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# Crop Management Newsletter

News about Crop Management for producers in Dawson, Lynn and surrounding Counties.

Thanks to the sponsors and the gins who support the Dawson/Lynn IPM Program  
 (found on page 2)

## Current Conditions

A few of our cotton fields have slowed in their development rate, but all fields are still developing nicely. The slow down is partly natural as we have started the blooming phase of development in addition to holding 90+% of fruit (squares and flowers) Yes, we saw our first flowers this week. Some of the slow down is the decrease in soil moisture as the plants demand is increasing. Just need a good general rain shower.

Insect activity remains very light to non-existent.

Sugarcane aphid (discussed below) has now been detected on the High Plains, Floyd County.

## Square to Bloom

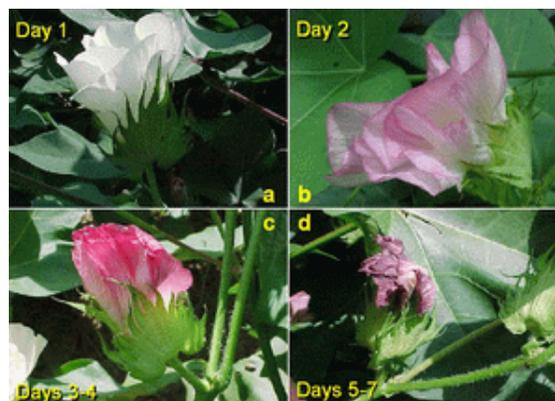
Young squares undergo a complex and delicate formation of flower parts and when stressed either shed or form abnormalities. Squares during their late development are in an expansion phase and thus are fairly resistant to stress. Blooms are just the continued expansion for show. During bloom, cells enlarge rapidly as water is pumped into the flower causing the petals to unfurl. The unfurling is almost resistant to stress, as severely wilted plants can still have a normal looking bloom.

It's in these blooms that pollination takes place. When the flower opens, pollen lands on the stigma where each grain starts to grow a tube down toward the ovules (unfertilized seeds). Upon reaching the ovule, pollen combines with the egg cell (fertilization) to start a new embryo (seed) which contains a full complement of genetic material to produce another plant.

Cotton pollen is sticky and insects, not wind, are the primary mode for pollen transfer from one plant to another. However, cotton is 95-99% self-

pollinated, flowers are primarily fertilized by pollen from the same plant, thus allowing genetic purity of varieties.

Flowering is important to cotton production because pollinated flowers form cotton bolls. The bloom process takes several days, and bloom age can be estimated by the bloom characteristics. On the day a flower opens it is white in color. Pollination of that flower usually occurs within a few hours after the white flower opens.



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On the second day the flower will have a pink-like color, and a red color on the third day. Approximately 5 to 7 days after a flower appears it usually dries and falls from the plant exposing the developing boll. Occasionally a flower will stay attached to the developing boll for a longer period of time. This is referred to as a bloom tag.

### **Managing Sugarcane Aphid on the Texas High Plains**

Now that sugarcane aphid has been found in Floyd County it is safe to assume that we will shortly find it in surrounding High Plains counties. We all went through the aphid invasion last year and there is no need to go in to great depth on scouting and management, so I will just hit the highlights from lessons learned last year. If you want to read our complete 2016 sugarcane aphid management publication it is found at:

[http://lubbock.tamu.edu/files/2016/05/ENTO-035\\_Sugarcane\\_Aphid-Management\\_2016.pdf](http://lubbock.tamu.edu/files/2016/05/ENTO-035_Sugarcane_Aphid-Management_2016.pdf)

The earlier the aphid arrives during crop development, the more damage it can do. Infestations prior to boot can cause sterile panicles and decrease yields to essentially zero. Infestations at or after flowering, while still very serious, are somewhat less potentially damaging. This is why our treatment thresholds vary by crop stage.

#### **Treatment threshold:**

**Pre-boot:** 20% of plants with aphids.

**Boot:** 20% of plants infested with 50 aphids per leaf.

**Flowering to Milk:** 30% of plants infested with 50 aphids per leaf.

**Soft dough through dough:** 30% of plants infested, localized areas with heavy honeydew, and established aphid colonies.

**Black layer:** Heavy honeydew and established aphid colonies with treatment only for preventing harvest problems.

Our earlier planted sorghum has either finished flowering or is now flowering and has moved to the place it can withstand more aphids. In part this might matter because we have a relatively high number of beneficial insects in the system, and they have a better chance of keeping populations below treatment thresholds when those thresholds are higher. And even if one insecticide application is necessary, the need for a second application is far less likely in a much more mature crop.

Special THANKS to those who support  
Agriculture and the Lynn/Dawson IPM  
Program

### **All-Star Sponsorship Level**

**Dawson County Commissioners Court  
Lamesa Cotton Growers**

### **Major Sponsorship Level**

**West Gaines Seed**

Many Thanks to the Gins who participate and support the Lynn/Dawson IPM Program

**Adcock Gin  
Farmers Association Coop - O'Donnell  
Flower Grove Coop  
Tinsley Gin  
United Gin Corporation  
Woolam Gin**

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### **Weekly scouting is a MUST.**

Under hot, dry conditions, the reproductive capacity of this aphid (which is born pregnant) is something approaching Shock And Awe, and everyone who went through the 2015 season will agree. Missing a weekly scouting might mean missing populations low enough to be brought under control with insecticides. In 2015 we had many fields that were sprayed too late and adequate control was not achieved without a second application. Once the aphid has been found in a field, then twice-weekly scouting is important. Last year I would have linked to our guide to recognizing the sugarcane aphid, but this year I think we all know what the enemy looks like.

### **“Tolerant” hybrids are susceptible hybrids.**

There are a few hybrids with resistance to sugarcane aphids, although the seed industry chooses to call these "tolerant" hybrids because they rightly don't want to give the impression they are bulletproof. Our best resistant hybrids are what could be called moderately resistant, and this won't stop the aphids from reaching treatment thresholds. It may slow them down, and it may let the beneficial insects have more time to exert control, but all other things being equal it is merely a delaying action. Fields of "tolerant" hybrids should be scouted and sprayed based on the treatment threshold just like fields of completely susceptible hybrids.

### **Insecticide choice matters.**

Last year saw everything in the book, and some things not in the book, being thrown at sugarcane aphids. Many of these insecticide products were our old aphid standards, and what we found was that they were not very good at killing aphids, but they were very good at killing beneficial insects (the big guns in aphid control after an application). Our insecticide trials confirmed this; we had massive aphid resurgence where we killed the beneficial insects. There are only two good insecticide choices for sugarcane aphid: Sivanto and Transform. Both of these provide high efficacy with minimal impact on beneficial insects.

### **Make the first application count.**

Last year we observed insecticide applications of Sivanto and Transform made with high rates and plenty of carrier volume most often did such a good job of control that the few surviving aphids were cleaned up by beneficial insects. Conversely, we observed that fields sprayed with lower rates and/or insufficient carrier volumes frequently did not get control and required a second application.

### **Experience is a good teacher.**

This pest is manageable. Last year was a bit of trial and error, but after one growing season of intense aphid pressure we are much better equipped in 2016.

(The preceding information is from the *Texas Sugarcane Aphid News* blog and posted by Pat Porter)

Too keep up to date on happenings with the Sugarcane Aphid go to the blog at:

<http://txscan.blogspot.com/>