



Ag Insights

From the Desks of Your Northwest Area Ag Specialists

Oklahoma Cooperative Extension Service - Division of Agricultural Sciences and Natural Resources - Oklahoma State University

January, 2018

West Area Office, Enid

Phone: (580)-237-7677

Dana Zook

Area Livestock Specialist
dana.zook@okstate.edu

Trent Milacek

Area Ag Economics Specialist
trent.milacek@okstate.edu

Josh Bushong

Area Agronomy Specialist
josh.bushong@okstate.edu

OPREC, Goodwell

Phone: (580)-349-5441

R. Britt Hicks

Area Livestock Specialist
britt.hicks@okstate.edu

Facebook Page:

facebook.com/
nwareaosuextension

Website:

http://oces.okstate.edu/
nwareaextension

Use of Whole Cottonseed in Beef Cattle Operations

Marty New, Area Livestock Specialist, Duncan

Dana Zook, Area Livestock Specialist, Enid

Oklahoma recently jumped into uncharted territory as the fourth largest cotton producer in the nation due to this year's bumper cotton crop. This is fantastic for cotton producers but equally great for those in the cattle industry who can capitalize on increased availability and more reasonable pricing of cotton by-products.

Some commonly utilized byproducts of the cotton industry are whole cottonseed, cottonseed meal, cottonseed hulls, and cotton burrs. Due to their low nutritional quality, burrs, hulls and another product called gin trash should be utilized solely as a fiber source for "scratch" and filler in rations rather than supplement. Each byproduct has its place in the beef industry, however, due to more favorable pricing, there is renewed interest for whole cottonseed as a winter supplement.

Feeding Recommendations

The unique protein and energy content of whole cottonseed has resulted in its increased popularity as a feed source for the beef and dairy industries. Cottonseed contains approximately 20% protein, making it comparable to conventional 20% winter supplements. Where cottonseed differs from other supplements is the fat level which is reported 16-18% in the current crop. For cows, fat is energy. The nutritional energy measure for cows is total digestible nutrients or TDN. Cottonseed will run 75-85% TDN making it a fantastic winter supplement. Producers should follow feeding recommendations because too much fat can reduce forage digestibility, ultimately reducing the value of the supplement.

In situations where cottonseed is being supplemented to cows in good body condition, no more than 0.5% of BW would be needed. In situations where cows need to make up body condition, a slightly higher level is warranted at 0.75%. For example, a 1200 pound cow in good condition could be safely fed 6 pounds of cottonseed on a daily basis. Whole cottonseed is not only a feed for mature cows but can also be used as a supplement for stocker calves. The feeding level is greatly reduced as no more than 0.3% of BW should be fed. For example, a 600 pound stocker calf should be fed no more than 2 pounds on a daily basis.

Producers should be aware that increased fat levels of cottonseed will cause cattle to have loose stools and so care should be taken to slowly adapt them to these levels.

(Continued on page 2)

(Continued from Page 1)

Feeding Value Compared to Other Winter Supplements

When considering feeding whole cottonseed to a cow herd for a supplement it is good practice to compare a variety of options. If you compare whole cottonseed to your standard 20 and 38% cube on a price per pound of protein basis (see table below), the cottonseed is the cheaper option. However, one must consider the additional labor required for feeding the cottonseed compared to the cubes and the additional obstacles with storing the cottonseed.

Nutrient	Whole Cottonseed	20% Cube	38% Cube
DM, %	90	89	89
CP, %	20	20	38
Fat, %	16	2.5	3
TDN, %	75	77	78
Price/ton	160	260	430
Price/lb CP	0.40	0.65	0.56

Gossypol Toxicity

Gossypol is a natural occurring yellow pigment found throughout the cotton plant, with highest concentrations found in the seeds. High levels of gossypol consumption can be toxic to cattle. The level of gossypol is affected by species, fertilization, growing conditions and insect pressure. Gossypol presence in a plant allows for protection against predators that would feed on the cotton plant.

