

# COW TRACKS, NOT TIRE TRACKS

Bale-grazing can save time and money.

by Heather Smith Thomas

Letting cows feed themselves can save on winter feed costs. Harvested hay is generally used in northern climates when snow covers pastures, but there's a savings of time and expense if you don't haul hay in from the fields and haul it back out to the cows.

Bale-grazing — leaving bales in hayfields and allowing cows access in winter, or strategically placing bales on pasture for winter feeding — has economic and environmental advantages compared to traditional confinement feeding, spreading hay in pastures or using bale feeders.

Ranching near Busby, Alta., Canada, Steve Kenyon has bale-grazed for 21 years to reduce labor and equipment costs.

“Typically, a tractor [and bale-buster or unroller] goes to the field daily. That's a cost — fuel, wear and tear, depreciation on equipment, and time for someone sitting in a tractor,” says Kenyon.

The bonus to bale-grazing is free fertilizer. The practice concentrates cows temporarily in the area where they are eating a row of bales, and gradually moves the manure across the field as cows are let into the next row of bales.

Every day he feeds a dry cow on his property, he figures he gains 30¢ per head in value (improved water-holding capacity and added nutrients for soil). Manure, residue and urine can easily double production in a pasture. That improvement continues for at least

five years, mainly from the residue left behind, which drastically increases water-holding capacity.

Purchased hay and imported feed bring new nutrients to the ground. Using home-raised feed transfers nutrients from one field to another.

## How it began

“I started bale-grazing in 1999 out of necessity,” Kenyon shares. “I was working off the farm long hours, feeding cows in the dark after work.”

Originally from Saskatchewan, Kenyon remembered a neighbor there who

put bales out in the field for his cows to eat in the winter. When a mentor mentioned bale-grazing, he decided to try it.

Kenyon already had pastures

divided for a rotational summer grazing program. With only one day off each week, every Sunday he put a day's worth of bales in each paddock.

“With the bales already out there, I only had to open gates,” he explains of his winter feeding strategy. “Each day I could let the

cows into a new paddock to bale-graze for that day.”

He realized it would be even easier if he put two

or three days' worth of bales in each paddock, saving more time because he could put out bales to last three weeks at once.

“In 2005 I laid out a full bale-



Steve Kenyon reduces labor costs for winter feeding by doing most of the work in the fall — setting bales where he wants them, and taking twine off when it's not frozen to the ground or the bales. He can then give access to the hay as the cattle need it by moving a hotwire.



The practice concentrates cows temporarily in the area where they are eating, then gradually moves them and deposits their manure across the field as they are let into the next row of bales. Managed correctly, the cattle do a pretty good job of cleaning up higher-quality parts of the hay.

grazing system for the winter,” he shares. “That winter I just moved electric fence through the rows, and it worked very well.”

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### Redefining waste

Some producers are reluctant to bale-graze because they feel there’s too much “wasted” hay that cows lie on and don’t eat.

“I’ve noticed the waste is mostly stems,” says Kenyon. “If managed correctly, cattle do a pretty good job of cleaning up leaves and higher-quality parts of the hay. Unrolling or shredding bales causes higher loss in leaves and finer particles. From my experience, losses in quality are lower when bale-grazing.”

One of the benefits is added fertility for the soil.

“A study some years ago found that for every ton of hay that goes into a cow, about \$15 worth of N (nitrogen), K (potassium), P (phosphorus) and S (sulfur) comes out the back,” says Kenyon. “With inflation, I’m sure that number is higher today.

“You might get the same fertility on the land by hauling manure from corrals,” he continues, “but you lose some economic value because it will probably cost about the same in labor and equipment

to haul it as you gain from the fertility. With bale-grazing, cows do the work for you.”

Kenyon at first thought the fertilizer was the system’s primary advantage, but now he’s convinced it’s added water-holding capacity.

“Water is the most important nutrient. If a crop requires 50 pounds of nitrogen to grow X amount of forage, it will need about 10,000 pounds of water, so we should be managing for water,” he says.

“That extra residue from bale grazing improves the water cycle. It reduces runoff and helps soil hold more water. Trash on the surface reduces evaporation; your soil won’t lose moisture as quickly. If you have water, the rest of the system works properly.

