



Cotton Comments

OSU Southwest Oklahoma Research and Extension Center
Altus, OK



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Crop Situation Update

We continue to get some timely rainfall events across much of “cotton country.” After a hot ending to April during which some cotton acreage was planted, the first several days of May continued that trend. April had one day (the 25th) over 100 degrees at 105, and on May 5, we reached 106. We have already encountered 5 days over 100 degrees. Several of these days were coupled with high wind speeds, which resulted in upper profile moisture loss. Recently cooler daytime high temperatures have been encountered, and low temperatures have been near “normal.” For the first 14 days of May, cotton heat unit accumulation was about 75% above normal. This significant increase is due to excessive temperatures during the first several days of May. Within a few days, we went from a high of 26 heat units (May 5) to a low of 2 heat units (May 8).

Soil temperatures have really not been an issue this planting season due to the early warm up. In spite of some cool air temperatures, based on Mesonet observations over the last few days, bare soil temperatures at the 4-inch depth have been cycling between 62 and 76 at Fort Cobb and 63 and 79 at Altus. The 7-day average 4-inch bare soil temperature has been 71 degrees at both Altus and Fort Cobb.

Wheat harvest is well underway and is very early this year. This may be the earliest wheat harvest in many years. Considerable cotton acreage has now been planted and has emerged due to the early warm up. Because of the occasional rainfall, we are still way ahead of 2011 in terms of soil moisture in many places, but just haven't had substantial runoff in the North Fork watershed. As of today, Lake Lugert is still about 22% of capacity, which is ominous for the Lugert-Altus Irrigation District.

Research and extension crews have been busy planting field trials. We have several small plot type trials and large plot trials planned for 2012, and have about one-third of those planted at this time, with more scheduled later this week.



OSU Cotton Extension crew planting a large plot irrigated cotton variety trial in a cooperater field in Jackson County, May 14, 2012.

RB

Thrips Control Update



Reports are already coming into the office about damaging thrips populations in newly emerging cotton.

Thrips generally are not considered a serious pest of cotton, except in years when favorable growing conditions permit early planting. Heavy thrips infestations will occur if plants have emerged before wheat or other small grains mature. Mature thrips often move into

stands of succulent cotton seedlings, causing curled and misshapen leaves. Thrips infestations vary from field to field and from year to year and should be dealt with accordingly.

Thrips are small, approximately one-sixteenth inch in length. The color varies according to species. It may be similar to the color of wheat straw, yellow, lack, or light brown.



The adults have two pairs of long, narrow, fringed wings which enable them to fly from one crop to another. The life cycle contains several stages: egg, larva, pupa, and adult. Larvae and adults will over winter in debris and trash near the field. In the spring, the adult females lay eggs by inserting them into the plant tissue. The creamy white eggs hatch into small larvae which begin to feed on the plant. After a short time, they burrow into the soil and

transform into a non-feeding stage called the pupae. They emerge as adults and continue to feed on the plant. Thrips damage cotton by using their rasping-sucking mouthparts to feed on the plant epidermis. Ruptured cells release plant fluids which are sucked up by the insects. Injury first appears as dark brown spots which assume a silvery appearance several days later. Feeding occurs on the lower side of the leaf and may injure the terminal bud so that new leaves fail to develop and growth is retarded. Leaves will be crinkled and cupped. Economically damaging infestations occur when plants average 3 thrips per plant.

Weekly scouting is the only way to monitor a treatment's performance. Expect damaging populations of thrips to materialize first in fields where no at-planting insecticide was used. Windy conditions will impact your ability to accurately assess thrips numbers. In-field detection becomes nearly impossible as the wind picks up. Take a composite sample pulling at least 30 plants across the field placing them in a plastic bag or bucket. Waiting to examine plants until you return to your vehicle will take a little longer, but will be a lot more accurate.

Besides looking on the undersides of cotyledons and true leaves, be sure to examine the terminal bud. Both adults and immature thrips feed and lounge around there and are easily overlooked unless you carefully inspect this region. Also don't forget to count and record the numbers of dislodged thrips running around on the inside of the baggie.

Crop demographics play a large role in thrips pressure. Wheat is widely known as an early season habitat for thrips. However, alfalfa is another thrips nursery that can produce large numbers. With each cutting thrips migrate from the field in search of a food source. Cotton fields in close proximity to alfalfa meadows may experience huge influx of thrips overnight that might even rival the exodus from adjacent wheat fields. Also, with the amount of spring rainfall we have encountered, a lot of other alternate hosts have provided considerable habitat for thrips populations to buildup.