Whole cottonseed and cottonseed meal are the primary sources for gossypol. Cattle can tolerate higher levels of gossypol when feeding whole cottonseed versus cottonseed meal due to whole cottonseed having a slower digestion rate.

Gossypol toxicity is of greatest concern for herd bulls. Limited research has shown reduced fertility in bulls fed cottonseed. Because of this, producers should weigh this risk and potential effects on bull fertility with the savings on feed. Keep in mind, feeding cottonseed at the recommended levels greatly decreases the incidence of reproductive failure and health concerns due to gossypol.

Storage and Handling

Just like any feed ingredient, producers should take measures to store whole cottonseed properly. Similar to forages baled too wet, whole cottonseed is susceptible to molding and combustion. To minimize losses, store seed that is less than 10% moisture in an area sheltered from rain. Be aware that whole cottonseed does not flow through augers well and will need to be handled with a scoop or front end loader. This may be a limitation for some producers

Auxin Specific Pesticide Applicator Trainings

Josh Bushong, NW Area Agronomy Specialist

Both cotton and soybean producers looking to utilize the new dicamba technologies this year will need to attend one of the upcoming dicamba-specific applicator trainings if they intend to handle and/or apply the pesticides themselves. The Environmental Protection Agency (EPA), Oklahoma Department of Agriculture, Food and Forestry (ODAFF), OSU Extension, and the chemical companies (Monsanto, DuPont, and BASF) have worked together to provide updated application requirements and training materials.

Currently there are three dicamba products labeled for “over the top” use on the Xtend Crop Systems. These products are Xtendi-Max® with VaporGrip® Technology (Monsanto), DuPont® FeXapan® Plus VaporGrip® Technology, and Engenia® (BASF). While these products are much less likely to move off-target compared to other formulations of dicamba herbicides, there still were a few herbicide damage cases in Oklahoma last year. Some surrounding states had reports of several hundred cases of herbicide damage to nearby crops.

Non-dicamba tolerant soybeans are very sensitive to the herbicide dicamba. This herbicide can move off-target in three ways: physical spray drift carried by the wind, vapor drift when environmental conditions lead to dicamba volatilization then carried by the wind, and sprayer contamination. The well-detailed herbicide labels for these products have specific directions on how to prevent movement of these pesticides off-target. In Oklahoma last year, the main issue seemed to be improper sprayer cleanout.

Recent changes have occurred with all three of the dicamba products with a major change of making all three products a Restricted Use Pesticide. Now only certified applicators (Commercial or Private) that attend one of the dicamba-specific trainings can purchase and apply these products. Even persons under direct supervision of a certified applicator will need to attend one of these trainings if they are handling these products.

OSU Extension is conducting several training events throughout the state this spring. January 10th at El Reno, January 17th at Altus, February 9th at Cordell, February 13th at Enid, February 15th at Blackwell, March 6th at Carnegie, March 7th at Shawnee, TBD at Coweta/Muskogee, TBD at Afton/Miami, and additional dates to come along with video conferencing.

Contact your local county extension office to find out more information on these training events. ODAFF will reciprocate with Kansas and Texas on these dicamba-specific trainings. Therefore, there might be some applicators from these states that attend an event in Oklahoma or vice versa.

Corn and Sorghum In-service

January 25th, 2018

Western Technology Center, Elk City

In-service ID #3701

Registration: 8:30 – 9 a.m.

Sorghum 9 a.m. – 12:15 p.m.

Grain Sorghum Production Management topics – Josh Lofton

Grain sorghum Herbicide Programs – Heath Sanders and Josh Bushong

Forage Sorghums – Gary Strickland

Economics – Trent Milacek

Livestock Utilization – Marty New and/or Dana Zook

Sponsored Lunch 12:15 – 1 p.m.

Corn 1 – 4 p.m.

