

# Tactics to cut Your Hay Bill

*Stockpiled fall forage and winter annuals stretch grazing seasons*

*by James Ritchie*

**H**ow much hay do you expect to feed this winter?

Your hay bill will depend on several things: how much winter you get; hay quality; and whether your cows will be nursing fall-born calves or waiting to drop spring babies. But some cattle producers are cutting the hayfeeding season by 30 or 40 days. When you consider that winter feed costs can make up two-thirds of a cow's annual rent, this shows up on the bottom line.

Jim Gerrish, forage researcher at the University of Missouri Forage Systems Research Center (FSRC) is studying ways to extend on-the-stump grazing on both ends of the hay-feeding season.

"I don't think most people have a good idea of what it costs to harvest and feed hay," says Gerrish. "We still have to feed some hay in winter, of course, but we're cutting back dramatically on the number of days hay is fed."

It's too late to back up to last August, to get ready for the 1992-93 winter. But Gerrish's hay-saving ideas could be borrowed for next year. Except for when snow actually covers the grass, FSRC cows have been grazing all fall and they've still got grass left.

Here's the forage management plan at the research center:

Gelbvieh-Polled Hereford cows bred to Angus bulls are now on fescue-red clover pastures. Last summer, Gerrish mowed and baled the forage and lined up big round bales in two rows at the end of the pasture. An electric wire keeps cattle away from the hay until it's needed.

"We fertilized the pasture in August with 50 pounds of nitrogen per acre, then let the grass grow until calves were weaned in October," says Gerrish. "When we weaned off calves, we let them graze the pastures briefly. We



*Winter annuals such as rye and hairy vetch no-tilled into grazed-back grass, can trim hay-feeding days off both ends of winter.*

rotate the calves pretty often, so they will top off the best 25 percent or so of the growth. We've used this weaning technique for six years, with about 1,500 calves. The steers gain 1.5 to 1.75 pounds per head per day with no supplemental feed, and we've had virtually no sickness or stress."

When the calves move out, Gerrish cross-fences the pasture for strip grazing. A movable electric fence is used to limit cows to about two days of grazing at a time.

"We've found that strip grazing can double the amount of fall forage utilized by livestock: says Gerrish. "Controlling the access of cows makes them eat most of the available forage, instead of selectively grazing only the best material and leaving the rest. If cattle have access to the whole pasture at one time, they will waste half of the feed."

In November, bred cows are turned into the pasture. The strip-grazed standing forage typically will take the cows well into December before Gerrish starts feeding the big hay bales parked at one side of the pasture. Hay feeding involves simply moving the electric fence back to expose two bales, and putting ring feeders over the hay.

"With this system, we can feed 40 cows in a pasture two bales every other day in about 10 minutes," says Gerrish. This also allows the cattle to distribute their manure evenly over the pasture. The manure from all forage consumed from a particular pasture, whether grazed or fed as hay, gets deposited back on that pasture."

**Henry Fribourg**, University of Tennessee forage researcher, uses a similar system with fall-calving cows; allowing grass to grow ungrazed from August to November. Then, cows and their calves are turned into the pasture and harvest standing grass until about New Year's.

"The idea is to use cattle grease, not elbow grease," says Fribourg. "It's a lot cheaper than making hay. There's less labor, less machinery, less storage cost."

Jim Gerrish agrees. Every day that cows graze, instead of being fed hay, represents 50 cents saved per head.

"For a 40-cow herd, that's a \$20 savings for each day hay feeding is delayed," he says. "For a 200-cow herd, the savings is about \$100 per day."

Gerrish is studying ways to reduce hayfeeding days on the tail end of winter, too. Winter annual crops, such as small grains and hairy vetch (a legume) can be no-till drilled in August to provide grazing. Gerrish also is looking at other winter-growing legumes, such as crimson clover and Austrian winter peas.

"With a good fall growing season, these winter annuals can provide some grazing in the early part of winter; he says. "But they make their best growth in late winter and early spring, coming on before cool-season perennial grasses start growing. Rye makes a lot of early growth."

A good place to grow winter annual pastures is on set-aside cropland that has been released for grazing, Gerrish says. However, tilled fields and those that have been in crops get muddy when the ground thaws. Cattle can trample a lot of the forage into the mud and leave fields rough.

"We've had good success at no-tilling winter annuals into short-grazed grass sod," Gerrish adds. "This reduces the cost of establishment somewhat, compared with making a seedbed, and the sod makes a firmer footing in muddy weather."

Gerrish has kept records on the cost of seeding rye and hairy vetch, both in a tilled seedbed on crop set-aside land and by no-till drill in grazed-off fescue sod.

#### Rye and vetch in prepared seedbed

Item	Cost	Cost/Acre
Seed:		
Rye, 2 lb. @\$5.50	\$11.00	
Vetch, 10 lb. @\$0.59	5.90	\$16.90
Tillage and seeding:		
Disk (two diskings @\$6/A)	12.00	
Harrow	3.50	
Broadcast seed	1.20	16.70
Fertilizer:		
Nitrogen, 40 lb. @\$0.21	8.40	
Phosphate, 40 lb. @\$0.24	9.60	
Potash, 40 lb. @\$0.14	5.60	23.60
<b>Total establishment cost</b>		<b>\$57.20</b>

The cost of the forage per cow-day of grazing will depend on the season and the growth of the rye and vetch, Gerrish points out. However, daily costs should be lower than the 50 cents per day that it costs to feed a cow hay.

Cost per cow grazing day, @200 cow-days per acre:	32c
Cost per cow grazing day, @175 cow-days per acre:	37c
Cost per cow grazing day, @150 cow-days per acre:	43c

#### Rye and vetch no-tilled into sod

Item	Cost	Cost/Acre
Seed:		
Rye, 2 lb. @\$5.50	\$11.00	
Vetch, 10 lb. @\$0.59	5.90	\$16.90
Seeding:		
No-till drill	7.00	7.00
Fertilizer:		
Nitrogen, 40 lb. @\$0.21	6.40	
Phosphate, 40 lb. @\$0.24	9.60	
Potash, 40 lb. @\$0.14	5.60	23.60
<b>Total cost per acre:</b>		<b>\$47.50</b>

Cost per cow grazing day, @200 cow-days per acre:	27c
Cost per cow grazing day, @175 cow-days per acre:	31c
Cost per cow grazing day, @150 cow-days per acre:	36c

Gerrish points out that these are only out-of-pocket costs, with no charge made for the fixed cost of the land.

"But if the forage is seeded into set-aside crop land, the soil should already have adequate phosphorus and potassium levels, which would save on costs considerably" he says. "In a good growing season, these winter annuals should produce at least 175 cow-days of grazing per acre. That's a \$30 to \$35 per acre savings, compared with feeding hay for those days."

At the Forage Systems Research Center, cows will stay on those pastures with the big hay bales until after calving in early spring. Then, some of them will move to rye-vetch pastures several weeks before fescue and orchardgrass are ready to graze.

"Whether it's on the front or back of winter, having forages that can be grazed saves a lot of money compared with feeding hay," says Gerrish. "We aren't ready to scrap the baler just yet, but we don't feed nearly as much hay as we used to."

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