



Dicamba-Tolerant Soybeans and Cotton Updates

Josh Bushong, Area Extension Agronomy Specialist

Annual training is once again federally mandated in order to purchase and apply approved dicamba products (XtendiMax, Engenia, FeXapan, and now Tavium) on Xtend (dicamba-tolerant) soybeans and cotton. These products have also remained classified as Restricted Use Pesticides (RUP), while all other dicamba products remained general use. Producers and applicators have to be certified applicators (Private or Commercial) and attend an annual dicamba training to purchase and use these products. Even if the applicator attended a dicamba training previously, they will have to attend the new training in 2020.

Oklahoma Cooperative Extension Services will be hosting several training events across the state this spring. Contact your local Oklahoma Cooperative Extension Office, pesticide supplier, or the Oklahoma Department of Agriculture Food and Forestry (ODAFF) to find out when a local training will be held near you. Like last year, certified applicators will not receive a new card in the mail indicating they have completed the training. ODAFF will house a master list of applicators who have attended a training.

The product labels for these dicamba products are very in depth and provide strict application requirements to reduce the risk of off-target movement. Required recordkeeping, which must be generated in 72 hours, will include planting date. This is due to the fact that the labels know have restrictions for late season applications. Late season applications have a higher risk because that is when the crop is most susceptible to yield reductions due to drift. In addition to the federal registration label, Oklahoma was approved for special local need labels for most of these products. A special local need registration, also known as a FIFRA Section 24(c) label, grants changes to the original federal registration label for the state it is approved.

For the state of Oklahoma, this Section 24(c) label allows for applications to be made up to 60 days after planting dicamba-tolerant soybeans, which is 15 days longer than the federal label. Applications on soybean still have the restriction of not applying after the R1 growth stage (beginning bloom) regardless of the days after planting requirement. Applications can be made up to 90 days after planting dicamba-tolerant cotton, which is 30

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days longer than the federal label. Applications can now be made from sunrise to sunset, which removed the 1 hour after sunrise to 2 hours before sunset restriction. These applications are allowed as long as there are no temperature inversions at the field level to reduce the risk of drift.

As a reminder, it is illegal to use other dicamba formulations on dicamba-tolerant soybeans and cotton. Only XtendiMax, Engenia, FeXapan, and Tavium are allowed to be used over-the-top (postemergence) on these tolerant cultivars. This is because these formulations are far less likely to cause vapor drift and damage surrounding sensitive plants. Even though these products cost more than many generic dicamba products on the market, they can also be used in other applications including pastures and many grass crops if drift is a concern.

Anyone interested in more information about dicamba-tolerant soybeans or cotton, upcoming dicamba training events, or other Auxin tolerant traits like Enlist (2,4-D Choline) should contact their local Oklahoma Cooperative Extension Office.



Preventing Cold Stress in Calves

Rosslyn Biggs, DVM, Asst. Clinical Prof, Beef Cattle Ext. Spec.

Producers have a tremendous investment in getting a healthy calf on the ground. A well-developed plan to monitor cows and heifers during calving season is crucial, particularly during the weather extremes of the year. Both severe heat and severe cold impact calf survival, and advanced preparation can help address both cow and calf needs. Calves born during the winter have a unique set of requirements.

The first part of a well-developed calving plan begins before calving season. Take a close look at the cows and heifers and evaluate their appropriateness as dams. Age, disposition, history of calving difficulty, ability to maintain body condition and past illnesses are just a few criteria that impact the selection of females.

One way to avoid calf births during extreme weather is to schedule a defined breeding period that leads to a distinct calving season. Plan for calves to hit the ground in months with moderate temperatures if possible.

To help mitigate bad weather, insure that both cows and heifers are well prepared. Ongoing fetal programming research continues to support that maternal health, and in particular, nutrition at all phases of gestation, can have long lasting impacts for calves throughout their lives. Limiting nutrition in the cow or heifer does not decrease the birth size of the calf and does significantly more harm than good. In addition to nutrition, vaccinate dams appropriately and limit stress, especially during the last trimester.

One option to limit stress is to control the environment. Maintain clean, dry calving areas. Consider providing shelters for animals to escape the weather. However, remember that as animals congregate in shelters, there can be an increase in the pathogen load in the area.

Additionally, be prepared if a female presents with calving difficulty. Develop a plan to transport to a veterinary clinic or have excellent onsite facilities to address a dystocia.

