Cotton Comments

OSU Southwest Oklahoma Research and Extension Center
Altus, OK

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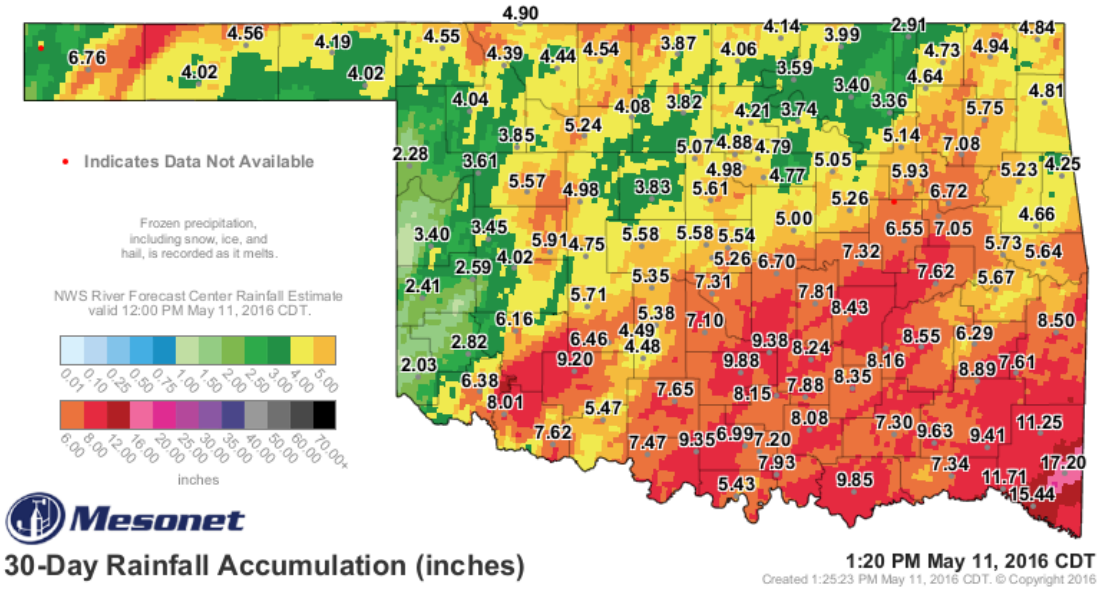
Current Situation

The 2016 planting season has arrived. A quick glance at the Oklahoma Mesonet previous 30-day rainfall accumulation graphic shows that some cotton producing counties have been coming up fairly short compared to others. Basically everything west of a line from Hollis to Elk City has received less than 2-3 inches, while areas east of that line have been blessed with about 6 inches or greater.



For this time of year, that is really good news. We are now entering our historical prime cotton planting window for irrigated acreage. Soil temperatures have been good over the past week or so and some producers have begun planting. Areas where rainfall was not as plentiful are still waiting for a better moisture situation in the upper profile. Hopefully we will get off to a great start. With the good to excellent spring rainfall that we have encountered in many counties, plenty of alternate hosts that can harbor cotton insect pests are growing across the landscape. Producers need to keep an eye on thrips populations and be ready to make topical applications for those pests as cotton emerges. Cotton fleahoppers may also be more problematic this year.

Several Records Set by 2015 Crop

As we move forward with planting the 2016 crop, there is a bit of unfinished business for the 2015 crop. I finally had an opportunity to inspect NASS yields and the Abilene USDA-AMS final fiber quality summary for the state. It appears that the 2015 crop was one of record yield, 866 lb/acre for all practices (dryland and irrigated combined). This breaks the previous record of 817 lbs which was set in 2007. Several fiber quality attribute averages also set records for the state. Staple tied a previous record of 36-32nds inch, which was set in 2008. Length uniformity set a record at 81.3%. Fiber strength was highest ever at 31.3 g/tex. All of this indicates that producers are paying attention to new genetics – and when we have good rainfall support from Mother Nature, we can produce excellent yields of high quality fiber.

Planting Decisions, etc.

