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Put Hay to Work for Feed, Shelter & Fuel Savings

As I write this, it is a short week for the Thanksgiving holiday, my hope is that everyone can find reasons to be thankful and spend time with family over the holidays. In coming up with ideas to write, I ran across this old article from Joe Roybal, found it to be interesting, and hope it will be the same for those who are looking for ways to make multiple uses of hay bales. Driving the countryside, there are still forage bales in the field or on field margins, so if you will be moving forage for winter feeding, this might be a consideration yet this year.

Since 1998, the manager of the John E. Rouse Beef Improvement Center near Saratoga, WY, has stacked more than 2,000 tons of large, round bales in giant "V" shapes pointed directly into the prevailing winter winds. The hay serves as winter feed for the Colorado State University facility's 400 commercial Angus cows and yearlings. But the stacking method also helps stabilize the cattle's nutritional requirements by providing them with shelter from chilly winter winds. Plus, the V shape makes snowed-in haystacks a thing of the past.

The giant, V-shaped walls of large round bales in the winter-grazing areas are stacked two deep and two high to a height of about 12 ft. The bottom rows stand vertically and the top rows lay horizontally across the top. The two, 100-ft.-long wings (50 bales each side) come together to form a 90° wedge. The point is oriented directly into the prevailing winter winds.

The hay compacts to form a solid surface impervious to wind. When the wind runs into the V shape of the stack, it spills to the sides, channeling wind and snow along the sides of the wedge rather than over the top. The diversion greatly reduces the wind velocity in the area behind the stacks for as much as 300-400 ft. downwind. It also eliminates accumulation of blowing snow in the protected area.

Moon's old-style stack yards tended to drift in. It wasn't unusual to have to use a crawler tractor to cut a path into a stack yard and dig out the bales at feeding time. The wedge design, however, keeps bales accessible as the wind scours snow from along the front of the structure and deposits it downwind outside the shelter area. "We've found the system works very well. The wedges take less space than our old stackyards and are cheaper to fence because of that," he says. "We haven't had much snow the last 5-6 years but we have had a lot of wind and below-0 weather. That's when the cow's really utilize the shelter behind the wedges."

During the winter-feeding season, Moon feeds from the ends of the wings. To prevent feed loss to wildlife, he surrounds his wedges with game-proof fence, something operators in other locales shouldn't have to do. "If you don't have a wildlife problem, temporary wire panels probably will work to keep cattle out of the hay supply," Moon says. "Corral panels would work the best, but they're expensive."

Moon feeds from the ends, working toward the middle as the winter progresses and the need for shelter dwindles. On the coldest of days (those 0 and below), he feeds behind the shelter. On most days, he spreads hay away from the shelter to draw cattle out from the protected zone to spread out the manure buildup.

The hay wedges are the brainchild of Bob Jairell, a hydrologic technician formerly with the Rocky Mountain Research Station in Laramie, WY. The idea was born out of research he and a team of blowing-snow experts developed over more than three decades. The team's methods and designs are in extensive use throughout the world.