“Water helps you establish a polyculture of plants, which provides a polyculture of roots, which provides a polyculture of soil life,” he continues. “This added soil life is where free

**“In 2005 I laid out a full bale-grazing system for the winter. That winter I just moved electric fence through the rows, and it worked very well.” — Steve Kenyon**

fertility starts to add up. If there is anything you should be managing on a farm, it’s improved water-holding capacity of your soil. We build soil biology that builds a system that creates its own fertility. It is self-replicating and self-sufficient.”

There is no such thing as wasted feed as long as it is wasted in the right place. Pasture production will double, triple or more during the next five to 10 years with the added water-holding capacity, he says. The end result: “I haven’t bought fertilizer for 20 years.”

Areas of poor soil or pasture are good places to put bales to help build the soil.

“You only have to bale-graze once on a certain spot of poor soil, and usually that fixes it, but one of the things I’ve done — since I have to move electric fence between the rows — is put the bales 25 feet apart in rows, but put the rows 50 feet apart,” he says. “This leaves a nice alley in the middle. I come back the second year and fill in that gap, putting the rows in those slots.”

Having a wide area between the rows results in less pressure from crowding on the electric fence, says Kenyon. Putting a row of bales in that space the second year gives full coverage for the whole field.

“I am bale-grazing the same field two years in a row, but in different strips,” he says.

### How it works

Kenyon cuts twine off before it freezes to the bales.

“This takes about 20 hours of

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labor for 750 bales. If it's sisal, I don't bother, because it will rot in the spring," he says.

Net-wrapped bales are more problematic, he says, explaining he needs to cut the net wrap before he flips them over.

"Removing plastic twine or net wrap is important, along with disposing of them properly," says Kenyon.

If cows consume pieces of net wrap, they don't disintegrate. They may build up in the rumen, and sometimes cause a fatal blockage.

If the bales are placed in paddocks, all you have to do is open gates.

"But if the bales come in a semi load, all dumped in one pasture, I take my bale truck and arrange them in rows, and use electric fence to ration them out," he explains.

During winter, he leapfrogs two electric fences across the field. This gives a buffer zone so he can move the fence nearest the cattle

and have the second fence to contain them.

"You can't take a single fence down and move it with cows there. I like to strip-graze down a narrow rectangular paddock," he says.

A person can jab pigtail posts into the bales if it's hard to put portable posts into frozen ground.

"I found some pigtail posts with a pointed tip on the bottom, with a little ledge you can tap with a hammer, and get them into frozen ground. To take them out, you just give a little twist," Kenyon says.

Some ranchers turn cows into a whole paddock of bales, rather than moving a hot wire.

"I've done that, putting 20 bales in a paddock and 20 bales in the next paddock, so I'm not moving fences — just letting cows into the next paddock. The key there is how long your graze period is. If you put 200 bales in a paddock, and your graze period is a month, the big issue is waste. For instance, if you are three weeks into that and

### Climate factors

Bale-grazing works best in a cold climate, where ground stays frozen most of the winter so cows don't damage it by trampling.

"When frost comes out, or there's a lot of rain and the cows are punching holes in the ground, you may not want to bale-graze," says Steve Kenyon, who ranches near Busby, Alta., Canada. "If you only have three months of frozen ground instead of six, plan for just three months of bale-grazing."

If it rains and/or the ground gets soft, he suggests moving the cows to a different area for feeding until the ground freezes again.

Still, he says, "you are cutting part of your winter feed bill by utilizing whatever time you can bale-graze."

get a big snowstorm, it covers the hay they were working on and you lose that part of it," he says.

Kenyon prefers a four-day graze period for optimal balance between labor, animal nutrition/gain and feed waste.

"On the first two days, they eat well, and on the last day, they have to work harder. You have to force them to clean up," he explains.

"Labor is easy if you only move cattle every three or four weeks,

but waste may be too much, depending on the price of hay, and you may not get optimal gains on your animals," Kenyon says.

Letting cows feed themselves may not be the hands-off approach it sounds like at first read, but it is a labor- and feed-saving method that bears consideration. ■

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Editor's note: Heather Smith Thomas is a freelance writer and cattlemaster from Salmon, Idaho.