



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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Cost Conscious Wheat Production

Trent T. Milacek, Area Extension Econ Specialist

Economically, the constraints to wheat production are tighter than ever. Every dollar spent must produce more yield than before. To do this, producers must identify opportunities for high rates of return in their wheat enterprise.

Consider for a moment the return on investments in the crop. Can you easily evaluate the increased profit from investing in a new tractor? Did purchasing a new pickup result in more frequent scouting and higher yields? Sometimes investments in capital assets can result in improved enterprise profitability, but unfortunately it will likely decrease the asset turnover ratio. Instead consider the types of investments that can drastically improve crop yields this year – things like fertilizer and fungicide.

Dry conditions and cold weather have decreased the chances for good yields. At this point producers may have doubts about the likelihood of further investments paying off. However, wheat is very resilient and can yield well even if fertilizer is not applied until jointing. So what should our goal be for the remainder of the crop year?

Budgets suggest that wheat fields will need to yield between 40 and 50 bushels per acre in order to breakeven. Generally, a 50 bushel yield will require between 75 and 100 lbs. of actual nitrogen. At a nitrogen price of \$0.30/lb. it will cost \$30/acre to apply 100 lbs. of nitrogen. If the average application on a farm is 60 lbs. of nitrogen, then the added investment in nitrogen is \$12/acre. The extra 20 bushel yield potential this nitrogen provides could be worth \$80/acre at harvest. Assuming that conditions improve and the crop receives favorable moisture and weather to reach this yield goal, the return on the nitrogen investment is over 600 percent. In the event that conditions are not favorable, then the investment will decrease profits by \$12/acre.

In order to obtain a 50 bushel yield goal, the crop could also require a fungicide

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application. In long term studies at Oklahoma State University, the average yield saved by a fungicide application is roughly 10 percent. Recently, data from the last three years suggests that during heavy rust infestations, yield saved is above 20 percent. At average yields this is 6 bu/acre. At our current yield goal of 50 bu. / acre, the number climbs to 10 bushels. Fungicide application costs vary, but a producer can apply a good product at \$15/acre. The yield preserved by the fungicide is worth \$40, resulting in a return on investment over 200 percent. Likewise with the previous example, if the rust infestation is less severe, then profits may be decreased by \$15/acre.

These investments together total \$27 and have the potential of increasing revenue by \$80. The success of this investment and its ability to return over 300 percent is highly dependent on weather. Cynical individuals may scoff at the idea of throwing more money at the wheat enterprise, but consider your goals. Producers planted wheat with the hope of making a profit. In order to make a profit producers must raise a large yield. In order to raise a large yield, the crop needs to be taken care of and intensively managed. Control the things you can control, and let mother nature take care of the rest.

If you would like more information on partial enterprise budgeting, please contact your local county extension educator.



Time to Evaluate Cow Herd for 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.

Research (Figure 1) suggest that increasing calving BCS from 3 to 4 would increase pregnancy rate by about 35 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).

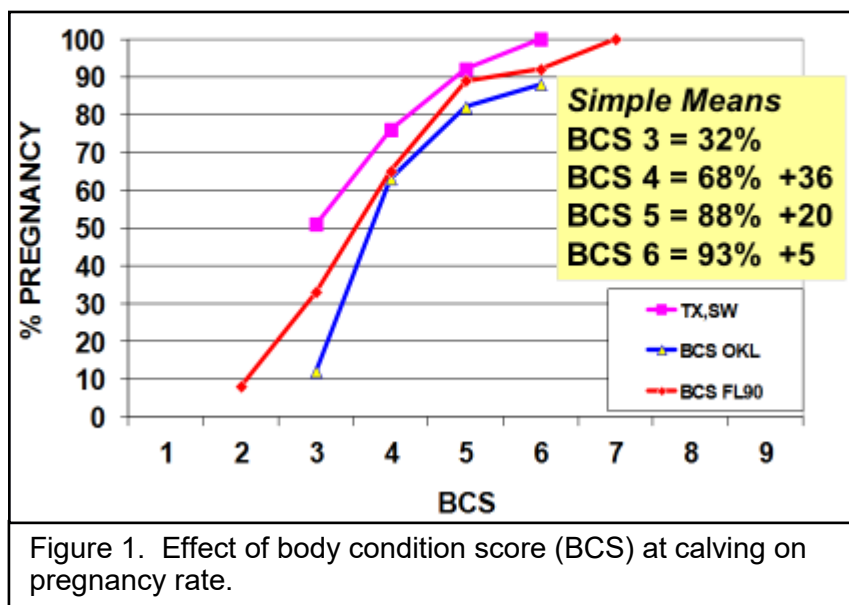


Figure 1. Effect of body condition score (BCS) at calving on pregnancy rate.

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 ok. 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.

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

Short Wheat Pasture – Haul the Feed or Haul to Town?

Dana Zook, Area Extension Livestock Specialist

To most Oklahomans, late summer may be considered the driest time of the year. In actuality, December, January, and February are the driest reported months of the year in since the Mesonet began in 1994. This year, the research proves true as most areas in Northwest Oklahoma are rolling over 100 days of less than 0.25 inches of rainfall. With below normal precipitation in the outlook for the coming weeks, producers with cattle on wheat pasture are at a cross-roads; haul the feed or hitch the trailer and haul them to town?

Before hitting default and hauling feed, producers should take a moment to consider several things to ensure success. Producers should first inventory available feedstuffs. Hay samples should be collected and sent off for analysis. An analysis is essential to determining the nutrient deficiencies in the hay and identifying which energy or protein feed source will work best for the feeding situation. Calculate cost of gain with estimated feed costs.

