

AgriLife research helps pave the way for a new livestock feed product

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A two-year study by a Texas AgriLife Research team in Amarillo has helped bring a new product to market that could allow the cattle feeding industry to realize efficiencies in mills and more weight on cattle, according to Dr. Jim MacDonald.

MacDonald, an AgriLife Research [beef cattle](#) nutritionist, finished his second trial of [cattle](#) early this year studying starter diets in feedlots during the transition phase from pasture to feed yard.

Typically, a steer or heifer will come off of a forage diet when it goes into the feedlot, he explained. For the first 21 to 28 days in the feedlot, the cattle are fed a diet that allows their rumen microflora to adapt to grain instead of forage.

"This is usually done with roughage, and as they go through the period of adjustment, the amount of roughage goes down and the amount of grain goes up," MacDonald said.

If the animal is not allowed to go through this process, it can suffer rumen acidosis, which is typically characterized by decreasing rumen pH and digestive disorders that cause the cattle to go off feed, he said.

The problem for feed yards, MacDonald said, is handling the roughage needed for this transitional diet can be inefficient. Roughage is typically expensive per unit of energy and is bulky and difficult to handle in the feed mills. Also, there can be a substantial amount of shrink depending

on the roughage used.

Through a grant funded by Cargill Corn Milling, MacDonald conducted two trials with 315 cattle in each to help develop a product that acts like a forage in the rumen but has the energy value of corn.

Cargill already produces Sweet [Bran](#), a branded corn gluten feed that is high in digestible fiber with an energy value similar to corn, but without the potential to cause rumen acidosis, he said.

Cargill is expanding on the Sweet Bran product with a new one called RAMP, he said. RAMP is a complete starter feed to adapt cattle to finishing diets of Sweet Bran pre-mixed with cottonseed hulls, alfalfa hay, vitamins and minerals.

"Our first trial was to determine if the concept would work in the Southern Plains and to help determine what level of cottonseed hulls might be optimal," MacDonald said. "Our second study looked at how many days the product should be used to step the cattle up."

The trial looked at 14-30 days, and while statistically it didn't seem to make a difference on the length of time fed, MacDonald said he is most comfortable with feeding the product at least 18 days or more. He said the 14-day period may be too fast.

"Maximum energy intake early in the feeding period appears to have a large impact on growth and performance," MacDonald said. "By using RAMP, we increased their energy intake during the adaptation period. Our studies showed it allowed an additional 17 pounds of hot carcass weight to be captured on average."

In addition to increasing weight gain, RAMP helps improve feed mill efficiencies because of the reduced forage that needs to be handled –

about one-third less – and the reduction in the number of diets that they were having to mix, MacDonald said.

"This is one more step that allows feed yards to improve on their efficiency with beef production, capture more pounds of beef per animal, and potentially reduce the cost of beef to the consumer," he said.

Provided by Texas A&M AgriLife Communications

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