



# 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

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## **Reducing the Right Costs to Improve Profitability**

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

Farmers and ranchers are facing economic adversity. Continued low commodity prices have stressed balance sheets and forced producers to make changes to their operations that will improve profits.

When prices fall, the subsequent investment in a commodity tends to go down. Producers either fertilize less, reduce tillage, negotiate lower rents or reduce equipment cost. How can you reduce costs without decreasing productivity?

To keep revenue constant when prices fall, a producer must attempt to increase yields. How that is accomplished will depend on the resources available to the producer. Take wheat for example, an accepted standard is that it requires two pounds of nitrogen fertilizer to produce 1 bushel of wheat. Therefore, reducing nitrogen fertility will directly reduce yields. A producer thinking about the production of wheat as a marginal investment should conclude that fertility must be maximized given a fixed amount of moisture. At current prices, the nitrogen to produce a bushel of wheat costs \$0.68 and the price of wheat is \$3.66 per bushel. The easiest way to increase revenue is to maximize the amount of commodity sold.

If a reduction in fertility is not a wise way to reduce cost, then what is next? A reduction in tillage or a reduction in herbicide costs is not always possible. A more efficient use of these inputs is likely some low hanging fruit for the operation. Are you tilling a field before weeds are present? Are you waiting too long to spray, resulting in an increase in herbicide rate and cost? Intense management requires more labor, so think critically about the timing of these operations in order to reduce overall costs.

Should a producer attempt to lower rents? This decision is never an easy one. Often a producer must be willing to walk away from a property if the negotiation fails. However, that may be the correct choice if rent is too high to be profitable. In order to determine this, a producer should develop enterprise budgets for their expected crop rotation on a particular piece of land. These budgets may include average crop production and prices. Will the farm will make money without including rent. If it will, then the profit above all other costs is used to pay that rent. If the profit is lower than the current cash rent, then the negotiation for lower rents has merit.

If cash flow is failing and farms are unprofitable at current prices, letting those acres go is a fast option for increasing profitability in the short run. The long run effects may be that the operation is less profitable farming fewer acres. For more information on cropland rental rates, producers may request Current Report CR-230 from their local extension office. In north-central

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Oklahoma, the average cash rental rate is \$39.21 per acre.

The final cost discussed in this article will be equipment. As farm profitability has decreased, the value of machinery has as well. This will make it difficult for producers to purchase new equipment, as trade values will be lower. That does not mean that reducing machinery overhead is a bad idea. If the operation owns equipment that is not vital or that can be downsized, then cash on hand may be increased with the sale of those assets. It is a short-term solution, but one that could keep things rolling another year without drastic changes.

The Kansas Farm Management Association publishes enterprise budgets compiled from data provided by their producers. They split this data into profit thirds, which is useful in determining how producers become more profitable. For wheat in their southwest district, the high profit third spends \$195.07 per acre on expenses. The low profit third spends \$267.84 per acre. The high profit third spends more on things like fertilizer and land. This is a result of investing in more profitable ground and fertilizing for higher yields. They spend less on machinery repair, interest, seed, crop insurance, fuel, herbicide/insecticide, depreciation and labor. Reducing overhead drops the cost per acre while maintaining an investment in the crops that will result in higher yields.

Winter is a good time to reflect on the past year and to plan for the future. If you would like more information on analyzing your farming operation to improve profitability, please contact your local county extension educator.

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## **Clearing Up Misconceptions about Hormones in Meat**

**Dana Zook, OSU Area Livestock Specialist**

I don't know about you, but the fast approaching holiday season leads me to start thinking about food. I personally enjoy cooking and I use the holidays as an excuse to recreate the comfort foods I grew up with. Like many families out there, the focus of our holiday meal is a large piece of delicious protein.

Here in the U.S., we have a wide array of choices of protein at the local meat counter. What things influence your protein choice? As consumers, we rely on package labeling to lead us to the correct product, however labeling can be a point of confusion. One such label that can be misconstrued is one dealing with hormones. Some of these labels can include "hormone-free" and "no hormone added". In last month's article I spoke about the use of hormones in beef production through the use of implants to increase gain. This month, I will follow up with a discussion about hormones in the meat we eat and some potential confusion among consumers dealing with this topic.

Let's first start by identifying the definition of a hormone. In humans and other animals, hormones are produced by the endocrine system to regulate growth, development, and reproductive processes. Hormones are also present in plants as plant regulators which are chemical substances that influence growth and specify cell function. All living things contain hormones. The hormone most commonly measured in food is estrogen and it is measured in units called a nanogram. A nanogram (NG) is one billionth of a gram.

