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Agriculture

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Beaver County OSU Extension

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Maintaining Cattle Immediately After a Wildfire

Dana Zook and David Lalman

Wildfire can leave a ranching operation without forage, requiring a sudden and radical change in management to maintain animals immediately after the event. Fortunately, the ruminant animal is resilient, having the ability to adapt to a wide range in diet composition as well as feeding management. With that in mind, several stop-gap nutritional management strategies are provided below. These are intended as alternatives to minimize stress and weight loss in cases where standing forage or hay is non-existent or very limited.

These emergency nutritional management programs are based on a limit feeding strategy because a) digestive upset and founder can occur when concentrate feeds are overfed to unadapted animals, and b) it is assumed the hay resource will be limited for the next several months until pasture green up occurs. Limit feeding hay dramatically reduces hay waste and stretches the precious forage supply.

In cases where there is no forage immediately available, a low-protein, low starch commercial feed product can be used for a short period to minimize weight loss until hay can be secured. Many commercial feed companies produce and inventory calf creep feeds or a growing ration/feed with similar characteristics. These products will generally contain around 12 to 14% protein and 8 to 12% crude fiber. Some of these feeds are pelleted and some are textured (not pelleted). Another advantage with this program is that many companies keep an inventory of this type of feed bagged and ready to be shipped immediately. Feeds with these characteristics can be fed daily at around 0.6% of body weight to minimize weight loss in pregnant beef cows. This feeding rate is equivalent to 8 pounds of feed per day assuming cows weigh about 1,200 pounds. The low feeding rate is intentional because a sudden switch from free-choice forage to a grain (or concentrate) diet can result in digestive upset and founder. The risk is increased tremendously if the concentrate is overfed to animals that are not adapted. Therefore, this program should be used no more than four or five days because weight loss will be occurring (due to the limited feeding rate), minerals will not be balanced, and the roughage component in the diet is not adequate to maintain long-term health of the cattle. The cattle should be fed every day and at about the same time each day. Weight loss should be limited to about 0.75 to 1 pound per day until hay or another forage source can be provided.

Once hay is available, priority should be given to providing enough long-stemmed hay to keep the rumen healthy and provide a balanced diet to sustain the animals until adequate spring forage is available. If hay supply is limited, the inventory can be stretched by using a limit feeding strategy.

One method is to provide very limited hay (about 0.5% of body weight) plus about 1% of body weight concentrate feed like the creep feed product mentioned above. Cattle must be fed both the hay and the concentrate every day. Be sure both feed sources are distributed far enough to allow all animals abundant access. Begin feeding about 8 pounds of concentrate and gradually increase the amount to 12 pounds.

If hay is more abundant, 15 pounds of grass hay fed with 5 pounds of a 28 to 32% range cube can maintain a 1,200-pound cow in the last trimester of pregnancy. Again, the hay should be rolled out to ensure each animal has equal opportunity to consume their share of the limited hay resource. The cattle must be fed every day and again, it is recommended that cattle be fed about the same time each day.

In both cases the priority is to meet nutritional needs while stretching the hay supply.

Producers should consider working with their feed industry professional and/or Extension Educator to ensure a well-balanced diet. In most of these limit-feeding scenarios, a mineral supplement with a high level of calcium is essential to offsetting high levels of phosphorus in concentrate feeds. Wheat pasture mineral is a good option for this, but producers should also ensure that salt and vitamin A are also included in the diet. As always, a source of clean, fresh water is paramount to all other feed sources.

First Hollow Stem: A Critical Wheat Growth Stage for Dual-Purpose Producers

By Amanda de Oliveira Silva

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Oklahoma farmers sow approximately six million acres of wheat annually. Anywhere from 40 percent to 60 percent of these acres are grazed by cattle during the winter. Producers wishing to graze wheat and subsequently harvest grain must decide when to remove cattle from wheat pasture. Grazing too long will reduce wheat yields, but removing cattle too early will reduce profit potential of the stocker cattle enterprise. Finding the correct balance between these two factors has been the subject of investigation for decades.

As early as the 1930s, Kansas State University researchers published Extension bulletins indicating that cattle should be removed from wheat pasture by jointing. Oklahoma State University researchers investigated the issue further in the early 1990s and found that if profitability of the overall wheat stocker cattle enterprise was the primary goal, removing cattle from wheat pasture by jointing was too late. They identified first hollow stem as the optimal wheat growth stage for removing cattle from wheat pasture. The purpose of this fact sheet is to explain why first hollow stem is the best time to remove cattle from wheat pasture, provide details on how to identify first hollow stem, and discuss some of the environmental and physiological factors that determine when first hollow stem occurs.