Corn Production Management Topics – Gary Strickland

Herbicide Programs – Heath Sanders and Gary Strickland

Economics – Trent Milacek

Livestock Utilization – Dana Zook and/or Marty New

Contact Heath Sanders or Gary Strickland for more information or for any questions you may have.

Utilizing Livestock Risk Protection Insurance

Trent T. Milacek

NW Area Ag Econ Specialist, OCES

Livestock Risk Protection is an insurance product that protects against declines in cattle prices. In the past, the main focus when raising cattle has been on the production side. Arguably, this is still true. However, price is at the forefront of many producer's minds due to recent cattle market volatility.

Livestock Risk Protection can be purchased through a livestock insurance agent. This product insures between 1 and 1,000 head at a time with a total of 2,000 insurable head per year. The length of the insurance coverage varies from 13, 17, 21, 26, 30, 34, 39, 43, 47, or 52 weeks. Insurance can be purchased on calves, steers or heifers, which fall in the weight classes of Weight 1 (under 600 pounds) or Weight 2 (600-900 pounds).

Coverage levels vary between 70 percent and 100 percent of the expected ending value of the animals. The coverage options available vary each day so it is important for producers to check the RMA website http://www3.rma.usda.gov/apps/livestock_reports/ daily to determine which coverage options are available. The ending values of the policy are based upon the weighted average prices reported in the CME Group Feeder Cattle Index. This index is used to settle the Feeder cattle contracts.

An indemnity payment is triggered if the actual ending value is lower than the coverage price. This has nothing to do with what the producer receives for the animals in the cash market when he sells the cattle. Indemnity payments will only occur if the price declines below the coverage level during the coverage period. Also, the producer must own the cattle and have taken delivery of them in order to qualify for the insurance coverage.

An example of the insurance coverage includes a producer who wants to use LRP to put a floor on his 2018 steer crop. He normally sells in the middle of May and his steers currently weigh 500 pounds. His herd consists of 100 predominately Angus cross steers.

The insurance is purchased in January so he needs 17 weeks of coverage. The option he selects includes feeder cattle steers for the 2018 crop year with an expected ending value of \$145.672 per cwt. He chooses a 91% coverage level with a coverage price of \$132.200 per cwt. The premium will be \$1.785 per cwt. He expects the steers to gain 250 pounds over the course of this coverage. The premium is calculated by multiplying the final weight in cwt. by the premium cost per cwt. and the number of head covered. So $7.5 \text{ cwt.} \times \$1.785 \times 100 \text{ hd.} = \1338.75 . RMA subsidizes 13 percent of the premium cost so the producer will be responsible to pay $\$1338.75 \times .87 = \1164.71 .

In the event that on May 3rd the actual value is below the coverage price of \$132.200 per cwt., an indemnity payment will be triggered. If prices fall to \$120.00 cwt., the producer would be paid a premium in the following example. The price decline in this example is $\$132.20 - \$120.00 = \$12.20$. The producer's payment is $100 \text{ hd.} \times 7.5 \text{ cwt.} \times \$12.20 = \$9,150.00$. This farmer received an indemnity payment of \$9,150.00 on 100 steers for the cost of \$13.39 per head. While there is no way to know what the actual ending price will be, this is an option to manage downside price risk.

Perils not covered include death, government seizure, and forced destruction. If one of these events do occur, the producer is required to notify their insurance agent within 72 hours of the occurrence of the loss. By giving notice of the loss, the producer will have the affected livestock included if an indemnity is payable on the endorsement. Not giving notice of the loss will result in the affected livestock being excluded from the indemnity calculation and the premium will not be refunded.

Some producers are aware of hedging and the ways that they can manage price risk in the futures markets. There are many reasons, however, why producers do not utilize this option. They may not have enough cattle to fill an entire contract, they may be reluctant to pay brokerage fees and margin calls, or they just do not understand the complicated world of futures markets and are uncomfortable with that risk management system. Livestock Risk Protection allows a producer to tailor the insurance coverage to the number of cattle he needs to insure at a price where he will remain profitable.

