



**BEAVER COUNTY  
EXTENSION**

# Agriculture

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Beaver County OSU Extension

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## Open or not?

Rosslyn Biggs, DVM, OSU Cooperative Extension State Extension Beef Cattle Veterinarian  
Dana Zook, OSU Cooperative Extension Northwest Area Livestock Specialist

The three primary methods to evaluate pregnancy in cows include rectal palpation, reproductive tract ultrasound, and blood testing. In 2017, the USDA National Animal Health Monitoring System Beef Cow-Calf Study evaluated the number of operations that utilized pregnancy checking. Although percentages were higher as herd size increased, across all operations only 19.3% used palpation, 8.8% used ultrasound, and 3.5% used blood testing for pregnancy evaluation. Producers who choose not to evaluate pregnancy status undoubtedly leave money on the table below.

Historically, rectal palpation has been the industry standard and is currently the most common pregnancy testing method in the region. The reproductive tract and/or the fetal calf is manually palpated to determine pregnancy status, approximate age of the calf, and identify any physical issues that may exist in the reproductive tract or pelvis of the cow.

Ultrasound is another option to identify pregnancy as early as 21 days with high reliability at 28 days or more. Fetal age can be determined earlier than palpation alone and depending on the stage of pregnancy with more accuracy using ultrasound. Ultrasound also provides the opportunity to determine sex and potential physical abnormalities of the fetus and cow. It is important to note, both palpation and ultrasound require highly specialized training and may only be performed by those legally able to do so as outline by a state's veterinary practice act.

Blood sampling is the final option for pregnancy testing. Unlike humans, cows do not excrete a pregnancy identifier in urine. These tests detect pregnancy glycoproteins in the blood, and most can detect pregnancy reliably at 28-29 days. A skilled producer can obtain blood samples for cows and the blood pregnancy test can be done chute side with a result within 20 minutes, or the blood sample can be sent to a lab.

There are advantages and disadvantages to each option. Producers should consult with their veterinarian on which method fits the needs of the operation. Blood testing may provide a convenience factor in some situations but does not replace the value of having a veterinarian involved in the herd. Pregnancy checking time traditionally opens the door for broader discussion regarding herd health and lays the foundation for establishing a valid veterinary-client-patient-relationship. If blood testing is the best option, the producer and their veterinarian should set aside separate time and resources to continue discussion on the operational needs and goals.

Comparison of Rectal Palpation, Ultrasound, and Blood Tests for Beef Cattle Pregnancy Diagnosis<sup>1</sup>

	Rectal Palpation	Ultrasound	Blood Test
Accuracy of Pregnancy Diagnosis	HIGH	HIGH	HIGH
Accuracy of Assessment of Fetal Viability	MODERATE	HIGH	NO
Determination of Fetal Age	YES	YES	NO
Determination of Fetal Sex	NO	YES	NO
Results Available Immediately	YES	YES	NO
Level of Training Required to Perform Diagnosis Method	HIGH	HIGH	MODERATE
Provides Opportunity to Discuss with you Vet other Animal Health Issues on your operation	YES	YES	NO
Establishes basis for Vet-Client-Patient Relationship	YES	YES	NO

[Dr. Mark Johnson explains the importance of reproductive efficiency on cowherd productivity on SunUpTV from October 7, 2023.](#)

## Money Saved Through Cost Effective Feeding—

### Part 2 (part 1 in Oct. newsletter)

**Mark Z. Johnson, Oklahoma State University Extension  
Beef Cattle Breeding Specialist**

Evaluating Money Saved When Purchasing Feed on Cost per Unit of Protein and Energy Basis Last week we broke down the cost per unit of protein and energy in 20% and 38% percent range cubes at current prices. This week we evaluate the money saved when purchasing feed on the cost per unit of protein or energy in order to meet a specific nutritional objective. The bottom-line point of this article is working through an example to determine the most cost effective ration or supplement based on the feeding or supplementation objective.

#### The Scenario & Objective

We have 60 mature cows, average weight of 1,300 lbs., due to calve in January, entering the last trimester of pregnancy, cows are in a Body Condition Score (BCS) of 5.5. We have ample standing forage in the form of native grass which forage analysis indicates is 5% CP and 55% TDN. On grass of this type, cows should consume 1.9 - 2.0% of their body weight resulting in forage dry matter consumption of 25 lbs./day. Knowing that reproductive efficiency is highly correlated to nutrition, our objective is for cows to maintain current weight and BCS until calving.

