Missouri Ag News

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Ammoniation of Low-Quality Forage

Inside this issue:

Look for the color code to find articles related to the following.

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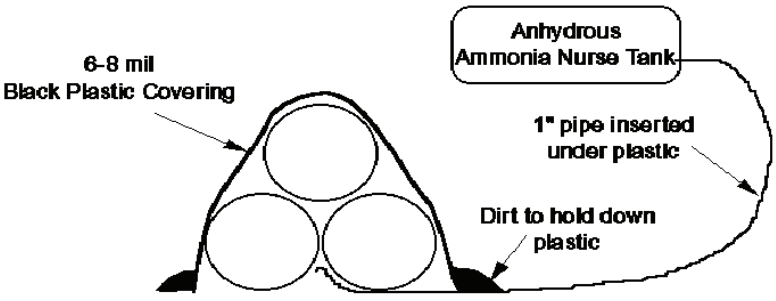
Engineering	Livestock
Forestry	Other

As I write this article, I am wishfully anticipating the rains coming from hurricane Isaac. However, we cannot depend on this weather event to end our drought situation. Hay supplies are still short and livestock are still hungry. A large number of you are looking at filling the feed gap with low quality forages like corn stalk bales and rice straw. Typically these forages are low in protein and energy, serving as only filler for our animals. Corn stalks run about 5-6% protein and 51% TDN and rice straw is even worse testing at 3-6% protein and 44% TDN. The typical cow in the third stage of pregnancy requires 8% protein and 52% TDN.

One way to improve the nutrition of poor quality forage is through ammoniation. Ammoniated forage is forage stacked under a tarp and treated with 60 pounds of anhydrous ammonia per ton of forage. It is critical to know the weight of the bales to purchase the correct amount of anhydrous ammonia. After three weeks, the forage quality is increased and can be fed. It is estimated that the cost of ammoniating forage is about $25 per ton.

The ammoniation process is simple. Large round bales are stacked seven at a time – four bales side-by-side with three on top. More than 100 bales fit under a standard 100-foot sheet of plastic. It is recommended the plastic be 6 or 8 mil black or clear in color and be UV resistant. Plastic edges should be secured by covering them in a trench or sealing the edges with waste lime. Pipe in the ammonia using a 1 inch pipe inserted into the center of the stack under the plastic.



Attach it to a fence post to keep it in place. Add the ammonia slowly over a 3-5 hour period or overnight. After 3 weeks the forage can be fed. It is best to let the hay air out for 1-2 days before feeding. Please note, if your

Ammonization...Continued

forage has tested high in nitrates ammoniation WILL NOT decrease nitrates in the forage.

Safety is critical when working with anhydrous ammonia. Be sure to follow all safety rules:

- Wear goggles, rubber gloves and protective clothing.
- Work upwind when releasing ammonia.
- Have fresh water available to wash off any anhydrous ammonia that comes into contact with skin.
- Check all valves, hoses and tanks for leaks.
- Check the plastic cover for leaks and patch with duct tape.
- Do not smoke near anhydrous ammonia.
- Keep children away from the treatment area.

If you are interested in learning more about the ammoniation process the University of Missouri, the Missouri Corn Merchandising Council and the Missouri Cattlemen's Association are hosting workshops across the state to demonstrate how to improve digestibility of corn stover and lower-quality hay by 15 percent while doubling the feeds' protein content. The workshop schedule is below. For more information you can contact Justin Sexten at *573-882-8154 or each location's University of Missouri Extension office.*

Workshop schedule:

Sept. 11 at Joplin Regional Stockyards, 6 p.m.
Sept. 13 at Brent Martin's farm in Anutt, 3:30 p.m.
Sept. 18 at the MU Thompson Research Center Field Day near Spickard, 9 a.m.
Sept. 20 at MU Beef Research and Teaching Farm in Columbia, 9 a.m.
Sept. 25 at MU Forage Systems Research Center Field Day near Linneus, 9 a.m.
Sept. 27 at Brent Versemann's farm near Perryville, 6 p.m.

Square bales of straw stacked on pallets, treated with anhydrous ammonia, and then stored under plastic and tarps.—Courtesy Forage and Grazinglands

If you would like more information on forages or feeds for livestock you can contact me at (573) 224-5600 ext. 8 or your local Extension office.

Material for this article was taken from articles written by Craig Roberts, MU State Forage Specialist, Rob Kallenbach, MU State Forage Specialist and Gene Schmitz, MU Regional Livestock Specialist.