Next, monitor pregnant females closely for signs of calving. A calf that is too large relative to maternal size is the most common cause of calving difficulty followed by incorrect positioning of the calf. Early intervention at the first signs of calving is critical for both calf and dam survival. A calf not delivered in a timely manner will need intervention by a skilled individual. Heifers that labor in Stage 2 of parturition for longer than an hour and cows that labor longer than thirty minutes should be examined immediately.

Remember to discuss your calving plan with your veterinarian. Communicate well before there is a calving problem. Your veterinarian can work with you and your team to develop protocols so everyone is on the same page when a problem occurs. Your veterinarian can also help you develop essentials for a calving kit.

Items to consider in your calving kit may include:

- Veterinary emergency number in cell phone
- Breeding dates and due dates with associated sire
- Calving book

- Tag applicator
- Iodine for navel
- Catch pen and functional chute
- 5-gallon bucket
- Calf puller in working order
- Obstetrical chains and handles
- Calf sled
- Syringes and needles
- Exam and obstetrical gloves
- Obstetrical lube
- Clean towels
- Straw or hay for bedding
- Esophageal feeder
- Colostrum or colostrum replacer
- Medications prescribed by your veterinarian such as pain medications and sedatives
- Halter
- Lariat
- Sorting Stick
- Large trash bags
- Disinfectants

Following delivery, the goal is to see the calf up and nursing as soon as possible. Delays in a calf receiving colostrum have both short and long-term impact on the immune system. Ideally, a calf should receive colostrum within the first two hours of life. Administering colostrum to calves without a suckle reflex should be done with extreme caution due to the increased risk of aspiration pneumonia. Milking the dam or maintaining a supply of frozen colostrum are the best options for colostrum replacement. Commercially prepared colostrum replacer is acceptable if a cow-derived source is not available.

Weather impacts a calf's ability to thermoregulate. Calves born in extreme cold quickly utilize all body fat reserves, putting them at risk. Exposure to wind can exacerbate cold temperatures. Assess body temperature if a calf appears stressed.

The best way to monitor a calf's temperature is with a rectal thermometer. Inexpensive digital thermometers work well and make it easy to evaluate progress when warming the calf. If a calf's temperature falls below 100 degrees F, gradually raise that temperature. Bring the calf indoors and out of the elements if needed. When used appropriately, warm water baths, blankets and warming boxes are all options to rewarm a calf.

Be careful not to damage the skin of the animal by either rubbing too vigorously or placing them too close to heaters. Additionally, do not wash off the odor of amniotic fluid. This helps prevent rejection by the dam. Warm oral or intravenous fluids as advised by a veterinarian can also make a big difference. Once a calf is warm and has been fed colostrum, return it to its mother.

Working with your veterinarian to develop protocols before calving season can reduce stress and lead to more successful outcomes if an emergency arises. Your veterinarian can guide and train you and your team on how and when to call for assistance. In the event that resources are unavailable or overwhelmed, Oklahoma State University College of Veterinary Medicine (OSU CVM) Hospital offers services to assist producers in urgent need. OSU CVM offers 24-hour intensive care provided by a team of food animal specialists.

Finish Strong: A Look at the 2020 Wheat Crop

Trent T. Milacek, NW Area Ag Econ Specialist, OCES

It continues to rain. Much of Northwest Oklahoma is unaccustomed to timely moisture through the winter months as producers have been faced with difficult growing seasons in the past few years. The strong start to 2020 beckons a look at the current wheat crop and what can be invested as it nears harvest.

With the exception of Cimarron county, every county in Oklahoma has a 1-day average 4-inch fractional water index of 0.7 or greater according to the Oklahoma Mesonet. This scale can be read as 0 being completely dry and 1 being completely saturated. Therefore, there is ample moisture available currently.

Looking at another scale, the majority of the state has at least 0.5 inches of plant available water in the top 4-inches of soil meaning that growing conditions are good. This bodes well for Oklahoma producers and NASS tends to agree. In the December crop progress report, Oklahoma wheat was rated at 45% good to excellent.

What should a producer do with this good news? The wheat market has been improving in recent weeks on concerns over Russian wheat exports and increased U.S. exports. This price increase helps producers only if they can raise extra bushels. In order to do that, fertility has to be adequate.