These cows will need 1.84 lbs. of CP and 13.3 lbs. of TDN per day over the next 100 days.

If possible we would like to maintain cows by utilizing the standing forage. Can this be done?

- 25 lbs. Forage DM intake x .05 CP = 1.25 lbs./day CP intake.  
1.84 lbs. CP required - 1.25 lbs. from the forage equals a daily CP deficiency of .59 lbs./day.
- 25 lbs. Forage DM intake x .55 TDN = 13.75 lbs./day TDN intake. There is no energy deficiency.

We have identified a supplemental need for protein. Research have consistently shown that protein supplementation is extremely effective for cattle grazing protein-deficient forage. In fact, energy supplementation will not be effective if dietary protein is deficient.

Now the question is: Which of the two protein supplements evaluated can most cost effectively meet our goal? The 20% CP range cubes at \$350/ton or the 38% range cubes at \$475/ton.

It would take 3 lbs./day of the 20% cubes to meet the CP requirement. For example: .59 lb. CP deficiency/.20 CP content = 3 lbs. We previously determined the cost per unit of CP in the 20% range cubes to be \$.875. Taking the .59 lb. CP deficiency x \$.875 = \$.52/day cost with 20% cubes to meet CP needs. This daily cost x 100 days of supplementation x 60 cows equals an expense of \$3,120.

It would take 1.58 lbs./day of the 38% cubes to meet the CP requirement. For example: .59 CP deficiency/.38 CP content = 1.58. We previously determined the cost per unit of CP in the 38% range cubes to be \$.625. Taking the .59 lb. CP deficiency x \$.625 = \$.37/day cost to supplement the cows with 38% cubes to meet their CP needs. This daily cost x 100 days of supplementation x 60 cows equals an expense of \$2,220.

Supplementing the 38% range cubes purchased at a cost of \$475/ton instead of the 20% cubes at a lower price per ton resulted in a savings of approximately \$900 to supplement the 60 cows for 100 days.

Unnecessary supplementation increases feed cost without real benefit. The goal of supplementation is to feed just enough of the right supplement to optimize the overall diet. Determining the most cost effective means of supplementing cows requires the evaluation of feeds on a cost per unit of protein and energy provided. Can you afford not to?

Computer software, such as OSU Cowculator program, can better pinpoint an animal's nutrient requirement at a specific time and in a specific stage of production. These and other useful tools can be found at [beefextension.com](http://beefextension.com).

## Supplementation Options when Wheat Pasture is Short

Paul Beck, Oklahoma State Extension Beef Cattle Specialist

Prospects for wheat pasture started off in good shape this fall with many areas getting late summer rains. However, most of the wheat grazing areas did not get adequate rains to push the emergence and growth of wheat pasture for most of the month of September and October. Most of the region got nice rains that will likely drive enough forage production on early planted wheat for grazing by mid-November or early December. Later planted wheat or wheat that had not emerged from earlier plantings will probably be severely delayed even with the latest round of precipitation in October.

What can we do to sustain stocking rates that support at least approaching our normal levels of production?

Setting stocking rates on wheat pasture in the fall and winter has large impacts on performance of growing calves and can have large influences on productivity of pastures during the spring. We have found that the maximum ADG could be expected at 5.0 pounds of forage dry matter per pound of initial calf bodyweight and ADG and if the initial forage allowance is restricted to 2.4 lb forage DM/lb initial calf bodyweight we can still see adequate performance of around 2 lbs/day. If forage allowance falls below 2 pounds of forage dry matter per pound of calf bodyweight, supplementation should be considered. If we use an average of about 200 pounds of forage per inch in plant height, a good stand of wheat that is 4 inches tall (800 pounds of forage dry matter per acre) will require stocking rates of about 2.5 to 3 acres per 500-pound steer for adequate season long performance.

