

Are cow-calf producers unknowingly contributing to a decline in beef cow adaptability? During the 2005 Beef Improvement Federation (BIF) Symposium in Billings, Mont., speakers suggested there may be cause for concern. They warned against practicing genetic selection and herd management that emphasizes increased production and maximum reproduction with too little consideration for maintaining adaptability to the environment.

During the symposium, University of

Nebraska (NU) geneticist Jim Gosey said seedstock selection within a practical environment, representative of that in which progeny will be expected to perform, is critical. "Babying" cattle by attempting to artificially remove or soften environmental challenges does not promote adaptability.

"Seedstock breeders especially should consider hardening the test environment, instead of softening it with a variety of performance-enhancing products and techniques," Gosey warned.

Some producers are attempting to select and manage for increased adaptability by applying a forage focus to their development programs for replacement females. Rather than babying heifers so the greatest number possible will conceive at breeding time, these producers are giving heifers a chance to fail.

Survival of the fittest

"I don't really have a heifer-development program," jokes Angus breeder Sam Wylie. "It's more of a heifer-survival program. They have to prove they can perform on the bare necessities."

Wylie's operation is located in a mountain valley near Breezewood, Pa. The thin topsoil isn't suitable for extensive row crop production, but it does produce grass that supports the Wylie cow herd and a grass-finished beef enterprise.

Wylie gained early experience in the dairy industry, where high-energy feeds fueled the pursuit of ever-increasing production. It came at a cost, he says, citing increased problems with acidosis and lameness. Now, his operation is forage-based, utilizing native pastures and hay.

Unable to graze year-round, Wylie feeds hay in the winter and provides a lick-tub protein supplement. He admits to feeding a little grain to his cows while forage was in short supply during the recent drought. However, he doesn't feed grain to heifers — only forage and protein when needed.

"We keep every heifer calf, raise them up and keep sorting for soundness, disposition and fertility. We expect some to fall out. We need to identify those that should not be cows and shift them to the grass-finished beef program. The remaining females are adaptable — suited to our environment," Wylie explains.

"Then, we sell some as 4-year-olds. That's when they look like the cows they're meant to be — 1,100 pounds (lb.) and full-figured, with a lot of capacity. They've proven themselves and should be able to go into another herd and produce for another 10 to 12 years," he adds. "We're trying to build marathon runners that stay in the race — not sprinters that burn out."

Meeting the challenge

Out West, near Lusk, Wyo., Gregg Matney's family-owned Angus cows survive on grass and water. Managed under a planned rotational-grazing system, the May- and June-calving cows seldom receive anything more.

"Back when we thought we had to calve in February, it took a lot of supplemental feed for all of the cattle — hay and protein supplement. Now, we generally put out only salt and mineral," Matney says.

A Chance to Fail



Challenging
replacement heifers
to improve cow
adaptability.

by *Troy Smith*

PHOTO BY CORINNE PATTERSON

That part of eastern Wyoming can get cold, but it seldom receives a lot of snow. In the last seven years, the snow has never been deep enough, nor too crusted, to keep cattle from grazing. Since moving to a late-spring calving period, Matney has fed some hay, but mostly due to drought. In the last seven years, the herd has received less than a ton of hay per head.

Even the replacement females are developed with few additional inputs. Once the heifer calves are weaned, usually in December, they go back to native range and crested wheatgrass pasture. They usually gain about ½ lb. per day for the remainder of the winter.

"The heifers might lose a little condition, but they keep growing frame," Matney says. "When green grass comes in the spring, they just explode. They'll keep growing and fleshing out until breeding time in August."

With grass costing about \$20 per animal unit month (AUM), Matney figures the average cost for taking heifers from weaning to breeding is about \$125 dollars per head. That's at least \$100 per head less than their previous management system.

The cull rate is slightly higher now, Matney says, but heifers that meet the challenge are adaptable to the environment. In general, he believes they will have greater longevity, and that's what many ranchers who buy Matney's bred heifers are seeking.

"There's growing interest in heifers developed this way — on grass. They're very marketable," Matney states. "Of course, we couldn't do it on grass if we calved earlier, if we hadn't changed management to better use our resources, and if we weren't using the right kind of genetics."

