



TEXAS COUNTY AG NEWSLETTER

September 2007 <http://countyext.okstate.edu/texas>

What Type of Grazer Are You?

By Jeff Edwards, Small Grains OSU Extension

Wheat prices are better than most farmers have ever seen. Of course, the trade-off is that fertilizer and fuel prices are also at record highs. This combination has many growers debating whether or not to graze wheat pasture this fall.

My first recommendation is to take a look at OSU Fact Sheet AGE212 *Should I Buy (or Retain) Stockers to Graze Wheat Pasture*. Dr. Damona Doye, Roger Sahs, and I updated this publication last year. So, the information is current and filling in your data into the enterprise budgets should help you decide whether or not to graze this year. It is attached at the end of this newsletter, or you can obtain a copy at your local county extension office.

Whether or not to graze wheat pasture is an important economic decision that should be based upon numbers, not emotion. Having said that, it is also important that growers consider where their particular area of expertise lies. I think dual-purpose wheat producers can be divided into three categories: **Cowboys, Opportunists, and Optimizers.**

- **The Cowboy** - I would characterize this group as the ranchers whose livelihood is largely based around cattle, but if conditions are right they might cut a little wheat too. Based on prices, these individuals are likely debating if 2008 might be one of the years they *want to cut a little wheat*.

Probably the first question the cowboy should ask is *why did I switch to a cattle-oriented system in the first place?* If the switch was made because you got tired of fighting problem weeds like Italian ryegrass, then trying to produce grain in 2008 will be difficult because these problems have likely not gotten any better over the years.

The second consideration should be *am I willing to devote the time and resources necessary to produce a grain crop?* If you have not fertilized for grain production or purchased grass-weed con-

trol in the past few years, you are likely to **have sticker shock this year; however adequate** fertility and good weed control will be essential to producing a profitable grain crop.

In summary, I am a firm believer in focusing on what you do best. If you are good at managing cattle and have made money managing cattle in the past, it is likely that continuing to focus on your cattle operation will be your best option in 2008.

- **The Opportunist** - The opportunist is the polar opposite of the cowboy. These are the individuals that consider themselves wheat farmers, but if conditions are right they might graze a few acres or take a few cattle in on the gain. And, similar to the cowboys, these individuals will likely be money ahead by focusing in on what they do best in 2008.

The primary consideration for these individuals is *what will grazing do to my grain yield?* For adequate forage production, wheat should be sown in mid-September (right now). The influence of planting date on wheat grain yield has been investigated in the southern Great Plains since the 1890s, and with very few exceptions, this research has shown that a mid-September sowing date has about 15-20% less yield potential than a mid-October sowing date.

So, that takes care of the planting date issue. The actual yield reduction associated with grazing, however, is much trickier. There are a lot of factors to consider here. First and foremost is stocking density. If wheat is only grazed down to a height of about 4-5 inches, it is possible that no yield reduction will occur. A 20-25% yield reduction, however, might result if wheat is grazed hard or is pastured under wet soil conditions. Essentially, the yield reduction is likely to be directly correlated to how hard you graze the wheat.

Finally, the opportunist should always remember that grazing wheat pasture is not free.

OSU research has indicated that it takes approximately 30 lb/ac of nitrogen to grow 1,000 lb/ac of forage or 100 lb/ac of beef. This must be replaced to ensure adequate fertility for the grain crop.

- **The Optimizer** - I consider the optimizer to be the true dual-purpose wheat producer. If the numbers look better to run cattle, the optimizer chooses this option. If the numbers look better for grain, they back off of cattle and grow more grain. Therefore, the optimizer requires good records and a sharp pencil to determine which option is best each year.

All of the considerations that I have pointed out for the cowboy and the opportunist also apply for the optimizer. Cattle provide an extra stream of revenue but also create the need for increased inputs for the wheat crop. To help with crunching the numbers, I recommend using the **Wheat Stocker**

Planner Excel spreadsheet designed by Dr. Francis Epplin. Dr. Epplin recently updated some of the numbers this decision took, and I have attached it to the email distribution of this newsletter. It can be found at <http://agecon.okstate.edu/faculty/ffmr.asp> it is the last option under software.

