

Helping Bred Heifers Brave the Cold

Bred heifers need more care and nutrition during winter months.

by Heather Smith Thomas

A bred heifer needs enough nutrition to support her growth, as well as that of her growing fetus. This means, bred heifers often need additional support over the winter, according to Shannon Williams, University of Idaho Extension educator.

“A heifer has many demands on her nutritional plate. Nutrition is the most important aspect of winter management. No matter what you are feeding (hay, silage, concentrates, winter pasture or a mix of various feedstuffs), make sure you are meeting those needs, which will change as the heifer gets farther along in pregnancy,” she notes.

A bred heifer that is eight months into her gestation will have different nutritional requirements than a female that is just two or three months along.

“The nutritional scale is constantly changing as the fetus develops (with highest demands during the final trimester), because the heifer is growing, getting ready to calve and preparing to produce milk afterward,” Williams says.

The calving season also affects winter feeding; fall-calvers or May-June calvers will be in earlier stages of gestation than February-calvers, which require more nutrients.

Research on fetal programming, or the concept that a mother’s nutrition during gestation can have long-term effects on her offspring, adds more importance to properly wintering bred heifers.

“We realize that what we feed the pregnant heifer or cow will influence how her calf performs after birth — as a growing calf, in the background lot, in the feedlot or as a mature animal,” Williams says.

Know your feed

Feeding decisions start with knowing the nutrient values of the feed — protein levels, energy, mineral profiles, etc. Purchased and homegrown feeds can change from year to year depending on weather conditions, soil fertility, maturity, harvesting timeliness, etc. Producers must know if their hay is adequate in protein for a growing, pregnant heifer or if they will need to add supplement.

“If heifers can stay in your herd longer because you fed them properly during their first couple years, testing feeds is a good investment,” Williams says. “When you look at the cost of developing a heifer — your investment to get her to that first calf — you don’t want to pay that money again (to develop another heifer to replace her) just because you didn’t meet her nutritional demands, and she comes up open after her first calf or breeds back late.”

Checking the nutrient values of hay and available forages helps producers make informed winter

feeding decisions. For example, producers may save their higher protein hay for younger, still-growing cattle. Holding back high-protein hay for later in the winter season can also save the best available forages for times when bred heifers may be later in gestation or early in lactation. Whereas, mature cows, 4-years-old and older, can more easily maintain their condition and pregnancies on lower quality forages.

“If you are purchasing feed, ask for a feed analysis before you buy it. You need to know protein level (sometimes certain mineral levels) and nitrate levels, especially if it’s oat hay or any cereal hay. Even if you buy from the same forage producer every year, these levels can change dramatically with different growing conditions,” Williams says.

It pays for producers who plan to winter cattle on pasture or crop residue to take samples (with grass trimmers) in for testing. “Observe what the cattle are actually eating and take samples of those plants,” Williams says. “Sometimes producers bring me samples to send to a lab, and I wonder whether their cattle are really eating those plants. If you sample what cattle are actually eating, your sample will be more accurate and the information more useful.”

Manage for the weather

Feeding forage generates body heat during winter weather. Cattle need windbreaks and more feed just to keep warm during harsh winter weather. Necessary energy can usually be supplied by forages. The fermentation breakdown of roughage in the rumen produces heat. If cattle don’t have additional energy during cold weather, they rob body fat to keep warm, and they lose weight.



Bred heifers often need supplemental winter nutrition to maintain their body condition, growth and pregnancy.

During cold weather, Williams says cattle should be given all the hay they will clean up, or a protein supplement on dry pastures — to encourage them to eat more. As long as the protein level in the diet is adequate (to “feed” the rumen microbes), they can process/ferment sufficient roughage to provide energy and body heat. She also suggests having a contingency plan for extra feed for really cold days or blizzard conditions.

Winter the bred heifers separate from the cow herd since their nutritional needs are different.

Save the best pasture for the bred heifers or divide a winter pasture with temporary electric fencing to provide the bred heifers with a supplement — such as a lick tub or alfalfa hay — that the mature cows don’t need.

“If you provide a protein or mineral supplement to augment deficient pastures, monitor intake to make sure they are eating the amount recommended. Just putting a tub out, you don’t know if they are over-eating or under-eating or if some individuals are consuming more than their share, keeping timid ones away,” Williams says. “If cattle are consuming too much or too little, call your feed or mineral rep, to re-mix the ingredients to either slow or speed their consumption.”

