

## SulfurBusters

*Crookston, Minn.*—New cattle diet research supported by AURI will help determine if a little-known element can help offset one of the biggest negatives to feeding ethanol coproducts to cattle.

Dried distillers grains (DDGS) have become a staple ingredient for many of the nation's cattle producers. Of the approximately 13 million tons of DDGS produced in the United States in 2006, about 85 percent went into cattle and dairy feed. The distiller's grains provide a lower cost ingredient than corn, plus the nutrients are more concentrated. But that concentration may not always be a good thing.



High levels of sulfur in the DDGS present a problem for beef cattle producers

who feed a high grain, low forage diet. Sulfur binds to needed nutrients like iron, selenium and copper so they pass through the cow's system without being utilized. The cow's rumen also converts sulfur into hydrogen sulfide, a gas the cattle expel by belching. Prolonged inhaling of this gas can cause a condition called sulfur toxicity that affects the cow's performance and can result in brain issues and even death.

Research at the University of Minnesota-Crookston and collaborating institutions in Florida will examine whether adding manganese oxide to feed rations will offset the negative aspects of the sulfur.

"Given current high corn prices, cattle feeders would like to use more DDGS if possible," says Jennifer Wagner, AURI project development director, "but the sulfur issue is a limiting factor."

Much like other nutrients bind to sulfur and pass through, tests in artificial rumens have shown that manganese works to bind sulfur. Research beginning in April on live animals will determine if results from real rumens will be similar. Positive results from the study could mean an increase in the amount of distiller's grains that could be included in cattle rations.

## InternationalBiomass

*Minneapolis, Minn.*—Biomass is a developing resource around the world and for several days in April, Minnesota was the center of the biomass universe.

The International Biomass '08 conference brought leading researchers and businesses from across the globe together to share research results, new technologies and innovative ideas for utilizing biomass for the production of biopower, bioproducts, biochemicals, biofuels, intermediate products, and coproduct utilization. Presenters and panelists brought information on activities and technologies being researched and employed on biomass projects in South America, Europe and Asia.

"The expertise and knowledge of the participants and presenters was very impressive," says Associate Scientist Alan Doering, who heads up AURI's coproduct utilization program. "It was a great opportunity to learn about what is occurring elsewhere around the world and to make contacts with possible resources that AURI can use for our projects and to connect with our clients."



Doering was one of two AURI staff selected to present at the Biomass '08 event. Edward Wene, AURI senior scientist presented information on post-harvest replanting of hybrid poplars. Doering presented on the use of ethanol solubles as a fertilizer for corn.

"We were fortunate to present some of the research we've conducted," Wene adds. "It just reinforces that a lot of the work being done in Minnesota is as cutting edge as anywhere in the world."

**continued...**

# AgNewsUpdate

## Biomass continued...

Many of the topics discussed during the three day event go hand in hand with work being done in Minnesota and by AURI. Issues ranged from water usage for biomass utilization and new technologies for thermo-chemical conversion to carbon sequestration and the development of new alternative biomass feedstocks.

“This was valuable information that applies to current AURI projects and initiatives, but also can be helpful for future opportunities,” says Doering. “It was a great way to share what we know, to gain more knowledge about what is happening with biomass world-wide and to bring back connections to resources that could be beneficial for future projects.”



*Hybrid poplar trees have been researched as a woody biomass crop for energy, paper and more. AURI scientist Edward Wene presented information on poplars at Biomass '08.*



*Ag Innovation Update*™ is a publication of the *Agricultural Utilization Research Institute*.  
For more information, contact AURI's Southeast Office in Waseca at (507) 835-8990.



**AURI**  
**P.O. Box 251**  
**Waseca, MN 56093**

Non-Profit  
Organization  
U.S. Postage

**PAID**

Permit No. 1633  
St. Cloud  
MN 56301

**AURI on the Web!**  **www.auri.org**  
