



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

November, 2017

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](https://www.facebook.com/nwareaosuextension)

Website:

[http://oces.okstate.edu/
nwareaextension](http://oces.okstate.edu/nwareaextension)

Consider Implants to Boost Stocker Gain

Dana Zook, Area Livestock Specialist, Enid Area Office

The winter grazing season is once again here for Oklahoma producers. Much of the winter small grains has been put in the ground and producers are counting on rain to produce good forage this fall. Regardless of grazing choices, producers should consider utilizing an implant in stocker cattle to boost gains this winter.

What are implants?

Since 1957, implants have been used in all facets of the cattle industry to increase gain. According to the OSU's factsheet on implants, the term "implant" refers to a group of products in the cattle industry that increase rate and efficiency of growth, metabolically and economically. The implant comes in the form of a small compressed pellet that is administered under the skin on the back middle third of the calf's ear. Implants contain natural and synthetic compounds that produce physiological responses in the animal, mimicking natural hormones. These compounds are designed to release slowly over time into the bloodstream of the animal. The length of a grazing period will dictate the type of implant that will work for each operation so consult your local county extension educator or veterinarian to find which implant is right for your cattle.

Will implants pay?

According to a great deal of research from OSU and other institutions, producers can expect an increase in gain of about 0.2 pound per head daily in stocker calves. While that may not seem extensive, it can really add up over time. For example, good grazing for 90 days at 0.2 pound added daily gain would provide an extra 18 pounds. The actual dollar value will vary, but in today's market, that gain could be worth around \$25. This provides an exceptional return to an implant that costs \$1.50 to \$3.00 (cost will depend on implant type and chute fee).

Are implants always effective?

There are some things to keep in mind about implants. The implant response will only be as good as the feed the calf is consuming. If we have a dry winter and the grazing is poor, it is unlikely you will obtain full benefit of the implant. If forage is adequate, you should be able to expect a positive gain response similar to what has been seen at OSU. Keep in mind that health, weather, and genetics of cattle are all factors that will make a difference in the amount of gain realized from the implant during the grazing period.

Cleanliness during implant procedures has a huge effect on the efficacy of the implant. Before implanting, the calf's ear should be clear of manure, mud and debris; ears should be cleaned if

(Continued on page 2)

(Continued from Page 1)

they are dirty. Start with sanitary equipment and keep maintain sanitation throughout the process. A lack of cleanliness can lead to abscesses on the ear that prevent calves from getting the benefit from the implant. Sharp needles are also essential to a successful implant procedure. For instructions on implanting procedure, check out the OSU factsheet *Implants and Their Use in Beef Cattle Production* at <http://factsheets.okstate.edu>; search for the term “implants”.

Calves, stockers, and feedlot cattle can be given implants, however, they are not cleared for use in breeding animals, cull cows, dairy cattle and veal calves. Implants should not be utilized on calves less than 45 days of age.

Mineral Supplementation of Stocker Cattle on Small Grain Forage

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

The focus of this article will be on the various aspects that need to be considered when planning a mineral program for small grain pastures. Most of the data presented pertains to wheat pasture but is also applicable to other small grains.

Mineral Content of Wheat Pastures: Wheat pasture is typically low in calcium, marginal to sufficient in phosphorus and magnesium, and contains excess potassium for 400 to 600 lb stocker calves. It is also typically low in the trace minerals, copper and zinc. Due to these deficiencies, mineral supplementation on wheat pasture is highly recommended. Calcium is the macro-mineral of primary concern in most wheat pasture-grazing situations.

Wheat Pasture Poisoning: Wheat pasture poisoning (grass tetany) is a complex metabolic disorder of cows grazing on wheat pasture. It occurs most frequently in mature cows that are in the latter stages of pregnancy or are nursing calves, and that have been grazing wheat pasture for 60 days or more. It results from a dietary deficiency of magnesium or from the presence of some factor in the diet which reduces absorption and/or utilization of magnesium. Studies have shown that high levels of potassium and/or nitrogen in the forage result in impaired magnesium uptake by the plant and/or utilization by the animal. Forage dry matter that contains less than 0.2% magnesium and more than 3% potassium and 4% nitrogen (25% CP) is likely to cause grass tetany. Since wheat pasture is typically high in nitrogen and potassium, magnesium utilization is reduced. Research suggests that a potassium level of 3 to 3.5% reduces magnesium absorption by about 30 to 35%. Cows with wheat pasture poisoning have low blood concentrations of both calcium and magnesium. While a similar, tetany-like condition occurs in stocker cattle, its incidence is extremely low.

