

The High-Moisture Option

Feeding high-moisture byproducts can be an excellent way to reduce feeding costs, but it pays to do one's homework.

Story & photos by Ed Haag

As the price of conventional animal feed rises, more beef producers are looking to locally available alternatives to help control production costs.

"In the near future, the only way some regions in the U.S. are going to remain competitive in the cattle industry is if they feed byproducts," says Mark Nelson, beef researcher at Washington State University. "With our rising freight rates, the Pacific Northwest is one of those regions."

Nelson notes that other regions include California; parts of Canada; Midwestern states like Minnesota, Wisconsin and Michigan; and southern states such as North Carolina and Georgia. Some of the more popular and available high-moisture byproducts are wet distillers' and brewers' grains, corn gluten, whey, apple and grape pomace, and a variety of vegetable and fruit culls and production leavings.

John Johns, University of Kentucky Extension beef specialist, notes that the practice of feeding byproducts is definitely a growing trend in the South. "This is particularly true with wintering cow rations," he says. "Byproducts can be an excellent source of soluble high fiber that complement forage."

But, he adds, there are risks. The nutritive value of these byproducts vary significantly, with high-value byproducts having a greater net energy for gain (NE_g). Byproducts can range from high value, such as fried potato byproducts at 1.87 NE_g, to low value, such as apple pomace at 0.41 NE_g. Uncooked potato byproducts rank at 0.65 NE_g, compared with ground corn at 0.66 NE_g.

Harlan Ritchie, Michigan State University Extension beef specialist, has this warning for first-time buyers: "You better get darn good with your pencil and figure out how much

water you are hauling and how much it is costing you." He adds that the cost-effectiveness of a byproduct is determined by its nutritive value and moisture content.

Captive supplier

In the Pacific Northwest, the most common high-moisture byproducts are generated by the vegetable-processing industry, Nelson says. "This is a real opportunity for beef feeders," he says. "These processors have to get rid of the byproducts that come out of the back ends of their plants if they hope to continue processing food for human consumption."

The two other alternatives to feeding high-moisture byproducts to cattle are sending them to a landfill or composting. Both of these solutions involve higher costs and more effort to the processor than feeding.

"Because we are looking at a product that has a high liquid content, there are also concerns about contaminating the groundwater," Nelson says. "Without regional feeders to take the high-moisture byproduct, the processors have a major problem on their hands."

Even those processors that remove excess moisture from byproducts, concentrating the nutritive value and making it a more attractive animal feed, are becoming increasingly reluctant to go that final step.

"As the cost of energy rises, it is getting very expensive to dry these byproducts," Nelson says. "They would rather get rid of it in a high-moisture state."

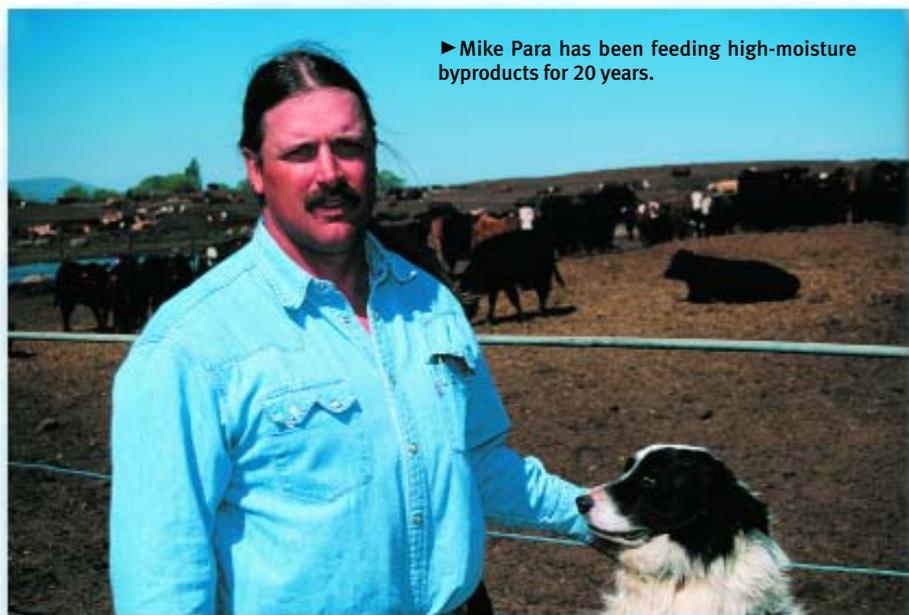
Nelson believes that in areas of Washington State where potato byproducts are available, beef feeders can start saving by using the byproducts as grains, such as corn and barley, move higher in cost than the byproduct's dry-matter (DM) equivalent.

He cites, as an example, a potato byproduct with 18% DM and the nutritive value of corn selling in eastern Washington for up to \$10 per ton, delivered. At that price, the byproduct's DM equivalent value is \$55.55 per ton — a bargain when compared with Midwestern feed corn that sells in Washington State for more than \$100 per ton, delivered.