So, what kind of grazer are you? Many of you have already made up your mind as to whether or not to graze wheat pasture this year. For those still riding the fence, I recommend you use the tools and materials include with this newsletter to help you make an informed decision.

I will also emphasize one last time the importance of going with the option that meshes best with your expertise. If you need a reminder of what can happen when people attempt something outside of their area of expertise, I recommend you go rent the last movie your favorite singer (country or rock) made.

Wheat Pasture Grazing Prospects

By Derrell S. Peel, OSU Livestock Marketing Specialist

As wheat producers struggle to get wheat crops established this fall, many are considering the prospects for grazing stocker cattle on wheat this winter. The continued high feedlot cost of gain makes forage based stocker gain more attractive and this is evident in the projected grazing budgets this fall. A stocker budget with typical assumptions is summarized below:

Winter Grazing, Early November - Early March

- Purchase 450 lb steers @ \$134/cwt
- Gain 2 lbs/day for \$0.40/lb of gain
- 2% death loss, \$12/head Vet/Med
- \$4.50/head/month other costs
- 10% Interest, \$15/head marketing
- **Sell 688 lb steers after 119 days**
- **Selling Breakeven \$112.69**

At the current time, March Feeder Futures are trading at about \$112.00/cwt. The March basis for a 688 lb steer is estimated conservatively at \$3.50/cwt, which means that it is possible to hedge a 688 lb steer now for sale in March at \$115.50/cwt.

The hedge price compared to the selling breakeven implies a return to the cattle of \$2.81/cwt or 19.33/head. For the wheat producer grazing owned wheat, the budget is also providing a return of \$0.40/lb of gain to the wheat pasture, which is an additional \$95.20/head. Thus the total return to cattle and wheat pasture is \$114.53/head.

Since some additional wheat production expense should be charged against the grazing enterprise to cover the additional seed, fertilizer and other wheat production costs for grazing, the producer may want to look at the grazing activity on a per acre basis rather than per head.

Assuming a stocking rate of 1.6 acres per steer (roughly 280 lbs of liveweight per acre), the wheat pasture returns above are equal to \$59.50/acre and the total return to cattle and wheat pasture is \$71.58/acre. These returns should be evaluated against the additional wheat production costs and potential yield losses associated with grazing.

The budget above also includes a labor charge for animal care so the producer providing all the labor for stocker production is also paying himself about \$12.00/head (or \$7.50/acre) in labor returns in this budget.

The projected returns in this budget are based on hedging March Feeder cattle at current futures prices. If a producer does not actually edge the cattle, there is risk that the feeder cattle market in March will not be at the levels projected in this budget. There is a significant risk of another corn price shock to feeder cattle markets in the spring. If it happens, it may not last very long, but the timing may be critical given the need to remove wheat pasture cattle at first hollow stem. The market today offers an opportunity to significantly reduce this risk by forward pricing the cattle with a futures hedge or perhaps by forward cash contracts with feedlots. Producers are advised to consider risk management needs as well as return potential when evaluating wheat pasture grazing prospects this fall.

Start Looking for Fall Armyworms Now

By Tom A. Royer, OSU Extension Entomologist

Two years ago, we had a large outbreak of fall armyworms in winter wheat. I have received reports of fall armyworm moths flying in large numbers in some areas of Oklahoma. Jeff Edwards reports that a field of wheat at our experiment station was “overrun” with small fall armyworm. We have experienced large infestations of fall armyworm in sorghum this year and we have had favorable weather for populations build-ups of fall armyworm numbers throughout this past summer. Such large and noticeable numbers of adult moths increase the potential that we will see another generation that could cause some serious problems for seedling wheat.

Fall armyworms can kill seedling wheat, so newly planted wheat fields need to be carefully watched for several weeks after seedling emergence. To scout for fall armyworms, examine plants in several locations within the field. Fall armyworms are most active in the

morning or late afternoon. Look for leaves that seem to have had all of their green tissue removed which gives the leaf a “window pane” appearance. Examine some plants showing evidence of injury, and look in for small caterpillars in the whorl of the wheat seedling. When scouting, examine plants along the field margin as well as in the interior, because they often move in from road ditches and weedy areas. The suggested treatment threshold is 2 to 3 larvae per linear foot of row.