Frothy Bloat - Causes and Prevention: Frothy bloat is a major cause of death in stocker cattle grazing wheat pasture, and occurs as a result of the entrapment of gases in ruminal fluid froth and/or foam. It is generally thought that frothy bloat is caused by soluble proteins. Soluble proteins contribute to froth or foam formation in the rumen that entraps fermentation gases in the rumen. The chemical composition of wheat forage changes with environmental growing conditions, stage of wheat plant growth or maturity, soil fertility level, etc.; and, therefore, affects the degree or likelihood that a stable ruminal foam will be formed and bloat will occur when wheat is grazed. Oklahoma research has shown that bloat on wheat pasture is more prevalent when plants are low in dry matter and total fiber (neutral detergent fiber, NDF). Thus, bloat is more common when the wheat is actively growing in the fall and spring. Stockers grazing the more fibrous, less succulent wheat forage may secrete more saliva. This saliva may have an anti-foaming effect and thus reduce the incidence of bloat.

Poloxalene is the only product labeled for bloat prevention. It reduces the surface tension of the gas-trapping froth in the rumen. The froth then forms much larger gas bubbles, permitting the normal release of gas; hence, reducing the danger of bloat. Feeding monensin can also help reduce bloat. Although monensin (Rumensin®) is not a true bloat preventive compound like poloxalene, studies have shown that it does decrease the incidence and severity of wheat pasture bloat.

(Continued on page 3)

(Continued from page 2)

The perception exist in the field that a high-magnesium mineral fed to wheat pasture stockers will reduce bloat. However, there is no evidence to support the suggestion that supplemental magnesium will decrease the incidence and/or severity of bloat of stocker cattle on wheat pasture. There may be a relationship between ruminal motility (and the ability of stocker cattle to eructate gases) and the calcium status of the cattle. Research has shown that ruminal and gut motility is greatly compromised by subclinical deficiencies of calcium.

What Type of Mineral Should be Fed to Stocker Cattle Grazing Wheat Pasture? All of the information presented above indicates that calcium is the mineral of primary concern when developing a wheat pasture mineral program. It is generally recommended that stocker calves on wheat pasture be fed a mineral containing 15 to 20% calcium. Phosphorus may be of some concern but a level of less than 5% is adequate. A low concentration of magnesium may be desirable (~2%) even though the incidence of grass tetany in stocker cattle is extremely low.

OSU research showed that stockers grazing wheat pasture provided a complete mineral without monensin gained 0.27 lb/day more than stockers not fed supplemental mineral. Adding monensin to the mineral increased gains by another 0.24 lb/day. Thus, feeding mineral plus monensin increased gains by 0.51 lb/day. These data illustrate that stocker calves grazing small grain pastures will respond efficiently to mineral supplements and monensin. Consider using these tools in your management program.

Can storage of vaccine affect its efficacy?

Gant Mourer, Beef Value Enhancement Specialist, Oklahoma State University

Respiratory disease in cattle also known as BRD, shipping fever or pneumonia may cost the U.S. cattle industry over \$2 billion annually (Powell 2013). Management techniques can offset much of this cost and having a good vaccination program can maintain the health of a calf all the way through the production system. A vaccine can cost over \$3.00 a head, and if not stored properly that vaccine can be rendered in effective. Producers cannot afford to overlook the importance of how they store vaccine and handle it prior to injection.

Biological products should be stored under refrigeration at 35 to 45°F unless the nature of the product makes storing at a different temperature advisable (APHIS 2007). If vaccines are not stored within this temperature range, efficacy to the calf can and will be reduced. Killed vaccines are especially susceptible to freezing temperatures. Freezing a killed vaccine will alter the adjuvant or delivery system of a killed vaccine. This, in turn, negatively affects the immune response to the antigen in the vaccine. Modified live viruses (MLV) are more stable but can be in-activated if they are repeatedly cycled above or below the required temperature range (Gunn et al, 2013). Also, once activated by mixing, MLV's effective life will be reduced to 1-2 hours and need to be maintained at the 35° to 45° F. This can be accomplished by only mixing the doses that you will use at that time and use a cooler to maintain temperature while working cattle.

Researchers from the University of Arkansas and Idaho analyzed the consistency of temperatures for different types, ages and locations of refrigerators over a 48 hour period. They found that only 26.7% and 34.0% of refrigerators were within the acceptable temperature limit 95% of the time, respectfully. Refrigerator location can also effect temperature. Refrigerators located in barns (35.6 °F) were colder than in mud rooms (41.72 °F) and kitchens (40.82 °F). (Troxel and Barham 2009). Temperature within a 24 hour period can also be highly variable for individual refrigerators. Troxel and Barham (2009) demonstrated some refrigerators may take up to 8 hours to cool down to the 45°F, while others will remain too cold varying from 24.8°F to 35.6°F.

