

Managing the Cow Herd During Tough Times

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In the past two calendar years we have seen seed, feed, fuel, fertilizer, and equipment costs increase dramatically. For beef producers, high input costs have challenged us to consider alternative feeding and management strategies to lower cost of production and/or increase income to improve profitability. Each operation has its own goals and unique set of resources (basal feeds, labor, storage and feeding flexibility, animal numbers, etc.) Hence, no one approach is right for everyone, but a plan needs to be formulated for each operation that makes the most sense and provides the best opportunity for the operation to be profitable. There's lots of ambiguity, volatility, and complexity in the marketplace, so producers need to focus on being objective about their business and the environment they're operating within, and they need to remain well informed to make good decisions. The following discussion is designed to provide producers some alternative approaches to feeding and managing the cow herd.

Culling the herd. Feed cost represents somewhere between 60-75% of the annual cost of keeping a cow. This year the annual cost to keep a cow will likely exceed \$500/cow, and could be as high as \$700/cow in some operations. South Dakota has recently created a custom feeding budget for wintering beef cows that producers might find useful to identify the various costs associated with wintering a cow.

(<http://econ.sdstate.edu/Extension/Tools/CustomBeefCowWinteringbudget-2008.xls>) Just as an example, if we assume a 1300 lb cow fed \$80/t hay for 150 days (Dec 1 – May 1), the amount of hay that will disappear would be valued at \$275/cow. Supplementing an average of 2 lb of corn/d at \$6.00/bu adds another \$32/cow, while adding an average of 6 lb of DDGS/d at \$150/t adds \$67.50 to our winter feed cost/cow. At this point, we still have not added the cost of vitamins and minerals (\$20-30/cow), summer pasture (\$10-25/cow-calf pair per month), etc. that must all be added together to get an accurate total annual cow cost for any given operation.

The point here is that when we figure total cost to keep a cow for the year, it is going to be expensive. Hence, only productive cows that provide the greatest opportunity to generate a profit should be retained in the cow herd. To be productive, a cow must; 1) be bred (preferably in the first 45 d of the breeding season), and 2) have the ability (milk, genetics, soundness, body condition, temperament, age, etc.) to produce a heavy calf at weaning. Cows that fail to conceive, or have any problem(s) that will prevent her from weaning a heavy calf next fall, should be considered a cull candidate. Pregnancy checking and culling cows earlier vs. later can add value to the cow. Cull cow prices have a seasonal cycle and are typically above average in August, but drop as we progress through the fall (September to November). Seasonally, cull cow prices tend to

peak in the February-March time frame, but the anticipated extra income probably will not pay the feed bill to keep the cow until then.

Value added marketing. Knowing production costs and then marketing cattle rather than simply selling them is critical. Marketing is all about working in advance to make as many bidders interested in your cattle as possible. Selling is about expecting buyers to be interested enough in your calves to bid, rather than you wondering why they didn't. This is not about chasing premiums, it's about minimizing discounts. Chasing premiums is not economically advisable and could be downright lethal with high input costs. Marketing involves understanding what the marketplace is demanding, how your product fits those demands, and how your product might receive more demand. This means that sorting calves off the cow, weaning them on the truck, and taking them directly to the sale barn might not be the most profitable option. Before weaning this fall, consider visiting with your extension educator, veterinarian, sale barn manager, and other producers to see what they think and to explore marketing alternatives. Pooling calves with another producer into larger, more uniform groups might be an option. Working with a feedlot to sell calves direct, or possibly retaining all or partial ownership through the feedlot might also be options. With the price of feed and calves, feedlots are wanting healthy and heavier calves entering the feedlot to reduce days on feed. There may be profit opportunities in weaning calves, preconditioning them for 30-60 days and selling them at heavier weights. Over 75% of the value of a good preconditioning program comes from selling the added weight. Premiums for preconditioning, when they exist, result from buyers willing to pay for the extra health benefits. A good preconditioning program, properly communicated to the right buyers, could significantly increase profit.

Stockpiling forages. It is important to evaluate your pasture resources in terms of stocking rate and carrying capacity and make plans to optimize your forages. Stockpiling for fall-winter grazing, pasture rotation, and proper soil/forage plant management are examples of management strategies which are effective and economically sound. From an economic perspective, running a few less cows on the available forage system may be advantageous to reduce the need to purchase more supplemental feed and/or fertilizer. Simply put, optimizing the use of your forage resources might be your cheapest and best alternative.

Winter annuals. For producers that are short on pasture and/or hay, alternative emergency forage resources could be considered. Winter small grains (wheat, rye, triticale) could be considered for fall and spring grazing, or spring hay/silage harvest.