If producers are interested in pushing yields this year, they will likely need to make additional nitrogen applications. Excess rainfall can push nitrogen below the root zone and leave plants with a deficiency. Topdress nitrogen applications are a good way to combat this problem and to make up for fertility goals not achieved earlier in the season.

It is not enough to just spread nitrogen in the hopes of it entering the soil profile. Nitrogen is safest from volatility (loss) when incorporated into the ground. That can be difficult in standing wheat, so producers tend to time applications before a rain to attempt to get nitrogen incorporated into the soil.

Applying 65 pounds of urea on a 60 degree day, with a soil pH of 5 and wind speed of 10 mph, a producer can expect to lose 30 percent of their applied urea without an incorporating rain event. This is 19 pounds of urea or approximately 9 pounds of actual nitrogen. Wheat requires 2 pounds of nitrogen per bushel, so a producer is losing a potential 4.5 bushels of production or ~\$20 per acre of revenue.

Another popular topdress option available to producers is liquid UAN or 28-0-0. While a portion of this fertilizer is nitrate, which will not volatilize, it is not immune from losses. There is also the potential for leaf burn when applied broadcast to wheat foliage in warmer temperatures. Without immediate incorporating rainfall, it is safer to incorporate this fertilizer into the soil upon application.

Perhaps the least utilized form of nitrogen for topdress application is anhydrous ammonia or 82-0-0. This fertilizer source must be incorporated by specialty low disturbance applicators to minimize plant loss in growing wheat. With a more expensive application method, why would a producer choose to use this nitrogen source?

It all comes down to the cost of the fertilizer. As producers try to minimize costs they must get creative with their production practices. When computing nitrogen costs per pound of actual nitrogen, anhydrous ammonia is the cheapest source. Using current market prices, anhydrous ammonia costs \$0.24, urea costs \$0.36 and UAN costs \$0.39 per pound of N. There is \$0.15 per pound of N difference between anhydrous ammonia and UAN. When used as a single source for a yield goal of 40 bushels, that is a difference of \$12 per acre or 3.7 bushels of revenue. This does not account for the added benefit of soil incorporation to reduce loss; nitrogen losses drive up the cost of urea and UAN applications.

If you would like more information on budgeting, topdress fertilizer application or nitrogen application costs please contact your local county extension agent.

Time to Evaluate Beef Cow Herd Breeding Potential

Britt Hicks, PH.D. Area Extension Livestock Specialist

With spring calving approaching, now would be good time to evaluate the breeding potential of your cows. Research has shown that the body condition score (BCS) of beef cows at the time of calving has a huge impact on subsequent rebreeding performance. Body condition scoring is a practical management tool to allow beef producers to distinguish differences in nutritional needs of beef cows in the herd. Simply put, BCS estimates the energy status (fat cover) of cows. The scoring system used is a 1 to 9 point scale where a BCS 1 cow is extremely thin while a BCS 9 cow is extremely fat and obese. A BCS 5 cow is in average flesh or body condition. A change of 1 BCS is equivalent to about 90 lb of body weight. To optimize pregnancy rates, mature cows should have BCS of 5 or greater at calving and 1st calf heifers should have a BCS of at least 6 at calving.

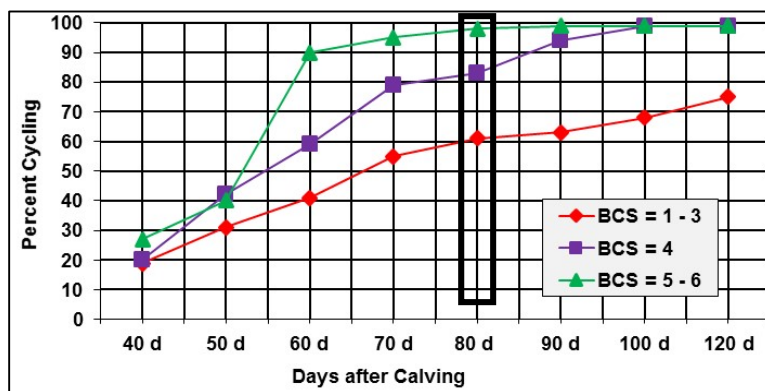


Figure 1. Body Condition Score at Calving and Return to Cycling (Adapted from Wiltbank., 1983).

