Hay&Forage Grower®

Leaving A Wide Swath

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February 1, 2005

Marty Hanehan tried wide swathing to improve haylage quality. It worked, says the Saratoga, NY, dairyman.

David Gaige, Berne, NY, hoped wide swaths would make his haylage dry faster. It did.

And Rensselaer County extension agent Tom Kilcer was convinced that wide swathing would lower the amount of soluble protein in haylage. That, in turn, would enable dairymen to formulate high-forage, low-cost rations. He was right.

The local trend away from narrow and to wide swaths for haylage is Kilcer's brainchild. Hanehan and Gaige say they're reaping the rewards.

Hanehan milks nearly 600 cows with his brother, Pat, and their wives, Cathy and Sherri. “It's helped milk production,” figures Hanehan, who has wide swathed for nearly eight years. He now feeds his cows diets ranging from 58% to 64% forage. His cows average nearly 80 lbs of milk/cow/ day.

“We're cutting it and putting it up in less than 24 hours, so we're keeping our moisture consistent,” says Gaige, who has wide swathed for at least six years. “The problem we were having with haylage was inconsistency in everything we were measuring.

“The main thing we gained is that the soluble protein level is much better,” adds Gaige, who milks 55 Holsteins with a herd average of about 21,000 lbs.

“With less soluble protein in the diet, it's much easier on the cows; they don't have as much nitrate in their stomachs. The forage is better quality so they eat more of it, and that all translates into more milk.”

Kilcer cites an alfalfa study that showed 13% more milk was produced from a ton of first-cutting haylage chopped from wide swaths vs. narrow ones. In second-cutting grass, which had excellent drying conditions, 9% more milk was made from a ton of wide-swathed forage.

Wide swathing, Kilcer says, has other benefits. “The big change is that being able to feed higher forage reduces the vet bill. The culling rate drops dramatically and profitability increases.”

For years, farmers mowed to swaths as narrow as 2-3' in order to save a trip over the field. Kilcer cites several reasons why he wanted to go wider.

For most Northeastern dairies, the protein and energy from forage cost one-third as much as those same nutrients from a purchased grain source. So he investigated why producers didn't feed their cows more forage.

“Nutritionists right away came back and said it was because of soluble protein,” Kilcer explains. Protein solubility tends to run at about 65-70% in haylage. The cow's rumen absorbs the protein quickly, dumping it into the kidneys, which excrete it.

“It uses a whole lot of energy to do that — actually decreasing milk production and increasing the amount of nitrogen coming out in manure,” he says.

“That's when I discovered graziers' forage-analysis energy levels. They were 0.65 net energy lactation, and in some cases, 0.7 — well over the energy in our haylage, which would run as low as 0.45.

“So I asked what happens to the energy in our haylage? It turns out plant respiration is a key factor.”

When forage is thrown into a narrow windrow, Kilcer says, the plant stops photosynthesizing and burns energy. “The longer it sits there and burns up energy until it's pickled, the lower the energy and the more soluble protein you are going to have.”

So to reduce drying time, he tried wide swaths.

Wide-swathed hay is hit with more sunlight, drying faster and more uniformly than hay in narrow windrows, Kilcer says. “The plants also continue to photosynthesize and grow. When you cut off the stem of the plant, it doesn't know that and keeps growing as long as it has sunlight.”

Hay on the outside of narrow swaths may dry, but that within stays wet. “Growers look at narrow windrows two days later and say, ‘This looks just as good as when I mowed it.’ It may look just as good, but it's not. Soluble protein is sky-high and digestible sugar and starch contents are decreased dramatically.”

The major obstacle to wide swathing is the equipment, Kilcer says. “A 12' mower that we were using laid only an 8' windrow — that's only 66% of cutterbar width,” he says. “It's sort of like having a V8 engine only running on six cylinders.”

Hanehan and Gaige aren't complaining. Hanehan uses a 12' mower-conditioner that leaves an 8' swath and a 16' machine with conditioning fingers that “break the hay up a bit more and allow it to dry quicker. That mower leaves two windrows behind it; each is probably 4-5' wide.”

Gaige cuts with a 10' mower-conditioner and doubles up the windrows rows with a rotary rake.

Hanehan chops 6-8 hours after mowing a first cutting. Gaige usually chops 3-4 hours after mowing. If he mows late at night, he chops the next morning.

“The shorter the time length from when you cut it to when you harvest it and put it in the silo, the better quality your haylage will be,” Hanehan says.

It's extremely important to make haylage in a day, Kilcer agrees. Studies have shown, for example, that 2½% dry matter is lost per hour on hay that's over 80% moisture. "That's a huge hemorrhage of forage quality while it sits overnight."

For information on what it costs machinery-wise to go wide swaths, visit http://www.cce.cornell.edu/rensselaer/agriculture/.

Wide Swathing Tips

To wide swath for quality haylage, Tom Kilcer, Rensselaer County, NY, extension agent, suggests the following:

- Mow, then merge or rake, chop and store haylage within the same day to hold feed energy.
- In the Northeast, use alfalfa height to predict when to harvest cool-season grasses in spring. Straight grass stands, should be cut when alfalfa is at 17"; 50% grass/50% alfalfa stands, when alfalfa reaches 24"; and 100% alfalfa stands, when alfalfa's tallest plant hits 30-32".
- Raise cutting height by 3-4". "By lifting the cutterbar up, we leave a bit of dry matter in the field, but the swath stays up off the dirt," Kilcer says. "Then the mergers, by having the wheels set correctly, can pick up the swath without picking up dirt or stones."
- Drive on swaths if need be; it won't hurt forage quality. "By raising the cutterbar, the stubble tends to spring back up. The swath is only 2-3" thick and when you drive on it, it becomes ½" thick and dries just as fast. Mergers have no problem picking it up without picking up dirt."