Finding adult thrips in protected fields is normal and is expected as long as the thrips migration continues. Remember that thrips blown in from adjacent areas may not feed immediately and feeding is required for the insect to pick up a lethal dose of a systemic insecticide. Historically, Temik (aldicarb) has been a product of choice, however, with the loss of this product in 2011, we have come to rely more on seed treatments such as Gaucho (imidacloprid) or Cruiser (thiamethoxam) for early control. Other seed treatment products containing these products are also being sold. For a table showing these products and expected length of control, [click here](#).

[Click here for Cotton Insecticide/Nematicide Seed Treatments document](#)

It is easy to spot when the insecticide performance begins to fade by keeping track of the plant's physical condition related to thrips numbers. As protection fizzles, visual leaf damage should increase along with a rise in thrips numbers. **Cool temperatures will result in lack of vigorous early cotton growth, and will in turn increase susceptibility to thrips damage.** Quick action will prevent maturity delays associated

with infestations that reach or exceed three thrips per plant. Over-the-top sprays can be used in fields planted to glyphosate-tolerant (Roundup Ready Flex and GlyTol) varieties. This strategy of tank mixing an insecticide with glyphosate is cost effective. Acephate (Orthene) has been a standard foliar thrips treatment for many years. For the application rate, refer to the specific label for your product of choice, as several products containing acephate are now available.

[Click here for a table with Foliar Application Options for Thrips Control in Cotton.](#)

JG

Controlling Volunteer Cotton

When driving around southwest Oklahoma, little volunteer cotton can be found in most fields. Of course this is due to the huge number of failed acres in 2011. In areas where cotton was harvested last year, and producers have opted to plant these same fields again in 2012, volunteer may be an issue. However, with the winter and spring rainfall thus far, it may not be as much of a challenge as in past years. For producers who may be dealing with this issue, we have included some comments below.

Remember – a weed is a plant out of place, and cotton plants growing between rows compete for the same fertilizer nutrients, water, etc. as those in the row. However, modern harvesting equipment will not be able to harvest cotton that is even a few inches off the center of the row. Thus, volunteer cotton is essentially a weed.