(Continued on page 6)

The application for Livestock Risk Protection can be filled out at any time, but insurance does not come attached until a specific endorsement is made. The insurance coverage will begin when a specific endorsement is made and approved by RMA. For more information contact your local county extension agent.

Winter Feed Management for Beef Cows

Britt Hicks, Ph.D., Area Extension Livestock Specialist

Reducing winter feed costs for beef cows is important to cow-calf producers since Standardized Performance Analysis records have shown that feed costs account for more than 60% of beef producers' annual cow cost with over one-half of these costs attributed to winter feeding. Forage intake is dramatically influenced by forage quality as well as forage availability, and both of these factors can vary dramatically from year to year and month to month. Thus, determining forage quality is an important step in designing an economical winter feeding strategy. Regularly analyzing all available forage (range and/or hay) is recommended. At a minimum, forages should be tested for crude protein and total digestible nutrients (TDN) which allows a producer to compare the cow's nutritional needs with the base forage and choose the appropriate supplement. This allows one to match forage resources to cow requirements and avoid nutrition gaps or wasting costly nutrients.

When comparing supplement alternatives, it is recommended that options be compared on a cost of per unit of nutrient basis. For example, if crude protein is the primary nutrient needed compare prices based on the cost per pound of protein. We will assume that one is evaluating a 20% supplement that cost \$260 per ton and a 38% supplement that cost \$350 per ton. The cost per pound of protein in the 20% supplement would be \$0.65 (\$260 per ton divided by 400 lb of protein per ton). Whereas the cost per pound of protein in the 38% supplement would be \$0.46 (\$350 per ton divided by 760 lb of protein per ton).

For cattle grazing low quality forage, correcting a protein deficiency is usually the first supplementation priority. Research has shown that forage intake declines rapidly as forage crude protein falls below about 7 to 8%, a relationship attributed to a deficiency of protein in the rumen. In forages containing less than this amount of crude protein, feeding a protein supplement will improve energy and protein status of cattle by improving forage digestibility and forage intake. In fact, energy supplementation will not be effective if dietary protein is deficient.

In general, if ample low quality forage is available, it is recommended that one supplement with a supplement containing a high protein content (greater than 30% crude protein) to stimulate forage intake and digestibility. Whereas, if forage supply is limiting, feeding an intermediate protein supplement (~20 to 25% crude protein) would be recommended. Since one would basically feed double the amount of such a supplement to provide equal amounts of supplement protein, the program would provide additional energy to meet forage deficits.

Another important factor to consider when evaluating supplement alternatives is the labor and transportation expenses associated with supplement feeding (frequency of supplementation). Numerous research studies have shown that supplementing cattle with high protein supplements (cottonseed meal) three times or once weekly usually gives similar performance compared to daily feeding. In contrast, low-protein grain-based supplements should be fed daily to reduce the disruption of ruminal function (due to starch) which results in decreased forage intake and digestibility. Research also suggest that grain-based supplements with intermediate protein levels (i.e. 20%) can be fed infrequently (3 times weekly) with little or only slight reductions in performance. Therefore, feeding supplements on alternate days or three times weekly (eliminate Sunday feeding) instead of daily is a common strategy to decrease cost of production.

In addition, the negative associative effects associated with feeding energy based supplements should be minimized if the supplements are formulated with high-fiber ("digestible fiber") by-product feeds (wheat middlings, corn gluten feed, distiller's grains and soybean hulls) as compared to grains. Research has generally shown that supplementation with digestible fiber energy sources

(Continued on page 7)

(Continued from page 6)

might still reduce forage intake. However, forage digestibility is generally not reduced with these type supplements due to their low starch content. In general, the data suggests that energy supplements (grain- or digestible fiber-based) with intermediate protein levels (~20%) should be fed daily if the supplementation rate is 1% of body weight or greater per feeding.