For a complete rundown of planting decisions, etc, please see the last issue of Cotton Comments Volume 6 edition 2 April 13, 2006. As we move farther into May, the historical soil and air temperatures work in our favor.
RB

Weed Control Update…ringing the bell at the end requires a good, solid start.

Last season revealed just how many Oklahoma producers still have the mindset to shift into a “glyphosate only” mode when trying to clean up fields just before or at planting. Not a great idea. That being said, the usual questions that follow are:
#1) What should I burndown with, #2) when should I do it (before or after planting) and #3) should I put something (a residual) with it to keep the weeds from coming back? So let’s address all of them.

First question: **What should I use?**

Starting and staying clean will completely depend on the effectiveness of your at-plant burndown operation. Finding out that your burndown treatment didn’t work after your cotton emerges is a situation we want to avoid. Therefore growers need to be considering different burndown chemistry closer to or at planting in order to eliminate glyphosate resistant pigweeds that have already emerged. For (non-glyphosate) post emergence broadleaf burndown activity within this timeframe, Gramoxone, Aim and Liberty are three options that can do a great job depending on your circumstances. All three are contact herbicides that are extremely dependent on good coverage and can be effectively used to eliminate small (≤ 2 leaf) volunteer cotton. All three product labels recommend more water than most growers are accustomed to using (10-20 gallons per acre…read labels closely). Many labels state that dense weed canopies require higher spray volumes. It is also worth noting that label recommendations for effective application procedures with some of these products may also be contrary to some drift control strategies. Each product has its own application recommendations for effective control while minimizing drift. Read and follow label instructions. In my experience all three of these products perform their best when applied with a medium spray droplet to deliver the best coverage possible. It should be noted that applications of these products with “fine” spray droplets significantly increases the risk of off-target movement and every precaution possible should be taken to prevent this occurrence. Therefore, choose a nozzle package that produces the desired droplet size at your desired speed and stick with the plan.

Gramoxone (paraquat) applied at ½ lb ai/acre plus ¼ - ½ % (v/v) non-ionic surfactant will typically do good job on relatively small pigweeds (≤ 4 inches). As weed size increases, rates should follow. The highest labeled rate of paraquat for burndown at planting is 1.0 lb ai/acre. When applied properly, this rate of paraquat can clean up some pretty tough situations. It should also be noted that while I have seen good control of several additional broadleaf weeds (Russian thistle, morningglory, purslane, common groundsel, etc.) it is not uncommon for some larger broadleaf weeds and grasses to survive and regrow after a few weeks.

When trying to burn down morningglory adding 1 oz/A of Aim 2 EC plus 1% crop oil concentrate to your full rate (size dependent) of glyphosate greatly improves control. In addition, this application can also be effective on small palmer amaranth (≤ 4 inches) when the Aim rate is increased to 1.6 oz/A (according to the label).

An additional option for weed control prior to planting and on into the season is Liberty. Utilizing this chemistry when possible allows for a deviation from the usual glyphosate only routine. Liberty is a non-selective, group 10, contact herbicide. As with previously mentioned contact herbicides there are application specifics that contribute to the success of its use. Consult the label. It may be used ahead of planting for burndown purposes (and can be effective for morningglory). It may also be used over-the-top in-season if your cotton variety contains the Liberty Link trait. Currently Bayer CropScience offers cotton varieties containing this trait alone or in combination with the glyphosate tolerance (GlyTol trait). Varieties containing Monsanto's XtendFlex herbicide trait have tolerance to glufosinate, glyphosate, and dicamba. Since we still do not have any labeled dicamba products that can be used in-season, the Liberty herbicide tolerance trait is extremely valuable.

