



St. Francis County

## Cotton IPM Report

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Tom Barber

Blooms are starting to show on the earlier planted cotton. By next week to a week and a half, a large percentage of the crop should be blooming. In many areas square retention at bloom remains fairly high. Once cotton begins to bloom, the number of nodes present above the first position white flower (NAWF) will give you a good indication of the health and “horsepower” of your crop. To take this measurement, count the number of nodes down from the terminal (terminal is 0) to the first white flower. When cotton first begins to bloom it should be around 9 nodes above white flower. If the number of nodes is 7 or less, the cotton is under stress and actions should be taken to identify and, if possible, alleviate the stress. If NAWF is greater than 10 at first bloom, it is an indicator that the vegetative growth may be out of control. This could be due to factors including low square retention, variety, moisture and fertility, along with other weather factors. The square set above the first bloom should at least be around the 80% range but we would like to see 90 – 95%. As the season progresses, the white flower will catch up with the terminal until the crop is at cutout. Cutout in Arkansas is the stage when there are 5 NAWF.

Calls are coming in about irrigated cotton that has only 7 NAWF at first bloom, with nodes very close together (short internodes). Why is this cotton stressing and what can we do? First, look at the root system of the cotton plants in question. The wet and cool spring was conducive for seedling disease, and damaged roots can cause decreased water uptake. If the roots look good, determine if they are finding the moisture from irrigation. Dig down 6 to 10 inches to determine if water is soaking through the beds. If no moisture is present, consider watering every row vs. every other row. Other options would be to shorten irrigation intervals from 7 to 5 days. One thing is for sure, if NAWF continues to decrease and blooms are catching the terminal, premature cutout may be imminent. We have seen this many times before. Even though the cotton may not be 6 or 7 NAWF, we can maintain yield potential as long as we maintain a constant growth that will keep the NAWF count constant for the next three weeks. Increased or intensified irrigation management will be the best option to maintain a constant level of growth during bloom. Another point to remember is that most of these fields have a very high fruit retention (90% plus). Eventually, we will shed some of this; when this happens, we may see an increase in growth. One thing is for sure, plant growth regulators will not be needed on these problem fields.

What about applying a dry fertilizer such as ammonium sulfate? In some cases where the roots are not farming the nitrogen deeper in the soil due to lack of moisture, an application of ammonium sulfate may help; however the success of this application will be varied and may have no effect at all. It could help the plants maintain a constant NAWF for a couple of weeks, especially in fields where lower rates of nitrogen were applied. However, if nitrogen is not the limited factor, then

late applications of a dry fertilizer could cause complications at harvest from rank growth, fruit shed, boll rot and an expensive defoliation bill. We have recommended applications of ammonium sulfate on a couple of fields; however, in most cases water is the limiting factor.

### **Insect Situation** Scott Akin

**Plant Bugs:** We are still sustaining relatively light pressure from plant bugs, although numbers are building in several areas. Heaviest areas have received 3 – 4 insecticide applications in SE Arkansas. Growers and consultants are reporting less than one spray on average for plant bugs thus far. We are not catching near as many plant bugs in wild hosts as this time last year as well. That said, corn will soon be drying down, and nearby cotton will need to be monitored closely. We are still seeing primarily adults over nymphs, but that should change over the coming weeks. Remember to switch to the drop cloth for monitoring nymph numbers.

**Bollworms:** Bollworm moth flights are still active, and we are even receiving reports from various locations of higher numbers of tobacco budworm moths this season compared to recent seasons. Below are recent weekly moth trap counts. We are seeing more moths near corn fields.

### **SFC Trap Counts**

*Except where corn borer is noted, trap counts are: tobacco budworm/ bollworm.*

	<b>7/01</b>	<b>7/03</b>
<b>Dillahunty</b>	0/1	5/8
<b>Belle Meade</b>	0/0	9/6
<b>DeRossitt Farm</b>	27/138	15/108
<b>Madison</b>	11/15	9/5
<b>Linden Island</b>	3/66	0/13
<b>SFC 742</b>	11/85	5/62
<b>Yocona Rd</b>	41/97	2/58
<b>Caldwell</b>	9/22	1/7
<b>SFC 858</b>	16/88	5/78
<b>SFC 130 (SW corn borer)</b>	11	95
<b>Chappell</b>	0	1
<b>Danehower Farm</b>	NA	10

**Beneficials:** Comments have been made in previous newsletters recommending some of the more beneficial-friendly chemistries early in the season. When the term ‘beneficials’ comes to mind, most folks first think of natural enemies that are easily recognized—nabids, spiders, big-eyed bugs, etc. A field can, however, contain a significant number of natural enemies that are not easily seen or perhaps not even recognized as beneficials.

An example is Tachinid fly adults (see inset photo below), which resemble the common housefly, and is a natural enemy of several insect pests including armyworms and loopers. Parasitic flies do not have a sharp ovipositor (in contrast to parasitic wasps that do), so the fly must “stick” the egg to its host. The immature will soon hatch, bore into the host, and eventually kill it by developing inside it. The egg is deposited directly behind the head—this ovipositional behavior is an adaptation that keeps the host from turning around and removing the egg from its body.



The take-home message here—there may be more natural enemies than appears at first glance. Stick to the aforementioned beneficial-friendly insecticides during early to mid season if possible.