The winter supplementation program can be evaluated over the winter feeding period by monitoring cow body condition scores (BCS). 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. Research has shown that the BCS of beef cows at the time of calving has a huge impact on subsequent rebreeding performance. Mature cows should 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.

CANOLA COLLEGE

Josh Bushong, Area Extension Agronomy Specialist



Register now for Canola College 2018 at www.canola.okstate.edu

Since 2013, *Canola College* has been held annually in Enid, OK. Each year, canola producers and industry members have turned out to hear experts discuss producing canola and expanding the canola industry in the Southern Great Plains. The Great Plains Canola Association, Oklahoma State University, Kansas State University, and members of the canola industry are pleased to again present this important event.

Canola College 2018 will be held **January 19, 2018** at the Chisholm Trail EXPO Center in Enid, OK. Registration starts at 8 am and the program will start at 9 am and conclude by 3 pm.

This will be the premier canola education/training event in the region in 2018. ***Canola College 2018*** is for anyone with an interest in the canola industry including: experienced and first time growers, crop insurance agents, members of agricultural governmental agencies, and canola industry service and product providers. Attendees will hear from canola experts on a variety of key topics and will have the opportunity to visit with industry members who provide the goods and services needed to produce, handle, and market the crop.

Canola College 2018 topics will include: canola basics; advanced production practices; innovations in planting technology; canola cropping systems; canola economics; and weed, insect and disease control. The popular **Canola Learning Laboratory** will be continued in 2018. Many of the concepts presented throughout the conference will be on display through hands-on demonstrations.

(Continued on page 8)

(Continued from Page 5)

1. Opening – Ron Sholar, Executive Director, GPCA
 2. Canola Basics – Heath Sanders and Josh Bushong, Area Extension Agronomy Specialists
 3. Advanced Production Practices – Bob Schrock, Grower from Kiowa, KS ; Jeff Scott, Grower from Pond Creek, OK; and David Seck, Grower from Hutchinson, KS
 4. Interactions of seeding rate, row spacing, and genetics - Kraig Roozeboom, Assoc Prof, Cropping Systems, KSU
 5. Canola Cropping Systems – Josh Lofton, Extension Cropping Systems Specialist, OSU
 6. Canola Harvest Management – Mike Stamm, Canola Breeder, KSU and Randy Taylor, Agricultural Engineer, OSU
 7. Canola Economics – Trent Milacek, Area Extension Ag Economist and Rodney Jones, Extension Ag Economist, OSU
 8. Weed Control – Misha Manuchehri, OSU Extension Weed Scientist
 9. Disease Control – John Damicone, OSU Extension Plant Pathologist
 10. Insect Management – Tom Royer, OSU Extension Entomologist
 11. Canola Learning Lab – Coordinated By Josh Lofton, OSU Cropping Systems Specialist
- Lunch Program – Sponsors will report on their products for Canola Industry

For more information on Canola College, contact Ron Sholar, Executive Director, GPCA, at Jrsholar@aol.com or Josh Lofton, Extension Cropping Systems Specialist, OSU, at josh.lofton@okstate.edu.



Oklahoma State University, U.S. Department of Agriculture, State and local governments cooperating. Oklahoma Cooperative Extension Services offers its programs to all eligible persons regardless of race, color, national origin, gender, age, religion, disability, or status as a veteran and is an equal opportunity employer.

Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Oklahoma Cooperative Extension Service is implied.

Oklahoma State University, U. S. Department of Agriculture, State and Local governments cooperating. Oklahoma State University in compliance with Title VI and VII of the Civil Rights Act of 1964, Executive Order 11246 as amended, Title IX of the Education Amendments of 1972, Americans with Disabilities Act of 1990, and other federal and state laws and regulations, does not discriminate on the basis of race, color, national origin, gender, age, religion, disability, or status as a veteran in any of its policies, practices, or procedures."