Research from the OSU Wheat Pasture Research Unit at Marshall showed that providing a concentrate supplement (based on either corn or a soyhull/wheat middling blend) containing monensin at 0.65 to 0.75% of body weight (for example, 4 pounds per day for a 533-pound steer) increased potential stocking rate by 33% and weight gains by 0.3 pounds per day. This supplementation program can also be used to "stretch" wheat forage when pastures were 60 to 80% of normal, allowing for "normal" stocking rates. Recently, we stocked steers on wheat pastures at forage allowances of either 1.5 or 3 pounds of forage DM/pound of steer bodyweight with or without 3.3 pounds per day of a wheat middling/soyhull feed blend. Steers on the higher forage allowance (3.0 lbs forage DM/ lb steer bodyweight) with supplementation gained the most (3.8 lbs/day) while unsupplemented steers on the higher forage allowance gained 3.6 lbs/day. Supplementation increased gains more for steers at the lower forage allowance where gains of steers stocked at forage allowance of 1.5 lbs forage DM/lb steer bodyweight increased from 2.5 lbs/day to 3.2 lbs/day with supplementation.

Intake of low-quality roughages is not high enough to offset wheat forage intake and can reduce performance of growing calves. Research has shown that offering moderate to high quality roughages such as corn silage or sorghum silage or round bale silages can be used to replace short wheat pasture or double stocking rates on wheat pastures. Early research showed that feeding corn or sorghum silage daily to calves on wheat pasture allowed stocking rates to be increased by up to 2X without reducing steer performance. We repeated this research by offering bermudagrass round bale silage to steers stocked at 1, 1.5 or 2 steers per acre with forage allowances going from 2.9 to 1.2 lbs forage/lb of bodyweight. Offering round bale silage at the lowest stocking rate actually increased gains compared with steers at the same stocking rate without silage (3.15 vs 2.79 lbs/day). As we increased stocking rate, average daily gain decreased, but total gain per acre increased by 52%.

There are some feeding options available to us when the economic conditions are right, but forage conditions are lacking. Feeding either limited concentrate supplement or moderate quality roughage during the fall can increase production stability and thus improve economic stability of the wheat stocker enterprise. There does not appear to be economic advantage of feeding stockers grazing spring wheat when producers decide to forgo wheat grain harvest and steers graze out the wheat crop.

# Controlling Insects in and Around the Home

David Hillock

The first important step in the process of insect control is to identify the insect that is present so that the proper control procedure will be used. OSU county extension educators and pesticide dealers can help identify the pest for the homeowner, or the pest may be sent to the OSU Entomology & Plant Pathology Department for identification.

Sanitation and good housekeeping are possibly the most important aspects in controlling or preventing pests, but even well-kept homes sometimes become infested. The homeowner can usually control light infestations of pests in the house by carefully following directions on the pesticide container and by doing a thorough job of application.

Certain pests found outside may be eliminated before they enter the home. (For information on control of pests outdoors, refer to OSU Extension Fact Sheet [EPP-7306](#)). However, some insects live entirely within the home, where they must be controlled by applying spray, dust, bait or aerosol pesticides to areas where they are most frequently found. If the infestation is severe and widespread, it is advisable to employ the services of a pest control firm, which has pesticides and application equipment not generally available to homeowners.

For more information on pesticides and their use in and around the home see OSU Extension Fact Sheet - [EPP-7312 - Household Pest Control](#).

## Safety Tips

- Read and follow all directions on the container label.
- Avoid repeated or prolonged contact of insecticides with the skin and prolonged inhalation of spray mist.
- Do not spray oil solutions near an open flame (pilot lights).
- Do not risk contaminating food by treating near food, dishes or cooking and eating utensils.
- Dispose of empty pesticide containers, and do not puncture or incinerate aerosol or pressurized spray cans.
- Store insecticides in the labeled original containers, in a dry place where they cannot contaminate foodstuffs and where children and pets do not have access to them.
- After using pesticides, always wash your hands and face and any other exposed body areas.
- For further information on handling, mixing, and applying pesticides, consult your area or state extension entomologists, visit your local county extension educator, and/or refer to OSU Extension Fact Sheet [EPP-7450](#) for information on safe use of pesticides.

## Prevention and Control Hints

- Before applying insecticides for pest control, the homeowner can help ensure better control by doing the following:
- Clean out areas that make good homes for the pests.
- Clean up areas that collect grease, food scraps or other spillage which might provide a food source.
- Eliminate excessive storage boxes from the attic and garage and clean up foliage or other hiding places from around the outside foundation of the house.
- Seal up cracks and crevices around the home to keep insects looking for a place to hibernate over the winter from entering the home.
- If grain or flour pests are present, locate the infested material. Go through all cereal boxes, flour, beans, dry pet food, and spice containers until the infestation source is located. Dispose of the infested material, then a light application of

pesticide.

