Ruminants *And* Fiber

Fiber, distiller's Grain Provide High Energy, High Protein Source For Ruminant Animals

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Ruminant digestion was explained recently in a presentation by Dr. Daryl Strohbehn, Iowa State University extension beef specialist at the Iowa Beef Center.

"We are very fortunate from the standpoint that we do have the ruminant livestock because they utilize feed products that we as humans and other simple stomach animals cannot," he said. "As we look at all the fiber production that takes place, not only in our country but worldwide, the ability of the ruminant animal, with the microbial population that they have in their rumen, to digest fiber is a huge element that they offer to us. To go along with that, of course, we end up with beef, a very high protein human food source that contains the essential zinc, iron and B vitamins that we need in our human diets."

Strobehn noted that this is a co-product world now days. With all the ethanol production that is taking place in the Midwest a large portion of the corn crop is being used as an energy source, a new era in agriculture has sprung up.

"That is causing a lot of excitement," Strobehn said. "The thing that is nice about it is, not only are we getting the ethanol as a source of fuel for our cars, but also we end up with a co-product called distiller's grains. We call it a co-product rather than a by-product because it is a very high energy, high protein resource for the livestock industry."

Distiller's grain is very digestible by the ruminant animal and can serve as an excellent source for supplementing the ruminant animal fr-om a protein standpoint. Ad-ditionally, it has a higher energy value than corn grain do-es."

"Not only is it really high in protein, running 30 percent to 35 percent crude protein, but for the ruminant animal it has what we call a very good bypass value," he said. "In other words, not all of it is broken down in the rumen. Part of it actually bypasses in-to the lower GI tract and is used even more effectively as a protein source for the ruminant animal.

Strohbehn also discussed how to utilize co-products in cow calf operations and for develop

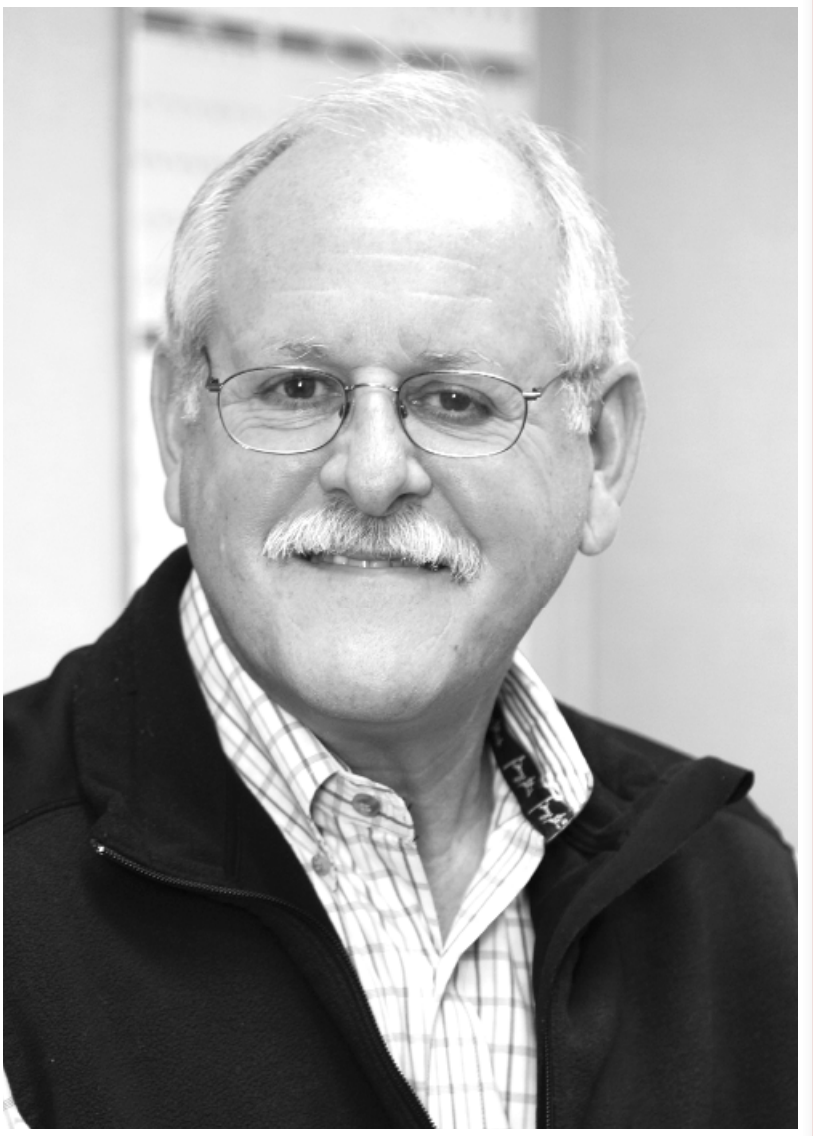
ing heifer rations.

"Certainly, depending on the situation that each producer is dealing with, distiller's grain can serve very nicely as an energy source," he added. "At least in our area, we have had some fluctuations in weather. We have had a major decrease in hay production because of the dry periods. As a result we ended up without the hay resources. Some of our producers are relying on more low quality forages, namely corn stalks. Some had to buy back their CRP land and bale that. Both of these feed resources are low quality forages and distiller's grain fit very nicely in supplementing them from an energy and protein standpoint."

While distiller's grains are spoken of often as a cattle supplement, they are also being utilized in swine rations.

"Inclusion rates cannot be as high as in cattle rations due to fiber content and fat in the distiller's grain and also how it compares from a pricing standpoint," Strohbehn said.

"Producers of both pigs and poultry are more conscious about the energy cost that goes into their rations than what we would be probably in the cattle business. Typically you will see inclusion rates on finishing pigs being maybe 5 percent to 15 percent, depending on where the prices lie. Some of the gestating sow rations might have a higher inclusion rate than that because they can tolerate more fiber in their rations. Hog producers have to keep in mind this is a product with a great deal of fiber, and hogs are a mono-gastric animal. They can't handle as much fiber as we can in the ruminant diet."



Dr. Daryl Strohbehn, Iowa State University extension beef specialist at the Iowa Beef Center explains ruminant digestion. Photo by John LaRose, Jr.

Strohbehn suggested that the wet distiller's mixture can be stored in oxygen-limited type situations, but needs to be about 40 percent to 45 percent moisture in order to pack well enough for this type of storage. With good packing and storage principals, the mixture can be expected to be stored through the winter and utilized for a period of 4 to 6 months. However, producers need to realize that once the storage structure is opened, feeding needs to commence at a steady pace or spoilage will likely occur.

"Stay tuned," he urged. "All the answers don't exist yet."

He said he knows of people keeping the mixture easily for six months and he thinks that with the right conditions maybe it could be stored for a year.

"But if you put it in a bunker, keep it covered with plastic and then you start feeding out of it, trying to get that resealed so that it will maintain itself over another six months is going to be tough, if not an impossible proposition."

While the wet product may have a short life span, the dry product stores very well in a commodity shed.

"I don't think a year is any problem with the dry product," he concluded. Δ