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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

All fields have reached seasonal cutout.

Again, it is very quiet in the fields from an insect standpoint with many fields past the point of concern - however there are a few topics that are being discussed in the area.

Bollworms, HU and irrigation termination.

### Cutout

Cutout is the final stage of cotton plant growth prior to boll opening and characterized by predominance of more mature fruit, general absence of squares and blooms through shedding and cessation of new terminal growth. Cutout is also the last effective flowering date for blooms to develop into **bolts with adequate size and fiber properties**.

There are two types of cutout, physiological when there are less than 5 nodes-above-white-flower (NAWF) (discussed in previous newsletters editions) and seasonal cutout.

Seasonal cutout is a calendar date in which based on historical records, there is a chance for accumulating enough heat units (between 800 - 850 HU) to mature a white flower. For our area, August 6 is the date in which there is an 85% chance to accumulate enough HU's to mature a white flower and August 12 is the date in which there is a 50% chance to accumulate enough HU's to mature a white flower. It is these dates that most individuals have a hard time accepting.

Based on two years of bloom tag work I conducted (prior to the picker-type varieties being grown in our area), it was concluded that between August 20 and 25

was the last date in which a white flower contributed significantly to yield and quality. It is not being said that you can not produce lint from white blooms that occur after these dates. What is being said is that after these dates, any white blooms are not of the best quality and that to attempt to mature them out completely you are risking the yield and quality of the bolls that are already fully mature.

Once cutout (physiological or seasonal) is achieved, HU's are then calculated for each day and accumulated. Once 450 HU's past cutout have been accumulated, the bolls that will contribute to the final yield are relatively safe from insect damage. Once 850 HU's past cutout have been accumulated, that field can be scheduled for harvest aide applications. The 850 HU is used because that is the number of HU needed to produce a "normal mature" boll.

I know that with a young crop we need these late season blooms to make but we also need to be realistic on what we can achieve and base our management decisions on these factors.

Now these rules need to be used with some common sense. In the latest most planted fields, which only have a week of effective bloom before seasonal cutout is reached, those fields will need as much season as

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possible to produce as much as they can. In these fields, we will disregard the seasonal cutout date and HU accumulation and let the end of the season take over; using a killing freeze to terminate the crop.

As fields reach cutout, either physiological or seasonal, plus 350 - 450 HU's we will start releasing these field from our scouting program, provided there is not an ongoing problem in the field at the time.

### **Cotton Bollworm**

I found a few sheds, squares and small bolls, damaged by bollworm. I was unable to find any worms. Remember, the worm must feed on the cotton to ingest the Bt toxin before it will be killed. Therefore, even though you have a "bollgard" type cotton variety planted, you will still see some evidence of feeding if there is bollworm activity in your field.

Last Thursday afternoon, August 18, medium and large worms were being found in a field of Bt cotton east of Garden City, TX. About ~150 worms from blooms and bolls were collected and sent to Bayer's facility in Georgia.

On Friday morning, August 19, another field in the same area was located and worms were collected (57 medium and large larvae, some from blooms, most from 8-18 day old bolls).

The fields were drip irrigated and had a yield potential of from 3.5 to 4 bales per acre (excellent cotton). They were at NAWF 2-3 and squares were hard to find, but the cotton was still in boll maturation and had not "hardened off". Worms and damage were present and fairly easily found, but minimal damage had occurred. Most of the worms were fairly localized in a wetter corner of the field where bolls are good size but remain soft. The worms were healthy.

Bottom line, we have Helicoverpa/Heliothis larvae surviving in Bt cotton in West Texas. Be on the lookout and keep your ears open.

### **Irrigation Termination**

Terminating irrigation is always a question this time of year. Late applications of excessive water can lead to many problems, including boll rot, late season regrowth, an increase in late-season insect activity (as mentioned above with bollworms), added harvest aid inputs and possible grade reductions.

Based on research I conducted at the AG-CARES farm, the most economical target for timing the termination of irrigation appears to be when 600HU past cutout has been accumulated. Or use the Rule-of-thumb for pivot and drip irrigation to discontinue 1 to 2 weeks after open boll or until about 20% of the bolls are open. As always we must apply common sense to our decision. Such as, those areas that received 2+ inches of rain

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*Tommy Doederlein*

Tommy Doederlein  
Extension Agent - IPM  
(806)872-3444 (office)  
(806)759-7030 (cell)  
[t-doederlein@tamu.edu](mailto:t-doederlein@tamu.edu)

yesterday (August 25), probably do not need to start up their irrigation systems again this year.

### **Late Season Rains**

These late season rains are beneficial to the fields that have not hit the end of the season. What they will help with is in the boll filling process. It takes water for the bolls to reach full size and where irrigation is limited these rains will assist in supplying the demand.

And yes, there is the other side. These late rains can kick-start plants into re-growth in the top of the plant and make it hard to terminate the crop. However, I think the number of acres that will be effected by this will be limited due to the fact that we really have no underground water supply.