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# Cotton Insights Newsletter

A service provided by Windstar, Inc. affiliated gins.

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### Crop Update

The 2023 crop is heading into the final stretch so to speak. Some good news for the Texas panhandle is that based on the Weather.com forecast it appears the triple digit temperatures are likely over. Unfortunately, the forecast for Altus, OK appears to continue the run of 100 degree plus temperatures. Precipitation chances appear to be sparse, but maybe some folks will get some relief due to some pop-up thunderstorms. My guess is that plenty of dryland fields are going to go under crop insurance adjuster inspections once the boll count method kicks in. The remaining irrigated has been through a lot this year, and as they say, “it ain’t over yet.” Most of the irrigated fields in the region have moisture depleted soil profiles unless irrigation capacity was high.

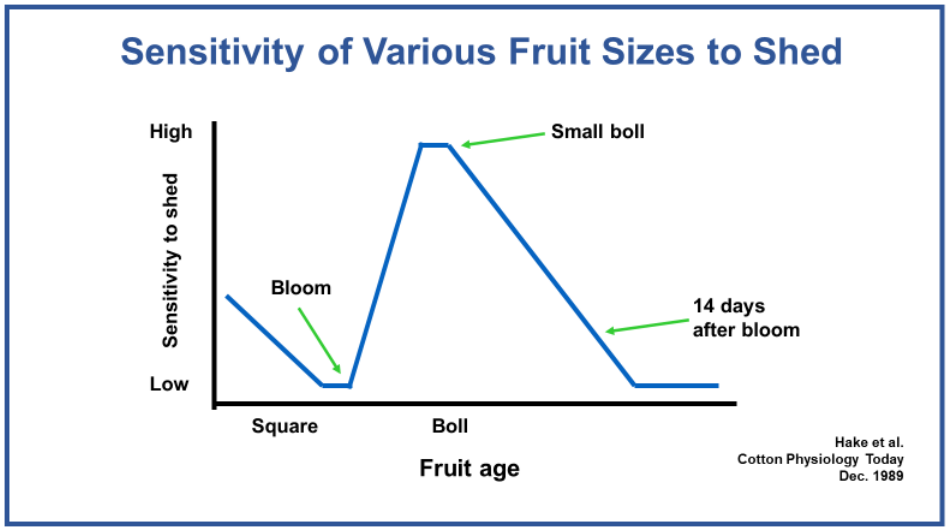
Something to note is that when irrigation termination is being considered, in my opinion, a lot of factors should be considered. If the cotton cutout (my definition is first position fruit blooming through the terminal node) in mid-August, that’s probably on time for the Texas fields. Others were later with respect to first bloom date and if adequate water was available to the crop, there may be some late fruit that needs to be considered. Of course, the later blooming fruit can potentially provide a few more pounds of lint, but many times, these bolls are susceptible to producing low micronaire. We can’t predict the future and see if we’re going to have an early “bust event” roll through the region that terminates fiber development, so there is always a risk there.

The final bolls should be kept relatively stress free for the next two weeks or so, if possible. There is a risk of low micronaire in fields with later set bolls that have virtually no soil profile moisture and where irrigation is abruptly ended while extreme temperatures and evapotranspiration rapidly occurs. Those later-set bolls need to have adequate moisture to complete fiber maturity. If those are denied that and severe water stress occurs, then the fiber development can be adversely affected, and low micronaire in those bolls might be a result.

## Irrigation Termination Considerations

Irrigation termination is not always an easy decision, especially under extremely dry conditions in some fields. Reflecting a bit on the crop's physiological needs can be of value.

- If the last bloom date to be able to obtain a fluffy, quality boll is assumed, the graph below indicates that excessive moisture stress should be avoided for about 14 days to reduce the probability of abscission (shed).




- As the crop progresses from maximum bloom to first open boll, the irrigation crop coefficients drop from 0.92 to 0.55 based on the TexasET Network's High Plains data from Halfway.
- Under recent environmental conditions, that transition indicates the crop evapotranspiration (ET) rate will drop from about 2 inches per week down to about 1.25 inches per week. For a calculator, click on the following link: https://texaset.tamu.edu/DataSummary/Daily/120?daysInSummary=7
- Due to the dry conditions in many areas and if temperatures remain above normal, fields which have depleted profiles will likely wilt fairly quickly once irrigation is interrupted.
- If the amount of wilting is unsuitable for the boll load and maturity, then the pivot can be passed over the field to apply an additional increment of water.
- With center pivots, low amounts of irrigation (0.75-1 inch) can be applied if the cotton is severely stressed after initial termination.
- The value of continued center pivot irrigation after bolls begin to open is probably questionable, unless record high temperatures and high ET rates are encountered and the field has a depleted moisture profile and a late boll load.
- Under warm to hot September and October temperatures, we generally observe about 2-5 percent boll opening per day **once bolls begin to open**. This implies that if the last irrigation is made at a few percent open bolls, then it should take about 10 days to reach 30-60 percent open bolls.