Fall armyworms are most easily controlled when they are small (less than ½ inch). Several insecticides are registered for control of fall armyworm in wheat, including gamma cyhalothrin (Proaxis) at 2.56-3.84 fl oz/acre, cyfluthrin (Baythroid XL) at 1.8-2.4 fl oz/acre, lambda cyhalothrin (Warrior) at 2.56-3.84 fl oz/acre, methomyl (Lannate LV) at 0.75-1.5 pint/acre, methyl parathion 4E at 1.5 pint/acre, spinosad (Tracer) at 1.5-3 fl oz/acre and zeta cypermethrin (Mustang MAX) at 3.2 -4 oz/acre. Remember to follow all label restrictions.

How Valuable is Your Hay?

A survey conducted by the Oklahoma Cooperative Extension Service indicated that approximately 25% of forage-livestock producers purchase at least some hay every year, whereas an additional 50% reported purchasing hay on a less frequent basis. In spite of three fourths of Oklahoma forage-livestock producers frequently purchasing hay, only 16% report using forage and hay testing to determine the nutritional quality of hay produced on-farm or hay purchased off-farm. Based on the conditions this summer, there are several issues that should be addressed, but the key factor to be considered is hay quality. More often than not, low quality hay sells for the same price as high quality hay because a lack of awareness of the importance of quality. The major difference is that the low quality usually requires additional protein and/or energy supplementation which adds increased costs.

Is it better to purchase and feed a low quality hay or high quality hay?

To answer this question, we need two key pieces of information. The easiest piece of information to obtain is the animal nutritional needs. Nutrient requirements are not consistent for all classes of livestock, so we need some knowledge of their body weight and stage of production. For more information on nutrient requirements of beef cattle, please see OSU Extension Circular 974 *Nutrient Requirements of Beef Cattle* at <http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-1921/E-974web.pdf>. The second piece of information is the forage test results. At a minimum, it is important to know the crude protein (CP) and total digestible nutrient (TDN) values for hay supplies. During the winter hay feeding period, a general rule of thumb is that it will take about 1000 pounds of hay to feed a mature cow for 30 days (33 lbs of hay/per day), assuming none is wasted. The following examples can be used to help understand the relationship between forage quality and stage of production.

Example #1. In a 1000 lb bale of bermudagrass hay with 5.0% CP and 45% TDN, there are 50 pounds of CP and 450 pounds of TDN. An 1100 lb mature cow in the middle third of pregnancy requires 1.4 pounds of CP and 9.7 pounds of TDN each day. From a couple of simple calculations (Table 1), we can determine that the CP requirement is 291 pounds for 30 days. We can quickly determine that this hay should be adequate to maintain the 1100 lb mature cow in the middle third of pregnancy if her daily hay consumption is at least 28 lbs.

Table. 1 Relationship of the nutrients provided by bermudagrass hay and the comparison of nutrients requirements by animals during different stages of production.

Nutrients provided ¹		Monthly nutrients required ²			
		Middle 1/3 gestation		90 days post-calving	
CP	TDN	CP	TDN	CP	TDN
50 lbs	450 lbs	42 lbs	291 lbs	87 lbs	504 lbs

What happens when the nutritional requirements of an animal change?

Example #2. The nutrient requirements for this same 1100 lb cow the first 90 days after calving will require 2.9 pounds of CP and 16.8 pounds of TDN each day. Our quick calculations show that this hay is now deficient in both protein and energy for this animal when she is in a different stage of production (Table 1). Assuming she consumes 33 pounds of hay per day, both her protein and energy requirements will be deficient. Generally, it is difficult to make animals consume more than about 33 pounds per day of low quality hay. In this instance, both additional protein and energy will need to be provided to meet the nutritional requirements of this animal.

What is the result of purchasing and feeding supplement to an animal if it is not needed?

To summarize the key points, it is important to know the quantity of nutrients being supplied and the nutrient requirements of the animal. Then supplement any deficiencies that exist. It would require about 6 pounds/day of a 20% CP supplement to meet the 37 pound CP deficiency of an animal during the first 90 days after calving if she were consuming bermudagrass hay containing 5% CP and 45% TDN. This amount of supplement would also meet the TDN deficiency. At a cost of \$200/per ton for the supplement, the cost of supplementation of an animal during the middle 1/3 gestation would cost \$16.20/per cow/per month. In this example, over-supplementing a 50-cow herd for 90 days would result in unnecessary feed cost of \$2430.