As we discussed in last month's article, implants are used in the beef industry to increase the efficiency of growth. A misconception exists among consumers that it is unsafe to consume hormones. The Food and Drug Administration (FDA) and the U.S. Department of Agriculture support the use of hormones in beef production as a safe and sound production practice; the use of hormones poses no safety risk to consumers. It is important to note that added hormones are not allowed in all livestock production. Cattle and sheep can be raised using additional hormones, however, the FDA prohibits their use in poultry and pork production.

What amount of hormone activity are we talking about? According to the American Meat Institute, a 3 oz. serving of beef from an implanted steer contains 1.9 NG of estrogen. A 3 oz. serving of beef from a steer raised without hormones contains 1.3 NG of estrogen. As you can see, there is very little difference in hormone level between implanted steers and those without implants.

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How does beef compare to the other foods we eat? The American Meat Institute reports the estrogen levels of different foods that are used in cooking and adorn our dinner plates on a daily basis; 3 oz. soybean oil = 168,000,000 NG estrogen, a 3 oz. serving of potatoes = 225 NG estrogen, a 3 oz. serving of peas = 340 NG estrogen, 3 oz. serving of ice cream = 520 NG estrogen. This only touches on a few foods, but speaks to hormone levels regardless of food type.

So where do we go from here? The purpose of this article is not to alarm consumers about hormones but rather to encourage people to be more informed about the food they eat. These days, information flows constantly at all angles and some sources may be lacking in proven facts. To learn more about hormones in beef and other meats, take a look at [igrow.org/livestock](http://igrow.org/livestock) or [iowabeefcenter.org](http://iowabeefcenter.org). For answers to this and other great questions, contact your local County OSU Extension Educator.

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## Supplementation of Stocker Cattle on Wheat Pasture

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

In the November Ag Insights newsletter, I focused on the various aspects that need to be considered when planning a mineral program for wheat pasture. This article will focus on designing energy supplements for cattle grazing wheat pasture. Both the energy and crude protein content of wheat pasture are high. Wheat forage will commonly contain 75% TDN (total digestible nutrients) and 25 to 30% crude protein during the fall and early spring grazing period. However, there are times when providing supplemental energy on wheat pasture may be beneficial. Supplementation of cattle grazing wheat pasture is of interest to 1) provide a more balanced nutrient supply and feed additives such as ionophores or bloat preventive compounds, 2) substitute supplement for forage where it is desirable to increase stocking rate in relation to grazing management and/or marketing decisions, and 3) substitute supplement for forage under conditions of low forage standing crops.

Two ionophores (monensin and lasalocid) are available for wheat pasture stocker cattle. Both, if delivered at the proper dosage, increase weight gains of growing cattle on wheat pasture by 0.18 to 0.24 lb/day more than that of the carrier supplement and improve the economics of supplementation programs. Poloxalene is the only product labeled for bloat prevention. Although monensin is not a true bloat preventive compound like poloxalene, studies have shown that it does decrease the incidence and severity of wheat pasture bloat.

This article will review two different strategies for providing energy supplements to growing cattle on wheat pasture. One strategy is to hand feed a small package (target intake of 2 lb/day or 4 lb every other day) monensin-containing energy supplement to provide a more balanced dry organic matter to crude protein ratio in the total diet. A summary of five OSU trials showed that this strategy consistently increased daily gain by 0.42 lb with a supplement conversion of 4.72 lb of supplement per lb of increased weight gain which will often be profitable. The supplement increased profits by \$15 to \$31 per steer depending on supplement cost and profit potential of the cattle.

It is recommended that this supplement be manufactured as a small pellet consisting of about 82 to 90% corn, milo, wheat middlings and/or soybean hulls as the source(s) of energy. To meet mineral and vitamin needs, the supplement should contain 2.25 to 2.75% calcium, 1% phosphorus, 0.7% magnesium, 0.75 to 1.25% salt, 60 ppm copper, and a minimum of 10,000 IU of added vitamin A. It should also contain 90 to 100 mg of monensin per pound. This supplementation program does require close management. Feeding the supplement every other day may increase the likelihood that some cattle could eat more than the desired amount of supplement. The primary challenge in using this supplementation program is one of having good management and enough time to be a good observer of what the cattle are doing.