Father and son Angus seedstock producers Corrin and Greg Rathbun of Moses Lake, Wash., have been feeding vegetable byproducts for several years with excellent results. However, Greg warns, not all moist byproducts will save you money. On the contrary, effective byproduct feeding requires knowledge, experience and caution. No two loads are the same, and there are winners and losers.

"Before we consider any byproduct, we sit

CONTINUED ON PAGE 134



► Mike Para has been feeding high-moisture byproducts for 20 years.

down with the feed tests," he says. "Then we look at the cost of the feed and see what it is giving us."

Consult a nutritionist

Mike Mehren, an independent livestock nutritionist who has worked with the Rathbuns for more than a decade, says when it comes to frugal feeding, Greg and Corrin are the best. "They can cut feeding costs by as much as 50¢ per animal per day over a conventional diet of hay and grain," he says.

This is accomplished with no health risk to the herd, Mehren adds. "Because they aren't afraid of using vitamins and supplements, you won't see any animals leave the Rathbun operation with a nutritional deficiency."

Greg blends 25% blue grass straw — a product he purchases for around \$40 a ton — with the cannery byproducts. This reduces the moisture content and adds some long fiber to the ration.

He admits that there is more to their feeding strategy than just reducing feed costs. Pampering their animals with high-quality feed is counterproductive to their overall goals. "Our main market is selling to commercial ranches in eastern Washington and eastern Oregon," Greg says. "So, we have to produce the kind of cattle that will survive in the rough country."

The Rathbuns sell 100 bulls and 50 cows at their annual sales in February. They have found their most lucrative market in bulls from 16 to 18 months old. "This gives our animals a leg up on the yearling bull competition," Greg says. "They are ready to go to work when we sell them."

To maintain this marketing edge, the Rathbuns must calve in the fall and feed the lactating cows through the winter. As Greg explains, this wouldn't be financially possible if they were just feeding high-quality hay. "We'd feed them right into bankruptcy," he says with a smile.

Proof in the flavor

Mike Para, who operates a 5,000-cow feedlot in Othello, Wash., has fed potato byproducts to his animals for more than 20 years. He is convinced that the quality of his finished carcasses is equal to any branded corn-fed beef.

"We have the unbiased scientific data to prove it," he says. "Those people marketing the Midwestern product just choose to ignore it."

Para is referring to the results of a study funded by the Washington Barley Commission, Washington Cattle Feeders



► The Rathbuns inspect a blend of straw and high-moisture byproducts.

Association and Washington Beef Commission comparing the flavor and appearance of beef cattle fed exclusively on corn with beef cattle fed barley and up to 20% potato production byproducts. The study challenges the longstanding belief that corn-fed beef is significantly better than beef finished on other feeds.

"This perception that people have that corn-fed beef is better is simply incorrect," says Nelson, who was one of the researchers conducting the study. "Our research shows that this common belief just doesn't hold up under scientific scrutiny."

Three panels, one of consumers and two of professional evaluators, concluded that any taste difference between corn-fed beef and beef fed with barley and up to 20% potato production byproducts was insignificant. "The people on the consumer panels were not able to discriminate between any of the diets," Nelson says.

He says the results were especially significant because of the number of consumers participating in the study. More than 100 consumers in two locations — the Washington Cattle Feeders' Convention and the Washington Cattlemen's Convention — tasted four samples of beef, which included corn-fed, barley-fed, barley-fed with 10% potato byproducts, and barley-fed with 20% potato byproducts.

Good value

For Para, feeding up to 17% byproducts on a DM basis is an economic necessity when grain prices are high. "Add at least \$20

a ton for corn shipped out of Nebraska," he says. "Without the byproducts, we just can't compete."

In spite of the potential savings, Para does not see byproducts as an economic panacea. "You still [have] to watch your bottom line, even at \$5 to \$10 delivered — especially in a cheap grain market," he says. "There are a lot of hidden costs that add up."

He notes that a byproduct with 80% moisture is far more expensive to handle than conventional feed. "With all that water, you are hauling more loads, breaking more bearings, burning more fuel, eating more tires and spending more man hours to feed the same amount of dry-matter to your cattle," he says. "We are feeding a 55% dry-matter ration while our friends in the Corn Belt are feeding an 80% dry-matter ration."

Like Rathbun, Para recommends testing a representative sample for nutritive value and moisture content before making a commitment to a processor. By adding in its cost, including delivery, a feeder can make an initial determination whether the product is worth bothering with. He notes that high-moisture products often require leak-proof truck beds for transport, specialized equipment for mixing and feeding, and bunkers for storage and silage. If new purchases or construction are necessary, they should be amortized into the life of the contract.

"Make sure you include all your expenses before you commit," Para says. "It has to save you money in order to make sense."