Most forage quality analyses cost \$10 - \$20/per sample. It is difficult to assign an economic advantage to forage quality testing. However, the cost to determine if additional protein or energy feeding is needed would be recovered in fed cost savings or improved animal performance. Greater profit potential is the primary reason livestock producers need to know the quality of the forages they are feeding. It is also beneficial to determine the nutrient composition and expected potential animal performance from the forage. After forage quality has been determined, specific rations can be formulated and balanced for specific classes of livestock according to the nutritional requirements and desired performance for that class of livestock.

Forage quality requires proper sampling and interpretation to be of value. A forage analysis is the only way to determine whether or not additional supplementation is required. Also, feeding a large portion of hay for an extended period without a forage test should not occur due to the expense of providing supplemental feeds.



For more information contact your county extension educator; OSU Extension Fact Sheets PSS-2589 *Collecting Forage Samples for Analysis*; PSS-2117 *Forage Quality Interpretations* and The Soil, Water and Forage Analytical Lab at <http://www.soiltesting.okstate.edu/>.

Understanding the Chemistry of Beef Flavor

How does beef get its flavor? Meat is generally composed of water, proteins, lipids, carbohydrates, minerals and vitamins. Of these, proteins, lipids, and carbohydrates play primary roles in flavor development because they include several compounds capable of developing into important flavor precursors when heated. The factors that contribute to beef flavor include:

- **Cattle diets** -- High-energy grain diets produce a more acceptable intense flavor in red meats than low-energy forage or grass diets. More than 40% of the variation in beef flavor between grass- and grain-finished beef, unaged and aged, is attributed to diet.
- **Aging** -- Unaged beef has a weak, bland odor, while aged beef has a strong, savory, roasted odor. The conditions (oxygen availability, temperature, humidity and aging time) in which beef is aged affect the ultimate flavor. Aging in a high-oxygen environment can result in a burnt, toasted off-odor. In addition, dry aging increases or concentrates beef flavor more than aging in a vacuum or in carbon dioxide.
- **Enhancements** -- Brine injection, or enhancements, can improve the sensory quality of beef. Enhancement solutions often contain a form of phosphate to retain moisture, as well as salt to enhance flavor. Enhancement solutions can also contain flavor enhancers and ingredients. Enhancement generally ranges from 6-12% of initial product weight.
- **Off-flavors** -- Oxidation of meat lipids damages both odor and flavor of fresh, cooked, stored (refrigerated or frozen) and reheated meat resulting in rancid and/or warmed-over flavor. Oxidation can be initiated by light, heat, metals (iron and copper), myoglobin (the major pigment in muscle which contains iron) and some commonly used food ingredients. Cooking beef prior to storage accelerates lipid oxidation, which results in the warmed-over flavor. Warmed-over flavor can develop in pre-cooked frozen meats in a few days.
- **Heating** -- Heating develops flavor via browning, or maillard, reaction. Cooking temperatures affect these reactions. Heating at lower temps vs. higher temps results in a difference in the concentrations of a number of flavor compounds. In addition, cooking appears to affect umami- (a taste described as savory) related compounds by reducing the amount of free glutamate (amino acid) present. However, it's usually associated with cooked meat that's been refrigerated for 48 hours or less.

The checkoff-funded research reveals the secrets for a successful steak are in a combination of careful animal handling/feeding, proper aging, injections and good cooking.

From: The Beaver County OSU Extension Newsletter, October 2007



If you buy your pumpkins early, there are some tricks to make them last. Make sure the pumpkin was harvested before the rind developed a waxy layer to keep the pumpkin from drying out and shriveling. Pumpkins also keep better in cooler weather, and not the 80s and 90s that we have experienced recently.

Even mature pumpkins may be helped by a light application of spray wax or similar material. Several commercial sprays are available that have been specifically developed for preserving pumpkins. These contain a wax to prevent drying and a surface disinfectant to discourage rots and molds.



*Hope your having a great
fall harvest - and
another profitable one
like
the wheat!!!*

Steve Kraich, Ag/4-H Educator
Texas County OSU Extension Service

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Texas County Cooperative Extension Service
Oklahoma State University
P.O. Box 320
Guymon, OK 73942