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A second strategy is to feed energy supplements in larger amounts (about 0.75% of body weight) to increase stocking rate during the fall/ winter grazing period and to have more cattle on hand for spring graze-out of wheat. In a three year OSU study, a high-starch, corn-based supplement and a high-fiber byproduct feed-based supplement were compared. The high-fiber energy supplement contained about 47% soybean hulls and 42% wheat middlings, and all supplements contained 40 mg/lb of monensin. The supplements were hand fed six days per week at a level of about 0.75% of body weight. Non-supplemented, control cattle had free-choice access to a high-calcium (16%) commercial mineral mixture throughout the study.

During the study, mean daily supplement consumption was 0.65% of body weight which increased daily gain by 0.33 lb and allowed stocking rate to be increased by one-third. Type of supplement did not influence daily gain, supplement conversion or the substitution ratio of supplement for forage. However, the cattle seemed to prefer the high-fiber supplement and consumed it much more readily than the corn-based high-starch supplement. Generally, the cattle consumed the high fiber supplement in a matter of 10 to 30 minutes in the morning. In contrast, the corn-based supplement was eaten during at least two feeding periods during the day (morning and mid-afternoon). From a feed and bunk management standpoint, this difference in the supplements is extremely important on days of inclement weather (rain, snow, etc). In addition, the potential for acidosis is much less for the high-fiber supplement.

Supplement conversion with this strategy was approximately 5 lb of supplement per lb of increased gain per acre. This conversion was substantially less than conversions of 9 to 10 that have traditionally been used in evaluating the economics of energy supplementation programs for wheat pasture stocker cattle.

In summary, research illustrates that supplementation strategies that 1) result in a more balanced nutrient supply, 2) provide feed additives such as ionophores or bloat preventive compounds, 3) result in substitution of supplement for forage when it is desirable to increase stocking rate in relation to grazing management and/or marketing decisions, and/or 4) decrease production risk with respect to average daily gain, offer opportunities to increase profitability of wheat pasture stocker cattle operations. The type and amount of supplement fed should be adjusted according to the primary objective(s) of the supplementation program.

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## **Crop Updates**

**Josh Bushong, Area Extension Agronomy Specialist**

As fall fades and winter nears, many wheat and canola fields in the region are starting to show signs of drought stress. North central Oklahoma, especially Kay County, ended October with an ample amount of soil moisture, while northwest Oklahoma was slightly dryer than normal. Since the whole region practically receive zero rainfall throughout November, the drought conditions quickly escalated.

The wheat needed warm temperatures and good soil moisture for producers to grow much needed wheat pasture. Fields that started out late from delayed planting, delayed emergence, or resowing due to pest infestations have had the extra time with good growing temperatures, but adequate soil moisture and soil fertility have been limiting. Unfortunately, most of the region has become very dry over the past couple of months. Most of the region has gone several weeks without a significant rain of 0.1 inches or more.

The current drought has started to adversely affect the wheat crop. Reports have ranged from stunted spindly plants to discoloration of the leaves. This will greatly impact the producers running stockers. The continuation of dry conditions will limit the amount of forage produced the rest of the year as we approach winter and crop dormancy. Stocking rates should be adjusted if limited

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biomass was produced this fall.

There have been concerns about some of the wheat turning yellow. Fortunately, most fields do not seem to have any disease pressure yet. More than likely, the yellowing is being caused by the lack of nitrogen. Environmental stresses from saturated soils in October and dry soils in November may have also caused some temporary yellowing. Closely scout these fields, if the crop condition worsens, even after a good rain, contact your county extension agent. If a disease is suspect, samples can be sent to the OSU Plant Disease and Insect Diagnostic Lab for determination of any pathogen present.

The winter canola crop has been looking very well this past month. Canola acres are about on par with last year for northern Oklahoma. While there have been some fields that are showing drought stress, a majority of the plants have developed large enough carbohydrate reserves in the roots to survive on this winter after dormancy.

Harvest of the remainder of the summer crops is nearing an end. Sesame, double crop soybeans, corn, and cotton crops have fared well for the region. Yields have been all over the place with soybeans and corn, with some doing very well, most near average production, and others subpar. The sesame yields have been decent and I haven't heard of any shatter loss issues this year. Cotton bolls finally opened and most fields seem to be yielding profitable yields once the strippers and pickers finally arrive.

As we head into winter, it is still important to monitor all winter crops. Production issues to always keep an eye on include weeds, insects, diseases, excessive grazing, and fertility. If crop growth continues due to a mild winter, fertility may become a larger factor to manage. Early detection of a crop issue can often mean the difference between a decent crop and a not so decent crop.



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