Forages. Forages (hay, corn silage, haylage) are the typical basal feed in most Midwest cow operations. Each year, the two big variables facing producers are forage quality and quantity. With the high price of feeds, producers are often challenged to harvest (or buy) forages that can provide a large portion of the nutrients needed by the animal. This year, we also need to give consideration to

the high cost of hay production. Jason Tower, Superintendent at the Southern Indiana Purdue Agricultural Center (SIPAC), has estimated the cost of fescue-red clover hay production for this year's first cutting to be \$115.10/ton of hay dry matter and second cutting to be \$121.61/ton of dry matter. His estimates are based on current custom machinery rates and the value of the P and K removed from the soil. The hay fields at SIPAC all contain red clover, therefore he assumed no out-of pocket cost for N.

Forages are highly variable in their nutrient profile and thus the recommendation to sample and analyze forages for nutrient content is justified this year. A good website for background information is (www.foragetesting.org). When forages are analyzed and it is determined that the available forage cannot meet the animal's requirements, then a cost-effective plan can be developed to provide the deficient nutrients to economically optimize productivity. Typically this means utilizing feeds that are high in one or more nutrient categories (energy, protein, vitamins, minerals) that the forage is not meeting.

Compared to a year ago, many areas of the region are in better shape regarding hay inventory, however, weather this year has impacted our ability to produce, harvest and store high quality forages. First cutting hay across most of the region was delayed by rains and it was more mature than normal when harvested. Because of this advanced plant maturity, nutrient content, digestibility and forage quality were significantly reduced.

Feed the lowest quality forages to animals with the lowest nutrient requirements. Nutrient requirements are lowest for cows shortly after weaning when they are in mid-gestation. Requirements increase significantly as the cow enters late gestation, and increase again after calving. Young cows, have a requirement for higher quality feeds than older cows at every stage of production, thin cows have higher requirements than fatter cows, and cows experiencing winter wind chill factors below 30°F have higher requirements than cows with shelter/wind break.

The recommendation is to divide the cow herd into management groups by nutritional requirements. In cow herds where a limited breeding season is used (45-75 days), the management groups might be; 1) replacement heifers, 2) young cows plus thin older cows, 3) mature cows in moderate and above condition, and 4) bulls. If the breeding season is significantly longer than 75 days, the number of management groups should increase to allow economical delivery of feed to cows according to their requirements (gestation vs. lactation).

When forage quantity (supply) is low, alternative feeding strategies must be considered. Many producers have rediscovered corn stalks and wheat straw as a forage resource. Utilization of crop residues can reduce cost and conserve hay. Corn stalk grazing can provide 30-60 days of grazing depending on soil types and rainfall. Leaves and shucks are the highest quality parts of the plant and will be consumed first. As the time from harvest increases, forage quality decreases. For moderate conditioned cows in the middle trimester of pregnancy,

the first 20-30 days on stalks may only need a good vitamin-mineral supplement. After that, a protein supplement will be needed. The key to grazing corn stalks is to monitor body condition. If cows start losing weight and condition, more supplementation is needed.

Harvesting corn stalks and wheat straw adds significant cost to these low quality forages. Rations can be developed using these low quality forages as the primary forage, but these rations can result in a significant amount of supplemental feed cost. This is especially true when they are used for animals that have higher nutrient requirements (grower, late gestation and early lactation rations). Ideally, low quality forages should be fed to animals with the lowest requirements, such as dry cows in mid-gestation after weaning, to be cost effective. Low quality forages are limiting in protein (typically 3-7% protein). Adequate protein is critical for rumen digestion of forages, and supplementation is required when protein is limiting. Protein can be supplemented in a number of ways, but this is a situation where corn by-products (distiller's grains or corn gluten feed) can be used effectively and appropriately to meet not only the dietary protein needs, but also provide some additional dietary energy.

Limit feeding hay. Recent research at Purdue has shown that limiting cow access time to large round bales for 1, 2, or 4 hr reduced forage disappearance by 72, 50, and 22%, respectively, compared to estimated free choice hay intake. With these limited access feeding programs, when the hay consumed is properly supplemented, cow performance (weight, body condition) is not negatively impacted. What ingredients and level of nutrients should be used to supplement these cows will be determined by cow requirements and forage quality.

Supplementation. With the increased number of ethanol plants, many producers have become interested in using distiller's grains (wet and dry) as a ration ingredient. While distiller's grains are an option, their cost often reduces their effectiveness as a viable economic option. Thus, other feeds also need to be evaluated. Depending upon price, local availability, and how they might fit into a given operation, there are other feeds that may be valuable alternative feeds for beef producers.