The combination of both glyphosate (Roundup) and glufosinate (Liberty) herbicide tolerance allows for flexibility when attempting to control weeds with over-the-top broadcast applications. Glufosinate based weed control programs (utilizing Liberty herbicide technology) have been very important in the fight against resistant weeds in the Southeast and/or Midsouth. In fact, many growers from those regions won't plant a variety without tolerance of Liberty herbicide. In the Southwest, we are now seeing the spread of glyphosate resistant weeds and our adoption of the Liberty Link technology is gaining in popularity. Growers in the Southwest who are interested in utilizing varieties with these dual herbicide traits (Roundup and Liberty tolerance) definitely stand to benefit from the flexibility and resistance management aspect of the system. However, in this region we need to be aware of some differences that exist between Southwest Oklahoma and Georgia or Tennessee as it relates to the use of Liberty herbicide. Here in the Southwest, Liberty has been very effective for the control of morningglory in cotton, which is an occasional weakness of the glyphosate tolerant (GlyTol or Roundup Ready Flex) systems. However, with our usual low humidity and high temperatures Liberty has proven less effective on pigweed as compared to its effectiveness in other regions. While these two systems can be very complimentary when their respective traits are stacked together, we need to be aware of Liberty's challenges with pigweed in this area. At the end of the day, having tolerance to Liberty herbicide will give growers the only broadcast postemergence option available to control an emerged glyphosate resistant pigweed. Refer to last month's newsletter for additional information: Cotton Comments Volume 6 edition 2 April 13, 2006.

While all three of the herbicides mentioned have a good fit in certain situations, paraquat probably offers growers the most economical and the broadest spectrum of control for (non-glyphosate) burndown applications at planting.

Second question: **When should I apply my burndown, in front of or behind the planter?**

The answer to this question is dependent on your overall strategy. Burning down weeds in front of the planter is always an option. However, it should be noted that if a

residual is not included at this time then we are betting on the effectiveness of our next in-season postemergence application (which will most likely come after your cotton has emerged). **Often times this is the origin of disaster when we choose to depend on glyphosate alone to clean up emerged pigweeds.** On the other hand, if you do include a residual at this time (in front of the planter) we need to remember that moving soil during our planting operation will create an untreated area down the row that will have to be dealt with shortly thereafter. For these reasons I prefer to burndown behind the planter.

Third question: **Should I include something to keep the weeds from coming back?**

This is the easiest question to answer. Residuals are mandatory in today's environment. Glyphosate resistant pigweed problems were reported in many Oklahoma fields last year and it is well documented how easily pigweed seeds and/or pollen can travel. Additional studies have documented the negative effects of weed competition on cotton lint yields. While we initially tend to focus on the added costs from residual herbicides we need to remember that choosing to use these residuals actually insures that all of our investment in critical inputs (fertilizer, water, etc.) turn into cotton lint instead of weeds. This all adds up to a genuine need for early-season weed management. While there's definitely something to be said for "getting back on the horse" why don't we consider the value of staying on the horse to begin with? Early-season residuals will prevent us from "falling off of that horse."

Prowl H20, Warrant, Dual II Magnum, Caparol, and Karmex are some of the most popular preemergence herbicides used behind the planter. All of these provide very good residual pigweed control. Additionally, attention to product labeling is important because when it comes to preemergence applications, soil type often dictates product rates. Over-applying these products can lead to crop injury so attention to labeling is definitely warranted. It should also be noted that Prowl H20, Warrant and Dual II Magnum can also be applied over-the top of cotton during the early postemergence timing (from emergence to bloom, however exact timing is product specific-read labels). Since these herbicides provide absolutely no burndown or postemergence activity on weeds already emerged, a tank-mix partner (glyphosate or glufosinate (Liberty)) would be required to take down existing weeds**. Using residuals at-planting and another at early postemergence timing is highly recommended for a clean crop going into the fruiting period.**

My Days with OSU Are Numbered

It is with both sadness and excitement that I share with you guys that my time at OSU is soon coming to an end. It was a very difficult decision as I have always appreciated the support and opportunity provided from everyone at OSU. I have truly enjoyed the (almost) 17 years spent working with friends, growers and colleagues. Serving Oklahoma's producers has been a very rewarding endeavor and any success that I experienced along the way I fully attribute to the team that I worked with every day at the Southwest Research and Extension Center in Altus and the growers that

cooperated with us. Very little can be accomplished without these people. Every single successful project that produces beneficial information for Oklahoma growers begins with a team of committed people who each excel at their job. Being a part of that team has been very valuable to me. I have had a lot of great influences in my life that got me to this point and I place each of those teammates at the top of that list. Thanks to all for a wonderful opportunity.

Sincerely,

Shane Osborne

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