Importance of First Hollow Stem

Wheat intended for grazing is generally sown in early September. Due to this earlier-than-optimal sowing date, grazed wheat will generally yield less than nongrazed wheat sown in mid-October. Since dual-purpose wheat producers are already dealing with reduced yield potential, as compared to a grain-only system, it is extremely important to protect the yield potential present by removing cattle from wheat pasture prior to first hollow stem. As shown in Figure 1, the average grain yield reduction from grazing wheat pasture past first hollow stem depends on several factors.

Studies conducted at the Wheat Pasture Research Unit near Marshall during the early 1990s and at Stillwater during the 2003 and 2005 crop years have shown that grazing past first hollow stem decreases grain yield by as much as five percent per day or as little as one percent per day. The amount of green leaf area left after grazing, for example, will significantly impact wheat recovery after grazing. Green leaf tissue is the factory that powers wheat growth. The more green leaf tissue left at grazing termination, the greater the yield potential. So wheat pasture that is not grazed as hard or that was not grazed during muddy conditions will recover from grazing more quickly than wheat that is grazed short or stomped into the ground. Ideally, there should be a minimum of 60% canopy coverage (measured from the Canopeo app) left to allow the crop to recover from grazing (PSS-2170: extension.okstate.edu/fact-sheets/dual-purpose-wheat-improving-grazing-management-using-a-smartphone-app.html)

Grazing past first hollow stem has been shown to reduce grain yield by as much as 5% per day or as little as one percent per day. Factors such as variety, grazing intensity and

environmental conditions will determine the actual yield penalty for grazing past first hollow stem. This figure shows the anticipated yield loss for grazing past first hollow stem given favorable (solid line), unfavorable (dashed line) and average (dotted line) conditions for wheat regrowth following grazing termination.

Cool, wet conditions after cattle removal are favorable for wheat recovery. These environmental conditions allow the wheat plant extra time to regain some of the vegetative growth lost to grazing prior to switching to reproductive mode. So an additional two weeks of grazing past first hollow stem could cost the producer as little as 14% or as much as 58% of original yield potential. In most circumstances, the additional cattle weight gain from grazing past first hollow stem would not be sufficient to offset the loss in grain yield. To determine the economic impact of grazing past first hollow stem on your farm, consult the Oklahoma Graze Out Decision Aid available at AGE-263 (extension.okstate.edu/fact-sheets/agribusiness-management-series-oklahoma-wheat-stocker-graze-out-decision-aid.html).

What Determines When First Hollow Stem Occurs?

First hollow stem is affected by genetic and environmental factors. Varieties can differ by as much as three weeks in onset of first hollow stem, and later maturity varieties generally reach first hollow stem later. OSU researchers measure and record dates of first hollow stem of popular wheat varieties each year.

Data is also used to classify varieties as either very early, early, medium, late or very late in occurrence of first hollow stem. These ratings can be found at the OSU Small Grains website (extension.okstate.edu/programs/wheatresearch-and-extension/variety-testing/forage-yield.html) and Extension Fact Sheet PSS-2142 Wheat Variety Comparison. Dual-purpose producers are encouraged to select varieties that are rated as medium, late or very late in occurrence of first hollow stem.

Early-sown wheat will reach first hollow stem earlier than late-sown wheat. Moderate conditions during the winter months and adequate rainfall also promote earlier onset of first hollow stem. Due to the strong effects of planting date and environment, it is extremely difficult to accurately predict the onset of first hollow stem with weather data. So the most reliable method of determining first hollow stem is to check every field and check often.

Checking for First Hollow Stem

To check for first hollow stem, go to a nongrazed area and pull four to five plants. Plants must be dug up to check for hollow stem because much of the hollow stem present at this time is still below the soil surface. Hollow stem must be measured from a nongrazed area in the same field because grazing delays stem elongation and when first hollow stem occurs. Good places to find areas of nongrazed wheat are field corners or nongrazed areas just outside of the electric fence.

Select the largest tillers on the plants. Split the stems open lengthwise starting at the base. A sharp razor or box cutter will make this job easier. If there is 1.5 cm (5/8 inch) of hollow stem below the developing wheat head (Figure 3), the wheat is at first hollow stem. Luckily, 1.5 cm is about the same as the diameter of a U.S. dime, making the dime a perfect measuring device for first hollow stem.

Soil Testing...the Right First Step

David Hillock

We all appreciate thick green lawns and lush productive gardens around the home. After all, attractive lawns and gardens add to both the aesthetic value and real value of our homes.

To achieve a high level of lawn quality and garden productivity, it is necessary to add fertilizer on a timely basis. When lawns and gardens don't receive the amount of fertilizer that they need, they never achieve the quality or productivity we anticipate. When too much fertilizer is applied, nutrients are wasted and pose a threat to the environment.

The true value of a soil test is to help ensure that only needed nutrients are added in quantities which don't adversely affect environmental quality.

