Cow-Calf in Confinement?

by Troy Smith

Though known best as a feedlot nutritionist and beef industry writer, Kenneth Eng is a cattleman too. He is currently focused on timber and cattle operations in Mississippi, but Eng has owned ranches in his native Nebraska as well as California, Texas, Oklahoma and New Mexico. In addition to the fairly traditional grass-based yearling and cow-calf enterprises he has owned, Eng has maintained beef cow herds in what he calls modified- or semi-confinement. Eng certainly isn’t the only cattleman to do so. Plenty of producers keep cows confined to a relatively small area and feed them for some portion of the year. As a consequence of drought, a good many cows spent time in drylot last spring while pastures were given extra growing time prior to grazing. Some producers confine part or all of their cows for most of every winter — whenever the herd is not grazing summer pasture. The cows are held in a drylot setting — whether that consists of a sacrifice pasture, winter trap or feedlot — where they receive harvested feedstuffs.

Eng believes the beef industry could benefit from more semi-confinement cow-calf operations. He is not suggesting that everyone ought to use this method. Neither is he recommending yearlong confinement and feeding of cows. Such an operation probably won’t be competitive long-term. However, Eng does think the semi-confinement model could aid the rebuilding of the nation’s beef cow herd. It might be a way for established producers to expand and an avenue for new cow-calf producers to enter the business. But Eng believes the greatest opportunity may result from turning the existing semi-confinement model on its head. “I foresee the emergence of semi-confinement cow-calf operations that utilize little or no grass,” says Eng, noting the increasing scarcity of grassland in many parts of the country. “More and more grass has been converted to crops. Pastureland values and rental rates keep climbing. But crop residues offer a tremendous alternative grazing resource.”

In honor of his late wife, Eng created the Dr. Kenneth and Caroline McDonald Eng Foundation to fund research and education in cow-calf production efficiency. According to Eng, a collective $2 million is being invested in beef cow research, including drylot production systems, by the University of Nebraska (UNL), Oklahoma State University and Texas A&M University.

Terry Klopfenstein, UNL ruminant nutritionist and professor emeritus, agrees that the abundance of crop residues represents a great and underutilized opportunity for grazing cows. Klopfenstein thinks producers might want to think about grazing cows on cornstalks and other crop residues during the winter and then drylotting cows in the summer. He thinks summer calving might be a good choice for many producers. The economics of that scenario, where cows are confined for six months and graze residues for six months, can be favorable in areas where the feed resources are available.

“Ethanol has changed our lives,” says Klopfenstein, referring to the conversion of grassland to corn production and also the growing use of distillers’ grains and other corn milling by-products by feeders and cow-calf producers too. Additionally, many fields of cornstalks are windrowed, baled and transported for use in cattle rations. However, cornstalks may be most valuable when left in the field. “Grazing absolutely is the most efficient way to use cornstalks,” emphasizes Klopfenstein. “Stalk grazing is very economical. It makes the hypothetical confinement/stalk-grazing system economically competitive.”

To grain farmers worried about potential soil compaction resulting from cattle grazing crop fields, Klopfenstein says it is not a problem. Based on 15 years of Nebraska research on fields planted to corn and soybeans, in rotation, researchers determined that grazing of cornstalks does not cause detrimental soil compaction. Subsequent soybean yields actually increased following cornstalk grazing, and grazing cows still left sufficient residue behind to enhance no-till farming methods. “Grazing does not harm fields. Leaving fields ungrazed means fields have way more residue than is needed. It doesn’t make sense to waste it,” Klopfenstein says.

UNL Cow-Calf and Range Specialist Karla Jenkins says those baled cornstalks and other residues, wheat straw and hays, could become the most cost-effective ingredients for rations fed to cows while in confinement. The quality of the total ration can often be boosted economically with the addition of by-product feed ingredients such as distillers’ grains and corn gluten meal. Depending on an operation’s location, alternatives might include sugar beet pulp, wheat midds, soy hulls and other byproducts.

“Limit-feeding cows in confinement is key. Letting cows eat all they want is not economical,” says Jenkins, explaining that total dry-matter intake would be limited to less than 2% of body weight. “A limit-fed ration must contain energy dense ingredients,” she adds. “Producers must know the nutrient content of their feedstuffs, and they must know the nutrient requirements of their cows. That changes with stage of production. The diet must be manipulated by adjusting ingredients or the amount of ration fed, in order to meet changing needs of the cow and calf. It really doesn’t matter which commodities are used in a ration, as long as it provides a palatable and balanced diet. Producers can and do get pretty creative.”

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start sampling the forage very early. By three months of age, a calf will eat about 1% of body weight in forage in addition to nursing the cow. So when pairs are fed in bunks, amounts fed should reflect consumption by calves as well as cows.

Jenkins advises producers feeding cows in confinement to target cow body condition score (BCS) 5. Her UNL colleague, Extension Beef Specialist Rick Rasby agrees. “Body condition score is a good indicator of adequate nutrition, and cows in BCS 5 do just fine from a reproductive standpoint. Cows in BCS 5, at calving, can maintain a 365-day calving interval,” states Rasby, warning of the danger associated with cows exhibiting poor body condition at calving. “Trying to play catch-up after cows calve usually doesn’t work. You can increase their energy intake, but the added energy usually goes into sickness will be a significant problem if calves are born and raised in a confinement system for over 40 years. “Watching the cattle closely every day in the drylot gives you an advantage over pasture in early detection of signs of disease. Treatment can be affected easily and quickly. Treating individual animals early reduces the potential of serious outbreaks,” says Anderson.

In Anderson’s opinion, the well-managed drylot can be “cow heaven.” Poorly managed operations could be just the opposite. Anderson says the onus is on the manager to provide adequate facilities and proper nutrition and care. Anything less is not in the best interest of the cattle or the economics of the enterprise.

“Crowded conditions of confinement increase the opportunities for injury from others in the herd and from hazards presented by broken posts, fences and gates, and the drylot environment can enhance transmission of infectious disease,” says Smith. The risks, he adds, can be addressed. Risks of physical injury to cow or calf can be minimized by designing facilities that present minimal hazards and keeping them well maintained. Choice of breeding season should allow for calving and subsequent production stages to occur during optimal weather conditions. Producers also must implement appropriate practices for managing animal health, including careful monitoring for injury and disease. Smith cites UNL studies where the Sandhills Calving System was applied to cows managed in confinement. After calving began, cows that had not calved yet were separated from those that had delivered and moved to a different, clean pen. Moving of heavies occurred weekly to prevent the buildup of pathogens in the calving environment and to reduce opportunity for overwhelming exposure of new calves to pathogens. “In (confined calving) trials, there were no calf losses due to scour when the Sandhills System was applied,” states Smith, admitting the study was small. “Health risks can be mitigated, though not eliminated, by anticipating their occurrence and managing known risk factors.”

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