Research has shown that the BCS of beef cows at the time of calving has a huge impact on subsequent rebreeding performance. This occurs because the BCS of a cow influences days to first estrus after calving and calving interval. For a cow to maintain a 365 day calving interval, she must conceive within about 82 days after calving (283 day gestation + 82 day postpartum interval = 365 days). Figure 1 illustrates that 90% of the beef cows with BCS >5 at calving showed signs of estrus by 60 days post-calving, whereas only 59% of beef cows with BCS 4, and only 41% of beef cows with BCS <3 showed estrus. The rectangular box in this figure shows the critical breeding time in order to achieve a 365-day calving interval. Even though cows that calve in a BCS of 7 have a short postpartum interval, it is not economical to feed cows to a BCS of 7.

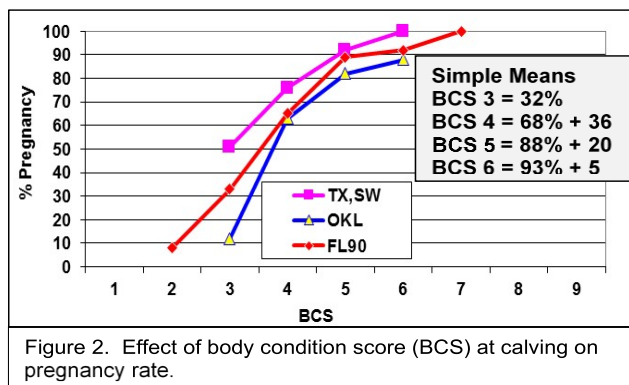


Figure 2. Effect of body condition score (BCS) at calving on pregnancy rate.

Research (Figure 2) suggest that increasing calving BCS from 3 to 4 would increase pregnancy rate by about 36 percentage points (from 32 to 68%). Increasing calving BCS from a 4 to a 5 would increase pregnancy rates by about 20 percentage points (from 68 to 88%). Note this same effect of BCS at calving on pregnancy rates has been observed in different regions of the country (Florida, Oklahoma, and Texas).

In addition, thin cows at calving (BCS 4 or thinner) produce less colostrum, give birth to less vigorous calves that are slower to stand and these calves have lower immunoglobulin levels, thus reducing their ability to overcome early calf-hood disease challenges. All of these data illustrate the importance of targeting mature cows to calve in a BCS of at least 5. Since 1st-calf-heifers have only reached about 85% of their mature weight after calving and require additional nutrients to support growth, it is recommended that they be fed so they are a BCS of 6 at calving.

If your cows currently have inadequate condition, there is still some time to change the BCS prior to calving. Manage your mature cows for a BCS of 5+ at calving. If the cows are in BCS of 5 at calving, a slow gradual weight loss after calving is acceptable. Whereas, if the cows are less than BCS 5 at calving then one needs to hold or increase BCS (weight gain) after calving. However, increasing BCS from calving until breeding will be difficult and costly since cows are lactating.

Maintaining body condition at calving is always important. However, with the dry conditions we are experiencing, it is even more important this year.



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Great Plains Cotton Conference

February 25th & 26th

The inaugural Great Plains Cotton Conference is scheduled for February 25th and 26th at the Red Roof Inn & Conference Center in Wichita, KS. Presentations will be focused on all things cotton, including pest and nutrient management, varieties, harvest-aids, post-harvest management, economics, and cotton industry updates related to the Great Plains. Nationally recognized speakers from OK, KS, TX, TN, and AR will be presenting. Seed companies will be presenting on their latest varieties and traits as well. Prior to the conference starting, an Auxin Applicator training will be offered for KS and OK applicators.

Presentations will begin at 1:00 pm on February 25th and conclude at 12:30 pm on February 26th. For those planning to attend the Auxin Applicator Training, this will be offered at 12:00-12:30 pm on the 25th, just prior to the start of the conference.

CCA credits will be provided and Pesticide Applicator CEUs for OK and KS have been requested.

From Oklahoma, please RSVP by February 18th to: Seth Byrd, OSU Cotton Extension Specialist
Email: seth.byrd@okstate.edu

From Kansas, please RSVP by February 18th to: Penny Adams, NE Regional Extension Office
Phone: 785-532-5833
Email: padams@ksu.edu

Hotel details:

Red Roof Inn & Conference Center:
6815 W Kellogg (US 54), Wichita, KS.
Telephone 844-758-0639



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Winter is Almost Over



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