A strategy to stretch wheat pasture in low forage situations is to provide a feed supplement at 1% of body weight on a daily basis. Oklahoma State University has done a number of different studies that examine the effects of different supplement in low forage situations. In one situation, calves grazing wheat pastures with less than 300 pounds of forage per acre were supplemented with one of three supplements; whole corn, dry rolled corn, or a 50/50 blend of wheat middlings and soybean hulls. These supplements were fed six days per week to steers stocked initially at 3.5 acres per head or 1,050 pounds forage. By the end of the study, pounds of forage increased to 1,500 pounds per steer. Overall gain was 2.2 pounds per day after the 84 day trial and performance did not differ between treatments.

Feed costs are not the only components in the cost of gain calculation. Also consider labor, feed delivery, fuel and death loss. Cost of gain assessments can then be paired with the value of gain to estimate if feeding will be a profitable venture. The value of gain is the difference in the value of the cattle at time of purchase and the value at sale time divided by the difference in weight. For a better picture of the situation, let's look at an example.

First, consider that average rent for wheat pasture was \$0.40 per pound of gain. If producers are considering pulling completely off wheat into a dry lot of some sort, \$0.40 could be utilized to account for yardage costs.

By utilizing the value of calves sold in the current market and estimating future cost using beefbasis.com, an estimated value of gain can be calculated. For instance, on January 26th, the price for 670 pound calves was \$158.78/cwt. March futures were priced at \$145.60/cwt. March basis values for 750 pound calves were \$5.24 which bring the total value of the March contracts to \$150.84. The difference in the total value of those calves (\$1,131.30-\$1063.83) divided by the difference in weight (750 lbs. - 670 lbs.) brings the value of gain to \$0.84. Subtracting pasture rent (\$0.40) to the total value of gain (\$0.84) leaves \$0.44 to cover costs for feed, delivery, labor, and fuel. In this situation, stretching wheat pasture by feeding will be profitable only if costs per pound of gain are maintained below \$0.44.

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Keep in mind, this example does not include costs of labor or equipment which are essential parts of the calculation. Also realize that value of gain will change on a daily basis as the market changes and calculations should be redone periodically to ensure accuracy. I challenge producers to do these calculations with their own numbers to ensure profitability in any feeding situation.

Do not hesitate to call the local County OSU Cooperative Extension office if you have any questions regarding short wheat pasture, supplements, or value of gain.

Spring Pest Management in Wheat

Josh Bushong, Area Agronomy Specialist

Under current conditions, it may be hard to start thinking about how to plan for pest management on the wheat acres this spring. While wheat prices are starting to look more favorable, drought conditions have persisted and forecast outlooks do not seem very promising. Simply put, pest management only protects yield potential. By reducing the impacts of weeds, insects, and disease, we can only protect potential wheat yields.

Weeds are often the most damaging of the pests, considering loss of yield and price reductions at harvest. Once a weed infests a field, it will be an issue for many years. Even with tight budgets, weed management needs to remain a priority for producers. If weeds are allowed to take over a field, often the only economical solution would be producing a forage crop by either grazing or haying.

Currently there is only one option for management of feral rye in wheat production. That would be utilizing a Clearfield wheat variety and applying the herbicide Beyond. In a scenario where the feral rye has yet to emerge and a fall application of Beyond was not applied, using a full rate of 6 ounces this spring can result in decent suppression of rye. Keep in mind that feral rye is only labeled as suppressed not controlled on the Beyond label.

To get the most out of a Beyond application, there are multiple application guidelines and requirements to follow. First the herbicide must be applied when feral rye is in the 1-4 leaf growth stage. Once it starts to tiller it becomes more difficult to control, and conversely the herbicide will not control rye if it has not emerged yet. Air temperatures need to be above 40° F around the time of application. Spray volumes with a ground applicator need to be at least 10 gallons per acre and at least 20 gallons per acre when applied to minimum-till or no-till to ensure thorough coverage.

An adjuvant and a nitrogen fertilizer must be added to the spray solution for optimum weed control. A non-ionic surfactant and UAN are often used. If a Clearfield Plus wheat variety is used, then the non-ionic surfactant can be substituted with methylated seed oil or crop oil concentrate to provide better control. Under drought conditions, it is recommended to use as much as a 50/50 ratio of water and UAN as the spray solution. While there is not a grazing restriction, removing cattle seven days prior to application will allow the

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rye to recover and become easier to control.

In addition to controlling weeds, disease management has shown to have good yield savings the past few years. If applied timely, most commercially available fungicides have had good yield protection in OSU field trials. If only one application can be made it is best to apply late and protect the flag leaf. The OSU variety trials at Lahoma have shown an average yield increase of 22 to 27 percent the past two years, while more long-term data typically average about 10 to 20 percent yield increase compared to no fungicide. These trials evaluated more than 50 wheat varieties with and without a fungicide applied around the boot to flag leaf growth stage. Some varieties had good rust resistance and had little to no benefit to a fungicide application, while others had yield reductions of 20 to 40 percent.

Scouting fields will ultimately determine if there can be a benefit of a fungicide application, the disease has to be present. Knowing whether or not your wheat variety has good tolerance or resistance to leaf diseases is another factor to be considered. At the current wheat prices, if the wheat has a yield potential of at least 30 bushels per acre, then more than likely it will be economical to apply a fungicide.

Timely field scouting is the only way to determine if a pest is present and if an application of an herbicide, insecticide, or fungicide is warranted. The only way for one of these pesticides to protect yield and have a



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