

Forage Management

Let Cows Do the Harvesting

by James Ritchie

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he value of livestock forage depends largely on when it is available, as well as how much and how good the feed may be.

Since feed accounts for a major share of the input costs in any beef operation, management of the most economically available feed resources is vital to efficiency and profits.

In general, feed costs less when cows do their own harvesting. But letting cows forage most of their feed for most of the year means developing a systems approach to forage production; a system that will provide adequate protein and energy "on the stump" for as many days each year as possible.

Daryl Strohhenn, Iowa State University beef specialist, analyzed three years worth of data from the Iowa Beef Cattle Business Records (BCBR) accounting program, and re-sorted the information to show the lowest 15 percent and the highest 15 percent of calf producers, in terms of cost per cow.

The year-round feed bill for lower-cost producers was \$98.69 per cow, just over half the feed cost of \$180.21 per cow for the 15 percent of producers with the highest feed cost.

"The lower-cost producers were doing two things much differently from the higher-cost cattlemen," notes Strohhenn. "First, their cows do more of the feed harvesting. The low-cost producers let their cows graze 38 days longer than the higher-cost cowmen."

Secondly, as a result, they fed only about half as much stored feed per cow: 3,300 pounds compared with 6,400 pounds for producers with higher costs.

In some cases, utilizing lower-cost forage may require the limited use of fairly high-priced feedstuffs. For example, Eugene Williams Lawrence County, Mo., winters his 150 Angus-cross cows on standing tall fescue that is allowed to grow in the fall. Fescue regrowth is cheap but low in quality, with about 6 percent protein, 48 percent TDN (total digestible nutrients) and 60 percent dry matter.

Williams' fall-calving cows average weight is about 1,000 pounds while nursing calves through winter. Each cow needs 20 pounds of dry matter,

two pounds of protein and 11.5 pounds TDN. If each cow consumes 20 pounds of fescue (dry matter basis) per day, she gets 1.2 pounds of protein and 9.6 pounds of TDN. Fescue regrowth falls short of supplying adequate amounts of both protein and energy.

"We supplement cows through winter with two to three pounds of fine-stemmed alfalfa hay per cow per day," says Williams. "I buy dairy-quality hay and that might seem like pretty expensive feed for beef cows."

The kind of hay Williams feeds averages 18 percent protein, 60 percent TDN and about 90 percent dry matter. From her 2.5 pound average daily ration of alfalfa, each cow gets 0.45 pound of protein and 1.5 pounds of TDN. Added to the nutrients from standing fescue, this brings her total daily intake to about 1.65 pounds of protein and 11.1 pounds of energy, still a bit shy of her nutritional requirements to maintain her own body weight and nurse her calf. To fill the rest of the nutritional gap, Williams feeds a flour byproduct that comes from Kentucky Fried Chicken processing plants.

Cost Item	Producers 15 percent below average costs	Producers 15 percent above average costs
Pasture grazing		
Days	181.5	169.5
Cost per day	\$ 0.292	\$ 0.363
Total cost	\$ 53.00	\$ 64.88
Stalk field grazing		
Days	93.6	67.7
Cost per day	\$ 0.03	\$ 0.58
Total cost	\$ 2.81	\$ 3.83
Stored feed		
Total days	89.9	127.9
Feed fed per day (lb.)	36.4	50.3
Cost per day	\$ 0.48	\$ 0.87
Total cost	\$42.88	\$111.40



(left) Ozark hills are the "hey barn" for Ylene and Eugene Williams, Lawrence County, Mo. The Williamses store fescue regrowth on the stump, then supplement their fall-calving Angus crossbred cows with two to three pounds of alfalfa hay per day.

(below) Weaned calves are kept just across the fence from their mothers. Eugene Williams vaccinates calves three weeks before weaning, then feeds a self-fed pre-conditioning feed after weaning.



JAMES MITCHE PHOTO

"I've put the pencil to our costs," says Williams. "I can supplement standing fescue with superior alfalfa hay more cheaply than I could afford the equipment and labor to put up grass hay. In fact, we don't even own haymaking equipment."

Even with purchased alfalfa in the \$110-per-ton price range, Williams spends only \$11 to \$12 per cow to supplement his herd through 100 days or so of winter fescue grazing.

Other cowmen find that a well-designed, well-managed intensive grazing system during pasture growing seasons can boost production per acre, and reduce feed costs over time.

"The big initial cost of setting up an intensive grazing system is the expense of fencing pastures into small paddocks," says Ron Morrow, University of Missouri animal scientist. "For example, to fence an 80-acre pasture into 12 paddocks with high-tensile electric fencing will cost \$10 to \$12 per acre."

But that fencing cost can be offset by better utilization of the forage to get higher returns on other expenses, such as dollars spent for fertilizer. The key to making intensive grazing (also called controlled cell grazing) work is to balance soil, plant, animal and other resources in a complementary mix. Morrow has studied intensive grazing for the past several years, and uses different language to measure animals per acre.

"We usually talk about stocking rate, or the number of animal units on a given acreage for the grazing season," he says. "With intensive grazing, I prefer the stock density, which refers to the stocking rate at a given instant of time."

For example, if you turn 80 cow-calf pairs into a 160-acre pasture, the stocking rate is one pair per two acres. But if you divide the pasture into 20 paddocks, each eight acres in size,

and put all of the cows into one of those paddocks, the stocking density is 10 cow-calf pairs per acre.

"This is what makes intensive grazing work—controlling the animal density to concentrate grazing pressure for a relatively short period of time," says Morrow. "Whereas continuous grazing utilizes only about 35 percent of available forage at peak quality, intensive grazing systems utilize 55 to 65 percent of available forage at peak quality."

Cattle are not especially efficient as harvesting machines, whether on the range, in improved pastures or in crop-residue fields. They trample, lie on and defecate on plants. They selectively graze the more desirable forages and leave less desirable flora.

But, despite their sloppy harvesting technique, letting livestock serve as both harvesters and consumers of forages usually is lower cost than mechanically harvesting, packaging and hauling the feedstuff to the cattle.

"Opportunities for controlling costs abound in the cow-calf business. There are many cattlemen who take advantage of them," says Strohbehn. "If a producer is using a lot of harvested feed, an alarm should go off."