Producers need to be aware of these variations in temperature so they are able to adjust refrigerator temperature as needed. Thermostats can also be very variable from unit to unit, so keeping a thermometer inside works well to monitor and to make adjustments as need. Simple indoor-outdoor thermometers work well to achieve this goal. The outdoor unit can be placed in the

(Continued on page 4)

(Continued from page 3)

refrigerator while the LCD display can be hung with a magnet on the door. This allows temperature to be monitored without opening the door and many models will record the high and the low temperature in a 24 hour period so producers can adjust accordingly.

How a producer handles vaccine outside of the refrigerator is important as well. Coolers can easily be modified for syringes and are important to maintaining vaccine efficiency chute side. Using a 1 ½' PVC pipe or sink tail piece purchased at any hardware



store and a 1 ½' hole saw, inserts can be placed through the cooler and work well to keep syringes cool and out of light while in use. Either ice or freezer packs can be used as a coolant to maintain temperature for several hours depending on outside ambient temperature. Make sure that enough coolant is used to maintain temperature while working cattle and extra ice may be needed if working cattle all day or during warm days. It may also take up to an hour for the cooler to reach the needed 45°F, so producers may need to plan ahead prior to processing cattle. Details on the construction of a chute side vaccine and syringe cooler can be found in Oklahoma State University Fact Sheet ANSI-3300: ["Chute Side Vaccine Cooler"](#)

These are a few simple suggestions that can help ranchers get the full value of the vaccine that they purchase. More importantly, positively affect the health of their herd, decrease sickness, and increase profit.

Fall Weed Control

Josh Bushong, Area Extension Agronomy Specialist

Many of our herbicide options for weed control in wheat and canola need to be applied during favorable growing conditions in order to achieve satisfactory results. To get the most out of the herbicide product, it is important to know what weeds are the target and by what growth stage they need to be sprayed. More often than not many herbicide applications fail to provide satisfactory results because they were either applied when the weeds were too big or when the weeds were not actively growing.

For wheat in north central Oklahoma, winter annual grassy weeds like feral rye, Italian ryegrass, jointed goatgrass, bromes (cheat, rescuegrass, downy, Japanese), and wild oats can often be troublesome. Especially if the wheat is anticipated to be harvested for grain. Competition from these weeds has become a big enough issue that the only option is to either graze the crop out or harvest it for hay because if it is harvested for grain the price reductions from dockage and/or foreign material is too high.

The only option for managing feral rye and jointed goatgrass in wheat is to utilize the Clearfield system. By sowing a Clearfield wheat variety, the wheat producer can apply the herbicide Beyond. This herbicide will kill wheat varieties without this trait. The newer Clearfield Plus system allows the use of an adjuvant called methylated seed oil (MSO) or high surfactant oil concentrate (HSOC). Only Clearfield wheat varieties designated with a "2" or "Plus (+)", such as Doublestop CL+, can tolerate the addition of the oil adjuvants.

In addition to MSO or a non-ionic surfactant (NIS), it is recommended to also include a nitrogen-based fertilizer with the herbicide

(Continued on page 5)

(Continued from page 4)

Beyond. These include ammonium sulfate (AMS) and urea ammonium nitrate (UAN 28% or 32% N) at a rate of 2.5 gallons/100 gallons (or 2.5 % V/V) of spray. Spray-grade AMS can be used at 12-15 pounds /100gallons. To increase control, it is recommended to increase the UAN rate up to 5% V/V, or if AMS is used increase it up to 20 pounds/100gallons. Liquid fertilizer can be used as the carrier only for Clearfield Plus systems.

While the Clearfield or Clearfield Plus systems are great options, do not expect 100% control of feral rye. The Beyond herbicide label only gives it a suppression designation for rye. To improve control, it is recommended to use sequential applications of Beyond. The first application in the fall and the other applied in the spring.

Applications of the herbicide Beyond when air temperatures are below 40° F can cause a reduction in weed control. If air temperatures drop below 40° F within a week of application, crop injury can occur.

Early weed management in canola is just as, if not more, important than controlling weeds in wheat during the fall months. Canola is very competitive with weeds once it becomes well established, but not competitive at all when it is at the seedling growth stage. If weed populations are high enough, canola plants may remain too small to survive winter freeze events.