- Carefully check newly purchased dried foods for insect infestations, and store foods in tightly sealed glass, plastic or metal containers rather than in sacks, bags or boxes.

**NOTE on ultrasonic electronic or sound control devices: To date, these devices have not been proven to be effective or practical.**

## Houseplant Care

David Hillock

With cooler temperatures of fall and winter fast approaching our gardening interest often turns from plants outside to plants indoors. Success with houseplants is governed by one's careful management of light, temperature, water, nutrients, and humidity, along with using the proper potting medium.

**Light** – Very few plants tolerate dark corners. Most houseplants require the light that would be found within four to eight feet of a bright south window. Some will tolerate a spot very near the window, while others will prefer less light some distance away. Too little light can result in tall, lanky, small-leafed plants. Too much light can cause leafburn on sensitive species like African violet. If the room is not naturally lit, artificial lights should be used.

**Temperature** – Most houseplants prosper in a temperature of 65°F to 75°F, but the humidity of the average home is too low to suit them. A plant prospers in relative humidity of about 50 to 60 percent, which is more than most people like. This can be helped by using a humidifier or by setting the pot on a tray of moist gravel or pebbles. Do not allow the water to touch the bottom of the pot, as the water would then be wicked into the potting medium and keep the plant too wet.

**Watering** – More houseplants succumb to improper watering than from any other single cause. In general, most houseplants need to be thoroughly watered and then allowed to nearly dry before the next irrigation. Use tepid water when watering houseplants. Enough water needs to be poured over the potting medium to allow water to drain freely through the drain hole at every watering. If water does not drain out the bottom, rewater until it drains freely. Never leave a houseplant standing in water, as this will cause the roots to rot.

**Drainage** – Drainage is an integral part of watering a plant. Do not include aggregates in the bottom since the aggregate actually slows water's movement through a pot. If a decorative, drainless pot is desired, it would be better to use a "pot within a pot" technique: pot the plant in a container with drain holes and then set that into the larger, decorative pot. Never allow excess water to collect in the outer pot.

**Potting Medium** – Consult your local garden center, greenhouse or florist for help selecting an appropriate potting medium. It is important that the potting medium has good water holding capacity yet is loose enough to promote good drainage and aeration.

**Fertilizers** – The easiest way to fertilize your houseplants is while watering. Select a houseplant fertilizer and dilute according to label directions. Houseplants can be fertilized at every watering with a very dilute rate or fertilized at a slightly higher rate once every third or fourth watering. Do not fertilize as often or as much in the winter, in dimly lit rooms or in potting mixes that contain soil.

For more information about growing and maintaining houseplants see OSU Extension Fact Sheet [HLA-6411 - Houseplant Care](#).



Beaver County Extension Office

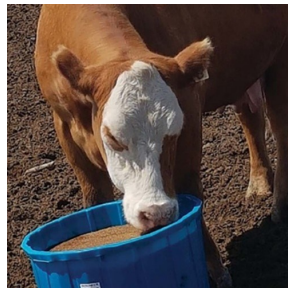
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### CALENDAR

NOV 20.....Beaver Co. JR Livestock Trophy Auction  
 NOV 29..... Panhandle Beef, Cow/Calf Conference  
 NOV 30..... Private Pesticide Applicator CEU Course  
 DEC 12..... Private Pesticide Applicator CEU Course  
 FEB 10 ..... BEAVER COUNTY Stock Show



IF YOU HAVE NOT CONTACTED OUR OFFICE WITH YOUR 911 ADDRESS PLEASE EMAIL OR CALL OUR OFFICE; we are trying to update our records.

beaverext@okstate.edu or 580-625-3464

**November 29, 2023**

**Panhandle Beef, Cow/Calf Conference  
Bring your Cattle Feeder for Calibration**

**10:30 am and Lunch Provided**

**Beaver County Fairgrounds**

**Please RSVP the Beaver Co. Extension Office at 580-625-3464**

**Last TWO Private Pesticide Applicator  
CEU Courses of the year**

**NOVEMBER 30, 2023 2 HR CEU**

**DECEMBER 12, 2023 6 HR CEU**

**RSVP at the Extension Office 580-625-3464**

***HAPPY THANKSGIVING***

**BEAVER COUNTY EXTENSION OFFICE WILL BE  
CLOSED**

**NOVEMBER 23 & 24, 2023**

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