High protein supplemental feeds. In Indiana, most of the ethanol plants are creating primarily a dried distiller's grains + solubles (DDGS) byproduct and marketing them outside the local area. Local availability of distiller's grains at bargain prices have been for the most part, limited to wet (WDGS) byproduct when plants have a breakdown/shutdown and must relinquish excess supplies immediately. To capitalize on this opportunity, a producer needs to be able to quickly accept, store, and feed semi-load quantities of WDGS in a short period of time before the product spoils. Since the price of DDGS has been very closely tied to the price of other traditional feeds (corn and soybean meal), their use in rations has not always reduced the cost of production. When DDGS are used in cow rations, producers need to be aware that there are limitations in how much

can be safely fed. The levels of protein (nitrogen), fat, sulfur, and phosphorus in distiller's grains need to be considered when balancing rations to minimize their effects on reproduction, animal health, and carcass quality. In general, the recommendation for distiller's grains has been to include them in diets at levels that meet the animal's protein requirement and make sure the calcium to phosphorus ratio is at least 1.5:1. Feeding high levels of distiller's grains (i.e. as a primary energy source) is where nutrient excesses become a problem. When considering the use of WDGS, co-ensiling with a forage resource (corn silage, haylage, dry hay, straw, corn stalks) can be an option. Co-ensiling allows delivery of semi-load quantities of wet byproduct, stabilizes the product for longer term storage, and reduces the bulk density which allows the use of Ag Bag® type storage structures.

Corn gluten feed (CGF; wet and dry) has been the corn byproduct that consistently seems to surface as one of the "better buys" when nutrient content, local availability and price are considered. Again, like DDGS, the same nutrient limitations on how much can be added to cow diets applies, but because the nutrient levels are slightly different, slightly more CGF (vs. DGS) can be added to the diet before problems occur.

High energy supplemental feeds. Historically, corn has been one of the cheapest sources of energy and the energy source of choice for finishing cattle. When corn prices exceeded \$5/bu, many producers began searching for a cheaper energy source. Soybean hulls (SBH), a highly digestible fiber resource, contains about 12% protein, but no starch. This lack of starch makes SBH an excellent energy source to balance high forage diets. In general, SBH can substitute pound for pound with corn as an energy supplement on high forage, maintenance or grower-type diets. Although, SBH can be used in most rations as an energy source, it does have inclusion limitations. Pelleted SBH expand 6 to 8 times in size when they come in contact with the rumen liquid and can cause bloat when fed at higher levels. They should not be fed at levels that exceed 1% of body weight (i.e. 1300 lb cow, maximum 13 lb/d SBH). In growing diets (creep feed, early wean rations, heifer and bull development rations, etc.), forage quality, level of SBH, and amount of other feed ingredients in the diet will interact to affect animal performance. Some starch (corn, oats, wheat) will be needed to maintain the desired level of performance in young calf rations and in feedlot rations. SBH can be included in finishing diets, but in these high performance diets they cannot be used as a one to one substitute for corn and they are not a substitute for roughage. In feedlot diets, SBH need to be limited to less than 20% of the ration on a dry matter basis. Starch is still needed in feedlot diets to achieve the desired gain, feed efficiency, and level of marbling deposition for cattle to grade choice or better. Corn skins, which are produced in south-west Indiana are a similar byproduct to SBH and could be used in a similar manner.

Commercial supplements. Commercial supplements are an option to add needed nutrients and to stretch limited forage supplies. In most cases, these

commercial supplements will contain a combination of energy, protein, vitamins and minerals. The challenge for producers that are buying commercial supplements is to first find the correct supplement that will meet, without significantly exceeding the nutrient requirements of the animals they are feeding, and second to make sure it is cost effective compared to other alternatives. Many commercial supplements have been created to reduce labor (tubs, tanks, etc.) and the value assigned to convenience must be evaluated by each producer.

Summary. High input costs are stretching our resources and stressing our minds. Over the past 18 months our producers have learned some valuable lessons about what can work, and what won't work. As we enter the winter of 2008-09, we need to make sure we have a feeding and management plan in place that will allow us to minimize our feed costs, optimize herd performance, and maximize profit. The ability to manage costs is dependent on the ability to define the source of these costs and make decisions accordingly. Identifying opportunities to add value and improve management and genetics is dependent on a good record keeping system. It is clear that controlling costs and deriving the most value for our product needs to be the focus for all beef cattle operations. Each operation is unique, and consequently strategies, such as those outlined above, need to be evaluated within the context of their application to an individual operation.

There are many opportunities to differentiate your product and reach for the top of the market ranges, but to create these opportunities, there needs to be a well designed and implemented marketing plan. Such things as cattle reputation, past performance history, seasonal timing, a certified vaccination program, adding more pounds after weaning (especially when price slides between calves and feeders are narrow), and so on become important factors to consider. These are true whether you're utilizing an auction sale, video market, direct trade, forward contract or retained ownership. The name of the game this year is marketing and planning ahead.