Grass to Cash

Southeast forage specialist explains the significance of forage value in cattle production.

Story & photo by
SHELBY METTLEN, *assistant editor*

"Primarily, what we're in the business of doing is turning grass into cash," Dennis Hancock, associate professor and state forage extension specialist for the University of Georgia said at the Cattle Industry Convention on Feb. 1. Hancock spoke as part of the 24th annual Cattlemen's College® in Nashville, Tenn.

Forage quality is the key to profitability in beef cattle systems, Hancock pointed out. It's important to note that nutrient needs change with the stage of production of an animal. Producers need to understand the relationship between gain and animal health to boost immunity and nutrition at the same time.

Protein is important, but it's normally fairly easily fed, he said. It's usually not as challenging as energy to get into an animal.

"Getting the caloric intake into those animals is often our biggest limitation," he said.

The relationship between quality and animal performance is more apparent in the stocker industry than it is in the cow-calf segment, he said, noting that steers gaining 2.5 pounds (lb.) per head per day, should be receiving a diet with about 74% total digestible nutrients (TDN). Cows at peak lactation need about 60% TDN and 12% crude protein (CP), and those requirements drop to just 48% TDN and 7% CP at weaning.

As the cattle industry knows, body condition score (BCS) is very important. An adequate BCS of 5 or 5.5 on a 9-point scale is crucial to getting animals bred back.

Know how much TDN your cattle need to consume to breed back successfully, Hancock urged. "It's much easier and much better to try to keep them at that body condition score than it is to try to build it back."

Don't forget the microbes

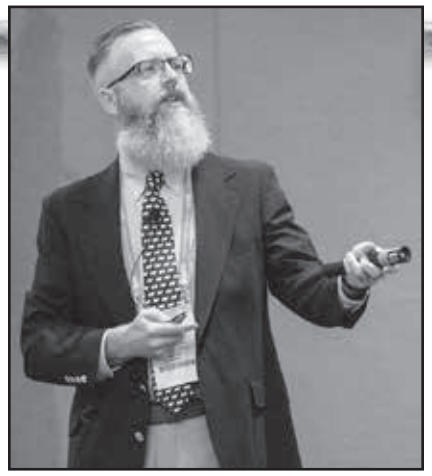
"At the end of the day, we need to recognize that we're not just feeding the animal; we're feeding the microbes that are in that ruminant animal," Hancock reminded producers.

The energy value in a forage is the fiber content that is able to be broken down into the basic sugar molecules that are then able to be converted into energy.

Fiber is just long chains of sugar, he reminded his audience. Microbes convert those chains into an energetic product, and the animal then turns it into meat and milk.

Factors influencing forage content

Hancock introduced seven factors he



Left: The later a crop is harvested, the greater the yield, but the lower the quality. Less digestibility means more manure, said Dennis Hancock, associate professor and state forage extension specialist for the University of Georgia. "We might be producing more bales, but at a certain point, we're just producing more manure."

considers most important to improving forage content.

Plant maturity. "The No. 1 factor, bar none, over everything else, is plant maturity," he said. After a forage reaches 80% of its maximum growth, it begins to lay down more fiber and lignin, making the crop less digestible. When harvesting forages, shoot for 80%-90% of plant maturity.

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"We might be producing more bales, but at a certain point, we're just producing more manure," Hancock pointed out.

Forage species. His second most significant factor was forage species. He encouraged producers to grow the highest-quality forage that will actually persist in their respective regions.

Bale storage. Without proper storage, bales can lose an average of 4 inches (in.), or 25% of total weight. That can extend up to 12 in., or 50%, in extremely wet conditions.

"Those bales that are stored on the ground, we're paying for barns whether we want to or not," he said. Look at ways to break the connection between the wet ground and the bale, he urged. Any way to break that connection can improve your bale losses.

Rain during curing. Different species are affected differently by rain damage, Hancock noted. Additionally, when rain falls on cut hay the day it's cut, loss is less significant than if it falls a few days later.

Moisture at baling. Heat can have a significant effect on protein content and protein digestibility, he said. As heat increases, usable protein decreases. Palatability can increase to a point if hay is heat-damaged, because heat has a caramelizing effect. However, protein content decreases with significant heat and moisture.

Fertilizer. Fertilizer can have a significant impact on protein content, but not on digestibility and energy. Hancock noted that he worries about nitrates in Bermuda grass with greater than 15% CP.

Varieties. Finally, he pointed out that forage variety can make a difference, as well. He encouraged producers to study up on new varieties and forage varieties that work best in their environments.

Grass grows grass

"Be careful of the cutting height of your implements," Hancock noted as a closing point.

Leaving grass on the field feeds soil microbes. Forage will grow back faster, stronger and higher-quality than if it's taken all the way to the ground. A

Editor's Note: *This article was written as part of Angus Media's coverage of the 2017 Cattle Industry Convention. For further coverage, watch future issues of the* Angus Journal *or visit* www.angus.media.