The best time to test the soil is during a time when plants aren't growing, although any time of year is satisfactory. In any case it is better to have the soil tested rather than guess which fertilizers to use and how much to apply. To make sure the test is accurate, sample the soil before fertilizer has been applied and follow proper collection procedures.

A soil test is only as good as the sample submitted for testing. Samples collected should represent the lawn or garden as a whole. The following steps will help in collecting good samples for submission.

- Scrape plant debris from the soil surface before sampling.
- Sample lawns to a depth of 3-4". Sample gardens to a 6" depth.
- Use a clean bucket or other container and a soil probe or spade; collect cores or slices of soil from at least 15 different areas scattered throughout the lawn or garden and mix them together in the container.
- Mix soil thoroughly and fill the sample bag (bag can be obtained from your OSU County Extension Office) with a pint of the mixture.
- Submit samples and the completed information sheet to your OSU County Extension Office. They will send samples into the OSU Soil, Water, and Forage Laboratory for testing and then help you interpret the results.

Soil testing doesn't need to be every year, every three years is often sufficient for most home gardens. The benefits of soil testing are many – it takes advantage of nutrients already in the soil, identifies nutrients that are lacking, reduces fertilizer applications, provides a proper balance of plant nutrients, allows adjustment of soil pH to an optimum level, and reduces chances of excess nutrients getting into the water sources.

For more information about soil testing contact your OSU County Extension Office or pick up the leaflet [L-249 Soil Testing...the First Right Step](#).

Upcoming Extension Opportunities

**Paul Beck, Oklahoma State University Extension
Beef Cattle Specialist**

We have some excellent Extension events coming soon to help keep everyone updated on current technologies, management, and economic conditions throughout the region.

The Oklahoma State University Beef Cattle Extension team has announced a Rancher's Thursday Lunchtime Webinar Series "Successful Timed AI Programs in Commercial Cow Herds" beginning on February 8th meeting weekly through February 22nd. These free Zoom webinar sessions are scheduled for Thursdays at noon. The sessions on February 8 and 15 feature Dr. Guillermo de Nava who operates a highly efficient and innovative breeding program in Uruguay with the ability to artificially inseminate hundreds of cows per day. The final session on February 22nd features Dr. Richard Prather, who will talk about his successes in using timed AI programs in commercial herds in northwest Oklahoma. Register for this event at: [Rancher's Thursday Lunchtime Series Webinar Registration](#). For more details visit: [OSU Beef Extension](#).

The Cooperative Extension Service from Kansas State University, Oklahoma State University, University of Missouri, and University of Arkansas are providing a joint conference in Missouri and Oklahoma titled the [KOMA Beef Cattle Conference](#) located at the MU Southwest Research Extension and Education Center (14548 State Rd H, Mount Vernon, MO 65712) on February 12 and on February 13th at the Donald W. Reynolds Community Center (105 Reynolds Ave. Poteau, OK 74953).

"This year's conference will update the public on recent research from the 4 universities in cattle feeding, supplementation, reproduction, and grazing management," says Patrick Davis MU Extension Regional Livestock Field Specialist. These presentations will be given by university agricultural graduate students and professors. In addition, there will be a keynote presentation given by James Mitchell who is an extension livestock economist with the University of Arkansas Division of Agriculture. A catered lunch will be provided by MERCK Animal Health, snacks and drinks will be provided throughout the day.

To attend the event, register and pay the fee prior to February 8th. Fee for the event is \$20 per person. No refunds for cancellations after the registration deadline. For the Mt Vernon, Missouri site register online at [KOMA Beef Cattle Conference](#). To attend at the Poteau, Oklahoma site register by February 7th [LeFlore County Extension KOMA Beef Cattle Conference Form](#) or email Liana Jones County Extension Ag Educator at [Liana Jones](#).





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OSU EXTENSION
4-H YOUTH DEVELOPMENT

CALENDAR

March 5 Beef Producers Program
March 19OK Grazing Lands Coalition
Aug 21-24..... Beaver Co. & 4-H Fair

SLAPOUT FIRE ASSISTANCE

**CONTACT
FSA OFFICE AT
580-625-3302 EXT 2
OR
LOREN AT THE BEAVER CO. EXTENSION OFFICE
580-625-3464**

BEEF PRODUCERS PROGRAM

MARCH 5, 2024 6:30PM

Ashland VFW @ 201 W. 8th Ave, Ashland, Kansas

RSVP by February 29, 2024 @ 620-635-2811 or

email Amber at aagraff@ksu.edu

**CHECK OUT MORE INFORMATION FROM COW/CALF
CORNER AND HORTICULTURE TIPS on this link**

<https://extension.okstate.edu/topics/>

Each section will give you a specific list where you can search what you are looking for.

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"Persons with disabilities who require alternative means for communication or program information or reasonable accommodation need to contact Liz Gardner McBee or Loren Sizelove at 580-625-3464 or beaverext@okstate.edu at least two weeks prior to the event."