Due to many of the canola acres being seeded fairly late this year, competition with weeds and volunteer wheat may prove to be more damaging than most years. The cooler soil temperatures brought on by recent heavy rains has caused the canola to grow at a much slower pace than normal.

Past field trials conducted by OSU have shown that canola yields will be optimized when herbicides are applied four-six weeks after emergence. Often a sequential herbicide application will need to be applied the following spring to control escapes and late emerging weeds, but the fall applied herbicide was more critical to protecting yield potential and winter survival.

Feeder Cattle Futures Price Outlook and Value of Gain

Trent T. Milacek, NW Area Ag Econ Specialist

Prices for feeder cattle have continued a bullish trend this fall and pushed above \$160/cwt. on the November contract. Contract highs established resistance near \$155/cwt. for the last few months which makes the recent run even more impressive. While strong prices for heavy feeder cattle and good beef demand have provided the fuel for this run, large placements in feedlots through the summer could cause an increase in beef supply and weakness in prices through the winter.

Value of gain for feeder cattle have also been strong this fall ranging from \$1.00-\$1.50 per pound. Currently, the value of gain for a 500 pound calf is approximately \$1.40/cwt. indicating that producers are being encouraged by the market to purchase calves for winter pasture. Assuming a 5 bushel reduction from grazing and topdress nitrogen at 30 lbs., it will cost \$0.23 per pound to grow calves on wheat pasture. This is the marginal cost of grazing and does not include labor, equipment or marketing costs. However, it is clear that feeder cattle budgets will be profitable if prices do not fall before March.

Large placements in feedlots throughout the summer could be a cause for concern. A majority of those cattle weighed more than 600 pounds indicating faster turns than would be the case with lighter cattle. Marketings have also been higher showing that feedlot inventories are remaining current and cattle are not being grown to an unreasonable size. Therefore, cattle markets are unlikely to see a crash in prices like they did in 2016.

(Continued on page 6)

(Continued from page 5)

Producers must decide how much risk they can absorb. Support in feeder cattle markets exists at \$140/cwt. so a \$20/cwt. reduction in prices is not out of the question. Increased beef supplies and competition from pork and poultry through the winter months will put some pressure on prices if consumer demand cannot maintain at current price levels. Larger supplies of heavy feeder cattle coming off of wheat pasture in February and March could also drop prices on the 600+ pound weight classes.

If the risk of lower prices is a concern to producers, they should contact a broker to determine the best price protection strategy for their operation. For example, a March put option contract at \$156/cwt. will cost about \$6/cwt. This would establish a floor price of \$150/cwt. since a put option is the right but not the obligation to sell a futures contract. In the event that prices fall below \$156/cwt. a producer may exercise the right to sell a futures contract for \$156/cwt.

If feeder cattle futures fall to \$130/cwt. and a producer has a put option at \$156/cwt. they could exercise that put option. By exercising they sell a \$156/cwt. futures contract. Since the producer paid \$6/cwt. for the put option, the price they receive on the futures market is \$150/cwt. instead of the \$130/cwt. the market fell to. The producer then sells cattle for the cash market price, and because of their futures market transaction, the producer captures an additional \$20/cwt above the cash market.

If prices increase to \$170/cwt. the producer would elect not to exercise the put option. In that scenario the cash price received for cattle would be \$170/cwt. minus the \$6/cwt. option premium or \$164/cwt. The producer was able to take advantage of higher prices due to purchasing a put option because of the unlimited upside potential of the put. Whereas, if a producer sold a straight futures hedge, they would be guaranteed that contracted price with no upside potential or downside risk.

There are many unknowns in agriculture and currently prices for feeder cattle are very strong. Take advantage of the opportunity to price market ready cattle and to price protect stocker cattle in case markets move lower in the coming months.

West District Ag In-Service

**Tuesday,
November 28, 2017**
10 a.m. – 3:30 p.m.

Western Technology Center
301 Western Drive, Elk City

Topics:

- *Administrative Update: Randy Taylor*
- *FARRM Game- Interactive* • *Weed ID*
- *Herbicide Technology Traits and Updates*
- *Determining the Value of Different Supplements for the Cow*

For in-service credit, register
on website for West District Ag
Educator In-service # 9203

RSVP by November 20, 2017
to: **Duncan Area Office** - 580-255-3674
or email: maryann.mccarley@okstate.edu

Registration Fee: \$15.00

Please make checks payable to: **SW District**

Mail to: **OSU Extension Center**
Duncan Area Office
1309 W. Ash
Duncan, OK 73533



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 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. This includes but is not limited to admissions, employment, financial aid, and educational services



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."