September 2003

*How Will the Late Season Conditions Affect My Crop? D. Monks, M. Patterson, D. Delaney
*Using ET and Ethephon for Cotton Harvest. M. Patterson
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*2003 Cotton Calendar. D. Monks

Don’t forget to take soil and nematode samples this fall!

*How will the late season conditions affect my crop? D. Monks, M. Patterson, D. Delaney

This year’s crop was approximately two weeks behind in maturity throughout most of the season. Most areas received adequate to excessive rainfall through the middle of August. However, hot, dry conditions resulted in acceleration in maturity and boll opening during late August and early September. In some of our plot work, it seems as if we were worrying with insect control one week and beginning to defoliate the next. The state agricultural statistics reporting service listed the crop as follows on September 8 (www.nass.usda.gov/weather/cpcurr/al-crop-weather):

<table>
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<tr>
<th>Cotton bolls open (%)</th>
<th>This week</th>
<th>Last week</th>
<th>Last year</th>
<th>5 yr. avg.</th>
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</thead>
<tbody>
<tr>
<td>45</td>
<td>23</td>
<td>62</td>
<td>55</td>
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So how will this affect our crop overall? As we have mentioned before in earlier Picksack articles, the time required for a bloom to reach maturity and harvest is generally longer as we get later in the fall. This is primarily a function of heat unit accumulation as related to boll growth. You can access heat unit accumulation throughout the season for several areas across the state at www.aces.edu/department/cotton/sumgrwdegree.html.

How do I decide how mature the cotton is and when it will be ready to defoliate? There are several methods that traditionally been have used to do this. 1) Many producers use a point within the range of 65 to 100% open as a trigger for applying harvest aids. The primary drawback with this method occurs when there is a fruiting gap on the plant where 60 to 65% of the bolls were set early, boll shed occurred due to stress during mid-bloom, and the last 40% were set much later on top of the plant. Defoliating with this scenario can result in yield loss and affect quality. 2) Counting the Nodes Above Cracked Boll will also provide an indication of how far along the crop is. This is done by locating the top cracked boll on a first position fruiting site. The bolls on the
four nodes above that node are considered mature and can be defoliated and opened without affecting yield or lint quality. This can result in a savings of 9 to 12 days (assuming each node required 3 days to develop) compared to waiting for 100% of the cotton to open. 3) Some producers cut bolls with a knife to get an indication of maturity. Bolls that are very difficult to cut, string out lint, and have well-developed seeds with pink to brown seed coats and are without a gelatinous center are considered mature.

Many fields across the state are showing advanced signs of maturity including leaf shed, leaf spot diseases, yellow and red coloration in the leaves, small boll and square shed, and boll opening. Other fields are still green, filling bolls, and blooming. While it is too late in most of the state for these blooms to mature to a harvestable boll, it does indicate that we will likely have an extended harvest season. The early cotton is very close to defoliation while the late cotton will need the full fall season to mature. It will be very important to harvest the early crop on time to avoid yield losses and quality discounts from weathering. It remains to be seen whether we will have fall weather that is conducive to crop harvest while still allowing the later crop to mature.

*Using ET and Ethephon for Cotton Harvest. M. Patterson*

ET was recently registered for use as a cotton harvest aid and also as a post-directed herbicide for weed control in cotton. We will talk about the weed control uses in the spring. ET, containing the active ingredient pyraflufen, is a very low rate, herbicidal defoliant similar in activity to Aim (marketed by FMC). ET is made by Nichino and marketed in this country by Nichino America, Inc.

When ET is used alone at the labeled rates of 1.5 to 2 fluid ounces of product per acre, you can expect 70 to 80 percent defoliation with a single application at 7 days after treatment. ET will not provide regrowth control or boll opening unless other harvest aides are used in combination with it. Two applications of ET used 5 days apart will provide upwards of 90 percent defoliation. ET combined with ethephon (Prep, etc.) will provide good defoliation and boll opening 10 days after treatment. ET has activity on morningglory species in cotton and you can expect some weed desiccation when used as a harvest aid. ET needs the addition of a crop oil concentrate at 1 pint per acre to obtain optimum activity.

The use of ethephon products (Prep, Boll’d, SuperBoll, Finish, CottonQuik, etc.) is always discussed this time of year. The question arises as to the benefit of using these materials to open bolls and obtain either a quicker harvest or more cotton in the first (and possibly only) picking. Recent decreases in the price of ethephon have made the decision easier for me. I have heard of prices for ethephon as low as $7.00 per acre for the boll opening rate. Keep in mind that most pure ethephon products need about 10 to 11 days to exert their optimum influence under warm weather (85 degrees F) conditions. If you have a field that is 60 percent open with no fruiting gaps and wish to harvest 10 to 14 days from this time, then the use of ethephon can drive the percent open up to 94 or 95 in this time period.
Not using ethephon may result in a field only 86 to 89 percent open. How much is this worth? In my mind, if you can pick 94 percent of the crop at one time, then it’s not economically feasible to go back for 6 percent. Five percent of 1000 pounds is 60 pounds of lint. We have estimated that opening just one boll per plant is economically justifiable. Activated ethephon products (Finish, CottonQuik) will generally open bolls faster than pure ethephon. I have seen Finish open bolls within 8 days after application.

The application of harvest aids should be scheduled with your harvest capacity. Generally you should only treat enough acres that you can pick in 3 days. As we get into the cooler weather of late September and October, the use of boll openers may not be as important. Harvest aid activity decreases as temperatures drop. If a boll will open naturally within 14 days, then using ethephon on this boll is unwise. Generally bolls 5 to 6 nodes above the first position cracked boll will be your target bolls.

**Cotton Market Update. Bob Goodman**

Current USDA numbers for both the US and World cotton situation remain pretty bullish in my opinion. We are looking at about a 17 million bale US crop and just over 19 million bales in total US off-take. While the ending stocks figure that USDA has pegged is not small by traditional standards, it is low in comparison to recent years, and there are some structural reasons, it seems to me, for carrying larger than historical ending stocks these days.

On the World side, with production at 95.4 million bales and use at 99.2 million, we will see a dramatic drawdown of world stocks. Interestingly, with trade at 30 million bales, the US, with 12 million in exports, accounts for 40% of that total.

Hurricane season is upon us, with some big storms out in the Atlantic. If you want to market some cotton soon, wait until one is about to hit. Otherwise, I would hold off. I think December futures will get above 65 cents this fall, and who knows what could happen later. There are production problems from Australia to Texas to China and back, and even here in the US where the crop is "promising", that's all it is. Our crop still has to have several more months of good weather to fulfill its’ "promise".

New numbers come out Thursday, September 11, so check on them Friday or so. If you see projected world stocks below 34 million bales, the US crop below 17 million bales, or US exports much above 12 million bales, look for higher prices. Increased world use and trade are key factors, along with US exports. It all depends, as it has for a couple of years, on the demand side of the equation.

*2003 Cotton Calendar. D. Monks*

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<tr>
<th>Date</th>
<th>Event</th>
<th>Contact information</th>
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<tr>
<td>September 16</td>
<td>Southwest AL Nematode</td>
<td>Bill Gazaway,</td>
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If you are interested in weekly updates for the state’s cotton crop, the state agricultural statistics reporting service has a website update at: www.nass.usda.gov/weather/cpcurr/al-crop-weather

Our website also has other cotton information including DD60 accumulation at: www.acesag.auburn.edu/dept/cotton/

*Reference Number: PSK-9-03, D. Monks and C. Burmester, editors