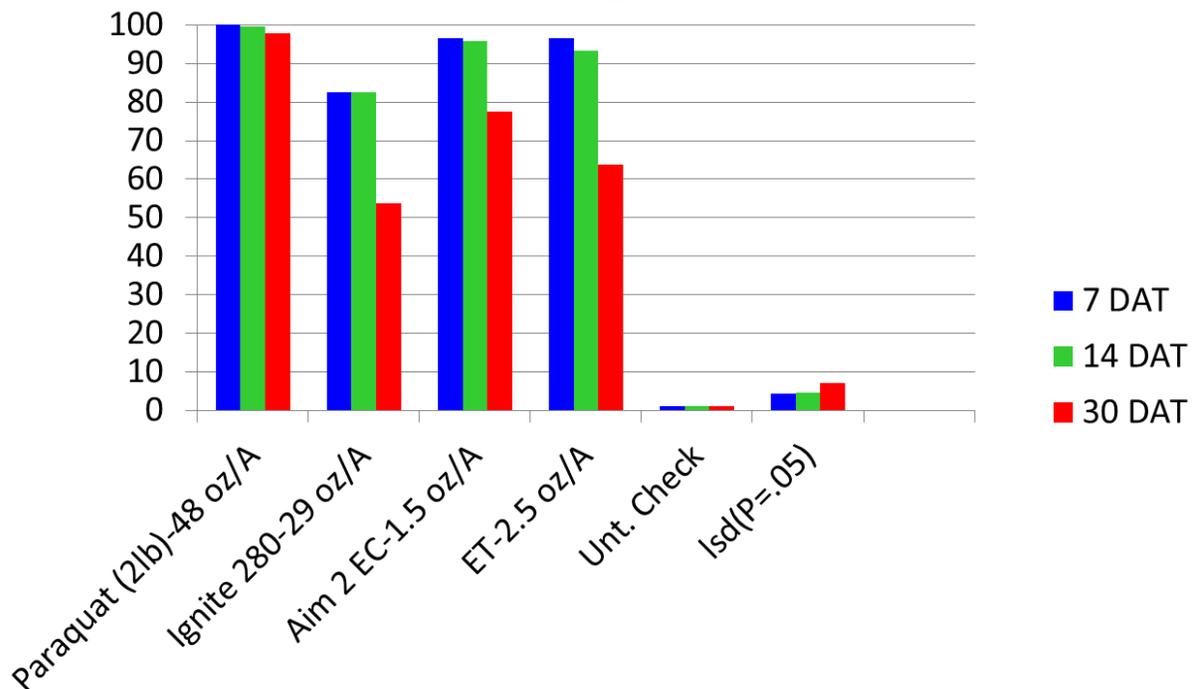


Circumstances often make it impossible for growers to control volunteer without some form of tillage. Since volunteer often germinates and emerges at the same time planted cotton emerges producers are left with very few options. The lack of height differential between the crop and the volunteer make it difficult to safely and effectively control the volunteer with hooded or shielded applications. For this reason it is imperative that producers make every attempt to control any volunteer present prior to planting in hopes of avoiding this situation.



In 2010 due to untimely rainfall events we sprayed volunteer cotton in the 8-9 leaf stage...much larger than preferred. Typically we try (and recommend) to spray volunteer prior to the 4 leaf stage, as larger plants are generally harder to kill with available products. Fortunately growing conditions at this time were extremely good and we observed “better than expected” control from the treatments we applied. The graph below presents the treatments applied and their respective control information at 7, 14 and 30 days after treatment. Treatments were applied in 15 gallons of water with TurboTee nozzles at 26 PSI. At the 7 day after treatment (DAT) observation all treatments controlled volunteer cotton greater than 80%. However by 14 DAT, only paraquat, Aim and ET controlled volunteer greater than 90%. By 30 DAT, only 48 oz/A of Paraquat controlled volunteer (greater than 90%). Aim applied at 1.5 oz/A controlled volunteer 78% while 2.5 oz/A of ET and 29 oz/A of Ignite 280 provided less than 65% control.

Volunteer Cotton Control (Applied to 8-9 Leaf Stage Volunteer Cotton)



Although paraquat effectively controlled 8-9 leaf volunteer (at the 48 oz/A rate) there are some additional considerations. Typically the conditions that germinate volunteer cotton also tend to produce additional broadleaf weed species. One of the most common broadleaf weeds experienced in cotton is morningglory. If morningglory is present at the time of the volunteer application it may be prudent to consider a treatment that provides the best dual-purpose weed control for the situation. Aim has proven extremely effective on morningglory as well as on volunteer cotton. Utilizing this treatment may provide the best all-around control for growers dealing with both weeds. There are a few important things to remember when applying Aim 2 EC. The Aim label recommends the inclusion of a crop oil concentrate (1% v/v). Also, water volume is important. Since Aim is strictly a contact herbicide the label recommends a minimum volume of 10 gallons per acre. Good coverage is critical for success. It is also important to remember that if any grass species are present tank-mixing with glyphosate will be required (due to the fact that Aim will not control any grass species).

The Aim label (as well as other product labels) does allow for hooded applications (completely closed) however caution is advised. On young, 5-6 node (planted) cotton all spray contact must be avoided. Fast ground speeds resulting in bouncing of the hooded sprayer applicator may result in escape of spray mix. Theoretically, one should think of running a hooded sprayer as a cultivation of cotyledon cotton. Precision pays big dividends and can prevent considerable grief later. The slightest off-target drift can easily result in the loss of your entire

stand. In this situation a shallow cultivation would be much safer and should help create the height differential needed for later-season post-directed sprays.

In closing, remember a few key points when dealing with volunteer cotton. First and foremost, starting clean is extremely important since our in-season options are so limited. Effective preplant/preemergence applications are critical. Next, the size of the volunteer at application time is also very important. There is a relatively small window of opportunity when it comes to effectively controlling volunteer cotton. Oftentimes this window is overlooked. In good growing conditions cotton can add an additional leaf every three days. Therefore, one leaf volunteer can turn into 4 leaf cotton in a very short period of time (10-14 days). Once the volunteer cotton growth stage passes 4 true leaves, the potential for effective control decreases significantly. **Despite our 2010 results, if your volunteer does pass the “easy to control” stage (1-4 leaf) then shallow cultivation should be a consideration.**

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