

Managing *Around* Milk

Demonstration project focuses on management strategies to prevent open 2- and 3-year-old cows.

Story by
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"A moderate-framed Angus cow with a milk expected progeny difference (EPD) of +15 will work for us only after she is 4 years old, bred back early with her third calf, and in good body condition. However, that same cow has difficulty jumping the hurdles of the first and second conceptions to get there," Ken Conley says. "I want my mature cows to produce on my feed's potential on a dry year. However, I do not want to lose heifers getting to that point."

Conley manages the University of Nevada-Reno (UNR) Gund Research and Demonstration Ranch north of Austin, Nev. The ranch is a desert range operation with an annual rainfall of 8-10 inches (in.).

"It is for these reasons that we implemented strategies and a field demonstration that could manage around the 2- and 3-year-old open cow problem. The whole premise behind our demonstration is prevention and setting the young cow up to succeed," says Ron Torell, northeast area livestock Extension specialist and demonstration coordinator. Co-investigators include Conley; Ben Bruce and Bill Kvasnicka, UNR Extension faculty; and Jon Wilker, Gund Ranch cowboss.

Strategies

"The first thing we did was implement a crossbreeding program to capitalize on heterosis," Conley explains. The ranch purchases Angus bulls with a maximum frame score of 6 and a milk EPD of +15 or below one year, followed the next year by Hereford bulls of similar frame and milk constraints. "This is our best attempt at managing heterosis, because the bulls have to be run in common during breeding."

Their second strategy is to select replacement heifers from the middle of the herd, culling the largest and the smallest heifer calves. Heifers are developed to reach 65% of their mature weight 45 days prior to the breeding season, 70% of their mature weight by breeding time.

"We have to select heifers early and push them hard to reach these goals," Conley says.

Research indicates that gains in excess of



1.5 pounds (lb.)/day during the development period can lower subsequent milk production due to fat deposits in the mammary glands. "We really do not care," Conley says. "We seem to always have excess milk for our feed resources anyway. By reaching target weight 45 days prior to breeding, our heifers are cycling one to two times prior to bull turn-in. This is helping our first conception rate." Research also clearly shows that the second and third heats are more fertile than the first.

Breeding program

The heifers are synchronized with the MGA/Lutalyse® program, and then they are bred by artificial insemination (AI) to calving-ease sires possessing milk, frame and growth EPDs that fit the ranch's criteria. Strong emphasis is placed on the fleshing ability of a bull's daughters and udder quality (see "Udderly Beautiful," page 59).

"We select only high-accuracy-EPD AI bulls," Conley says. "We keep most of the heifers from these AI sires as replacements. We then put in cleanup bulls with the same specifications for a brief 35-day breeding period.

"Any heifer bred after this point is destined to fail with her second or third con-



ception due to reduced postpartum interval, so we eliminate them up front," he continues. "After the 35-day breeding period, we turn those heifers out on the range. We want those heifers to learn how to walk on a cow trail, learn the range and learn how to scrounge for feed. We do not want these heifers to get comfortable lying around an irrigated pasture with a water trough close by."

First-calf heifers are bred to calve 30 days prior to the mature cows, allowing the young cows an additional 30 days postpartum before the next breeding season. To calve at the same time the following year, the young cow needs to cycle and breed 85 days postcalving. First-calf heifers need a minimum of 90 days (usually 120 days) on average to cycle and breed.

The protocol allows the heifers 120 days postpartum to conceive and still calve with the mature cows the following year. "A word of caution," Conley says, "you better have a good calving barn if you move your calving date back. We had to build a facility that would accommodate February 1 calving."

The heifer-development system sets the cow up to succeed the following year, says Kvasnicka, state Extension veterinarian with UNR. "Research clearly shows that delivery problems (dystocia) and prolonged births affect breed-back. We have very few dystocia problems due to the development program and the light-birth-weight bulls used. We intervene rapidly if we see a heifer in birthing distress.

"We also implemented a vaccination and management program designed to protect against the reproductive diseases known to the area," Kvasnicka says. "We do not want to put all this time, effort and money into the heifer and have her go out due to a reproductive disease."

Heifers are vaccinated prior to breeding, according to label, for infectious bovine rhinotracheitis (IBR), parainfluenza-3 virus (PI3), bovine viral diarrhea (BVD), trichomoniasis, vibriosis (vibrio) and leptospirosis (lepto). Cows are given booster vaccinations annually prior to breeding.

"We also feed a calcium-phosphorous trace-mineral mix to aid the immune system in mounting a response to those vac-

cines, and we deworm annually,” Kvasnicka says.

“The next thing we did was implement feeding 4 pounds of energy per head per day — in our case ground corn — along with our existing ration of grass, alfalfa and a calcium-phosphorous trace-mineral mix,” Torell says. “The energy had more of an impact on breed-back than anything else we did.”

To better visualize the importance of pre- and postpartum energy, Torell recommends viewing energy requirements as a checkbook balance. “Once first-calf heifers calve, they just ‘melt,’” he explains. “The young cow is drawing energy from her body reserves faster than we can supply them in the form of feed. The cow is still growing herself. She is now lactating, cutting teeth, and is a first-time mother.

“It is for these reasons that we must enter the last trimester of pregnancy at 85% to 90% of her mature weight and in a minimum body condition of 6. This is also the reason we must feed prepartum energy, as well as postpartum energy. We must make deposits to that checking account so there is a balance of fat to draw from when the big draw occurs — postpartum and lactation.”

“The other strategy we implemented was summer grazing these first-calf heifers



on our best rangelands and weaning the calves off these young cows when our forage quality declined,” says Bruce, UNR state Extension specialist. “By calving 30 days prior to the mature cow herd we had a calf that was 180 days of age by late July and capable of ruminating. Stopping the lactation requirement on these young cows by weaning allows the cows to put on condition prior to winter. This practice is making a deposit into that fat-reserve checkbook to draw from the following year.”

“A word of caution,” Conley says, “you have to have a place to go with the freshly-weaned 180-day-old calf and the labor to get the calf over the weaning stress. If you have good feed to go to, the calves will weigh the same at fall shipping time as if you had left them on the cow. However, the cow will be one full body condition score higher.”

After their first calf is weaned and the cows are processed, they are fed through the winter with the thin-cow bunch. This reduces competition for feed and allows the cows to maintain the body condition gained from early weaning, says Jon Wilker, Gund Ranch cowboss. They continue to feed the cows a calcium-phosphorous mineral with a half-alfalfa, half-grass ration. However, they don’t provide a supplemental energy source.

After having their second calves, the cows are treated as mature cows.

“We have a good winter feed program for our mature cows,” Conley says. “We wean according to forage quality and quantity. We winter-feed in groups based on body condition. We often wean our calves from our mature cows in August at less than 200 days of age. These are all body-condition-preservation moves designed to help in next year’s calf crop.”

This program may seem extreme to some readers. However, the Nevada group says it believes that in order to stop the bleeding with open 2- and 3-year-old cows, all of these measures are required.

The complete demonstration is in its second year.

