively larger larvae that have dispersed from egg masses throughout the field. Remember that insecticidal control is much more successful when directed at newly hatched larvae to quarter-inch long larvae, before they begin feeding on fruit. Control of BAWs longer than ½ inch can be very difficult.

**The early detection threshold is two active hits per 100 row feet and useful from initiation of squaring all the way to cutout.** If this threshold is reached and field and climatic conditions are favorable for a BAW outbreak treatment should be considered. Remedial thresholds vary with crop maturity and have not been well established. **The remedial threshold for pre-squaring cotton is 20-30 larvae per 100 plants. During mid-season continue using a threshold of 20,000 larvae per acre with a field distribution of 10% or more of the**

**plants infested.** This comes to about 7-12 larvae per feet of row, depending on row spacing and plant population. **For post-cutout cotton, a threshold of 10 or more BAW larvae per row foot is utilized since square feeding this late has little impact on yield.** BAW does not usually cause extensive damage to mature bolls. In Bt cottons a BAW threshold has not been defined, but it has been established that the mortality of BAWs on Bt cottons is approximately 25%. **For Bt cottons, we suggest using the remedial thresholds**



**described above.**

Insecticides to consider for beet armyworms include Confirm, Tracer (small larvae), Spod-x (worms may cause damage before larvae die) and Dimilin (requires treatment before actual larval thresholds are reached). EDB

Beet armyworm larvae

### **BOLL WEEVIL TRAP COMPARISONS**

Boll weevil populations (Table 1) are relatively low in the South Texas/Winter Garden boll weevil eradication zone compared to areas outside the zone; Wharton County is an example outside the zone. However, numbers inside the zone are generally much greater than in 1999 (Table 2).

Table 1. Number of boll weevils captured per pheromone trap per month in 2000 at 4 locations along the Texas Gulf Coast, TAEX operated traps.

Month	Wharton <sup>a</sup>	E. Alfred	Welder	Violet
Jan	4.47	1.0	0.1	57.6
Feb	4.17	0.0	0.0	9.6
Mar	29.73	0.0	0.0	10.3
Apr	103.79	0.2	0.0	7.3

<sup>a</sup> 32 mile trap line operated by D. Fromme, Extension agent IPM.

Note that Uvalde has fewer weevils than in the past; it can be attributed to the very aggressive treatments made there in 1999.

Table 2. Number of boll weevils captured per pheromone trap during week 17 (April 17-23), Texas Boll Weevil Eradication Foundation trap data.

Location	Year				
	1996	1997	1998	1999	2000
Uvalde	25.40	14.53	2.58	1.613	0.068
Robstown	16.76	3.93	0.65	0.011	0.169
Sinton	25.50	4.13	1.14	0.019	0.090
Kingsville	1.31	5.89	0.19	0.001	0.069
Victoria	10.56	21.66	0.97	0.023	0.852
Totals	12.47	4.95	0.87	0.58	0.23

### **SORGHUM INSECT SITUATION**

Insect numbers in sorghum in the lower Coastal Bend are extremely low in fields we have examined. There are occasional yellow sugarcane aphids being found but numbers seem to be declining. A few greenbug colonies have been observed but, compared to past years, are very low. However, greenbug numbers could increase over the next two weeks since few beneficial species are present. The low beneficial arthropod numbers may relate to the fact that corn leaf aphids are in low numbers.

We may see substantial sorghum midge numbers on late blooming sorghum by the week of May 21 this season. If so, it would be about

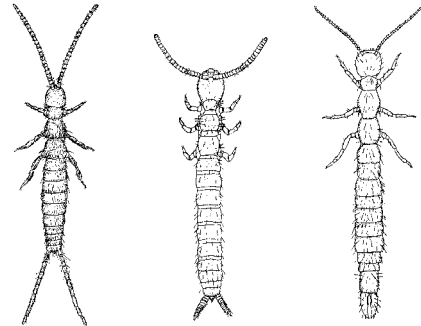
two weeks earlier than most seasons. I would initiate sorghum scouting for midge about May 15.  
RDP

## PECAN NUT CASEBEARER

The pecan nut casebearer egg lay has been earlier this season. Generally, in South Texas treatments are being made this week. Insecticides include Confirm, Lorsban, Imidan, Asana (low rate), Dursban (home trees) and B.t. products (multiple applications). RDP

## INTERESTING INSECTS

The insect order Diplura (two tail) or diplurans look somewhat like silverfish but have only two caudal filaments or appendages (silverfish have 3). These insects are generally less than 7mm in length and usually pale in color. The order is divided into four families; 64 species have been identified in North America. They are found in damp places in the soil, under bark, under stones or logs, in rotting wood, in caves, and in similar moist situations. RDP



### Examples of Diplurans

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