She considers alfalfa hay to be one of the best protein/mineral supplements for bred heifers, but the time and fuel it takes to start the tractors and/or trucks required to feed each day (or every other day) make it less convenient than lick tubs which may last for several days. Not to mention, cattle wintering in rough or rugged pastures, where producers can’t take a truck or tractor. In this instance, it may be more feasible to supplement via tubs or blocks that can be transported with an ATV.

Sparse nutrition doesn’t equal easy calving

Remember, the fetus grows fastest in late gestation, and research shows that bred heifers calving after a cold winter tend to have heavier birthweight calves. This is because more blood is shunted to internal organs rather than extremities to maintain the heifer’s body core temperature. Since the uterus has more blood flow when this happens, more nutrients are available to the growing fetus.

Some producers cut back on pregnant heifers’ feed in late winter, to try to have

Considering body condition

Think about body condition first, says Karl Hoppe, North Dakota State University Extension livestock specialist.

“We need to be thinking 6 months in advance in terms of the body condition we want them to be. If they’ve already lost weight, it can be too late to catch up, unless a person has a lot of silage and feeds a ‘finishing’ diet. We don’t encourage that for heifers,” he says.

Producers must also ensure that bred heifers are receiving the proper vitamin and minerals. Calcium and phosphorus, in proper proportion, are needed for bone growth. Correct levels of magnesium and potassium are also imperative. Vitamin A is often deficient in winter feed, so producers will need to give growing cattle green, leafy forages or a mineral mix including vitamin A.

“I want bred heifers gaining 1.5- to 2-pounds-per-day through the winter. If you have bad weather, like we often do in North Dakota, they need more feed to do that,” Hoppe says.

One problem he notes in North Dakota is ranchers are tempted to let cattle graze on crop residue or in pastures too long during the winter without adding supplemental feed.

“In a corn field, when you stop seeing corn kernels in the manure, you know the quality of that forage is poor; cattle are not gaining weight anymore. All they have left is rough stalks,” Hoppe says. “With bred heifers, if we try to save feed by getting them to graze more, they might be going backward, so we have to watch this closely.” **BA**

smaller calves and fewer calving problems, but Williams says this is a poor practice.

Even though a well-fed heifer that comes through a cold winter may end up having a slightly bigger calf (and possible dystocia), she and the calf will both be healthier than if she received inadequate nutrition.

“You don’t want heifers too fat when they calve, but you definitely don’t want to shortchange them. You walk a fine line on this,” Williams says.

It takes protein and energy for a heifer to grow a strong, healthy fetus and produce high-quality colostrum. Providing bred heifers with inadequate nutrition, hoping for easier calving not only sacrifices her health, but potentially her calf’s. The calf needs good colostrum, and the heifer needs adequate body condition or she won’t be able to produce milk and breed back.

“For calving ease, it’s more important to select the right bulls, and the right heifers — with genetics for easy calving and feed efficiency,” Williams says.

Other considerations

Other winter management considerations include timely vaccinations and parasite control. Deworming and delousing may be beneficial.

“Work with your veterinarian to create a good health management plan. This includes preg-checking. If you have a large herd and your calving season is more than 100 days, you may want to divide heifers into an early-calving group and a later-calving group to feed

differently. If you have some that will calve later than you prefer, you might market those to someone who calves later,” Williams says.

Frame score and body size may also affect how quickly replacement heifers breed and how much nutrition they require to maintain their weight and pregnancy over the winter. Williams urges producers to avoid extremes by culling both the smallest and largest potential replacements.

“Maybe you got by feeding ‘x’ amount of forage to heifers back then, but because you chose to keep your biggest heifers, the average size is creeping up, and you may need to feed them more,” she says. “Early feed recommendations were based on a 1,000-pound cow, but today most heifers weigh that much and become much larger than that as cows.”

Mature cow size has certainly crept up in the last decade, and it’s important for producers to keep track of how their bred heifers grow, breed, maintain their weight, etc. Williams encourages cattlemen and women to keep more bred heifers than their operation needs so they can cull the females that don’t quite work.

“If some don’t fit your environment and can’t perform the way you need them to, they are better off somewhere else — even in a box as beef. It’s survival of the fittest for what fits your place and management system, so monitor your heifers and make appropriate management decisions,” she says. **BA**