Least-cost options

Both Matney and Wylie stress the importance of genetics that fit forage-focused management. In general, they're talking about cattle of very moderate frame (frame score 4 to 5), but with plenty of volume and capacity. Georgia Angus breeder Bill Hodge agrees. Hodge is a longtime University of Georgia Extension specialist whose own operation, near Carrollton, includes cow-calf and grass-finished beef enterprises.

"I've concluded there are two types of cattle — corn cattle and grass cattle. You can make corn cattle out of grass cattle, but not the other way around," Hodge offers. "I want the grass type. They are solar-powered

and not so fossil fuel dependent."

For Hodge, whose environment normally produces some kind of grazed forage nearly 12 months of the year, a grass-based operation is the most profitable. To keep it that way, he won't compromise by making it easy on replacement heifers.

Hodge normally weans his spring-born heifers in October. After 30 days, they are turned back with the cows. On average they will gain about ½ lb. per day until mid-February, when the heifers are moved to fields that were planted to winter

annuals. On this high-quality forage, daily gains may reach 2½-3 lb. By the end of April, when the heifers are synchronized for artificial insemination (AI), they usually have reached 55% of their mature weight.

"The rougher we treat them, the higher the fallout rate, but the heifers that make it are the most fertile and most likely to stay in production longer," Hodge says.

"Every producer's situation is different. In different environments you have different options, but I think you have to look for least-cost options," he adds. "And, you have to identify cattle that will work for you and help you become a least-cost producer."

Economic foundation

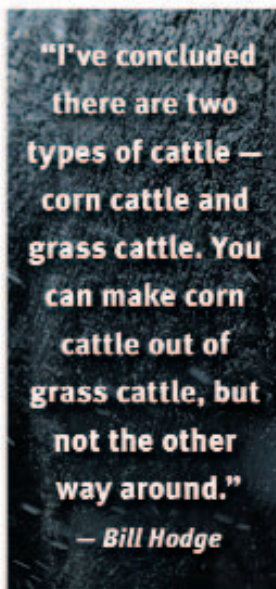
The described heifer-development strategies run contrary to those producers who do everything they can to achieve high heifer pregnancy rates. For years animal scientists have recommended that producers strive to develop heifers to 65% of expected

mature weight by breeding time. Some producers, seeking a little extra cushion, push the target to 70% of mature weight, or even more.

Naturally, that increases heifer development costs, and it probably offers no advantage, says NU reproductive physiologist Rick Funston. Getting heifers too fat may do more harm than good, complicating AI synchronization programs and negatively affecting milk

production throughout a female's productive life.

"The most recent research challenges the old rule of thumb," Funston states. "Heifers don't have to be developed to 65% of mature



weight. We've gone as low as 50% as a target, and still achieved 90% pregnancy rates."

Funston says that can be accomplished on all-forage diets, or predominately forage diets with some supplementation, as long as growing heifers' basic nutritional requirements are met. And, he says, there may be some advantage to exposing heifers early on to low-quality forage.

"For one thing, they learn how to eat that kind of forage. It also may help young females develop more [rumen] capacity," Funston explains. "When you develop

heifers on a high-concentrate diet, you're feeding them something they probably won't get as a cow."

Funston says nutrition should be adequate, but pampering heifers does nothing to improve their adaptability.

"It's better to challenge young females and select those that really are adaptable to your environment. You might have to keep a few extra [replacement heifer candidates] so you can apply more selection pressure," Funston offers. "Ultimately, you should have more heifers that will breed back for a second calf and more cows that stay in the herd longer."

Trey Patterson says those are goals for the Padlock Ranch. The former South Dakota State University beef specialist is now associated with the Ranchester, Wyo., operation. Patterson says the ranch has lowered its breeding weight target and is developing heifers on native range, with some supplemental protein furnished as range cubes or blocks. No hay is fed unless winter weather or drought limits grazing.

Patterson says challenging heifers does create greater risk of reproductive failure among replacement heifer candidates. Still, he prefers to keep heifers that will breed at 50% of mature weight, after digging through a little snow to eat what the range offered, rather than heifers that were fed in a feedlot until they were 15 months old. And, by keeping the costs low, selling the open heifers can still be a paying proposition.

"Heifer development is usually approached from the standpoint of achieving maximum reproduction," Patterson states. "But since it is such a large expense to cattle operations, heifer-development systems should be based on economics."