Kendra Graham, Livestock Specialist, University of Missouri, Extension, Greenville, MO

Crop Residue for Livestock Feed

This summer's weather has been disastrous for Missouri livestock producers. The hay and pasture crop is down, and several Missouri farmers and ranchers have resorted to selling their herd. However, with irrigation, Southeast Missouri row crop farmers have been able to maintain a respectable yield, and hopefully a profit. The remaining material from these crops, can in many cases be used for livestock feed.

Missouri livestock producers are in search of hay. To assist in sourcing hay, the Missouri Cattlemen's Association has established a hay directory. This is for those farmers who have hay for sale, and also those who have forage including crop residue available for custom harvesting.

This is an opportunity for Southeast Missouri row crop farmers, to have additional income, but also help out their fellow farmer. There have already been several farmers in Southeast Missouri harvesting corn stalks for livestock feed. Rice harvest is next. Rice straw has been used for livestock feed, especially, in drought years.

If you are a rice or row crop farmer, and interested in either selling baled rice straw, other baled crop remnants; or allowing custom harvesting on your farm; please contact Sammie Jo Freeman, Missouri Cattlemen's Association; 573-499-9162. University of Missouri Extension, the Missouri Rice Council and US Rice Producers Association are assisting with this effort.

Van Ayers, Agriculture and Rural Development Specialist, University of Missouri Extension, Bloomfield, MO

Certified Forage Testing Laboratories

For a list of laboratory facilities certified by the National Forage Testing Association go to http://www.foragetesting.org/files/2012/2012_Certified_Labs.pdf. Labs located in Missouri or surrounding states include:

MQT Lab Services
8600 NW 107th Terrace
Kansas City, MO 64153
816 801-6304
Bob Shaffer / Sheri Smith

Custom Laboratory
204 C Street
Golden City, MO 64748
417 537-8337
Monty Dade

Agricultural Diagnostic Lab
1366 W Altheimer Drive
Fayetteville, AR 72704
479 575-3908
Nancy Wolf

Kentucky Dept. of Agriculture
107 Corporate Drive
Frankfort , KY 40601
502 573-0413
Kimberly Field

Alfalfa Analytical Laboratory
PO Box 963
Lakin, KS 67860
620 355-6792
Shannon McCormick

Agri-King, Inc.
18246 Waller Rd
Fulton, IL 61252
815 589-2525
Jeff Horst

ADM Alliance Nutrition
1000 North 30th Street
Quincy, IL 62305
217 231-2575
Travis Holmes / Julie Wilson

Vegetable Crops for Sand

If they are planted too early, when soil is cool, the leaf will grow but the root will not.

Added to the many oddities of the 2012 growing season is the early harvest of sweet potatoes. Some growers in southeast Missouri have been taking advantage of the perfect sandy soil found throughout the area and have been working with sweet potatoes for 3 or more years.

Sweet potatoes need a soil that offers good drainage and easy access. The plant also needs heat. Many may believe that this plant needs a long growing season to achieve a good harvest but what is really needed is heat.

Potatoes are planted in May or later, once the soil temperature reaches a consistent 60°F. If they are planted too early, when soil is cool, the leaf will grow but the root will not. Slips can be planted as late as July to achieve an October harvest.

Sweet potato slips before and after planting.

Slips are the desired method for planting. Slips can be ordered in advance to arrive when needed. Slips are planted 3 to 4 inches deep on 6 inch ridges. Each slip should be 9 to 18 inches apart in rows spaced 3 to 4 feet apart. Black plastic is used to maintain soil moisture and control weeds as the vines grow. Straw or paper may also be used.

Pests of the sweet potato include wireworms and grubs usually found if the planting follows grass. Leaf eating insects may be an issue but disease problems include black and soft rots, wilt and the nematode, a pest found in southeast Missouri .

Selection of resistant stock and using a fungicide dip before planting will help with disease pressure.

Most plants are ready to harvest 90 to 120 days after planting but timing to harvest will also depend on summer temperatures. Days that reach 95°F and night time temperatures of 70°F work best.

Potatoes can be harvested for market or for processing. Some varieties to consider include Beauregard, Jewel, Redgold, Earligold and Centennial.

One quality that favors the production of sweet potato is storage. Once the root is properly cured it can be stored for up to 7 months in a facility with a temperature between 55° and 60°F to be sold over time.

Sarah Denkler, Horticulture Specialist, University of Missouri Extension, Poplar Bluff, MO

Missouri Hay Directories

www.mda.mo.gov/abd/haydirectory

This website by the Missouri Department of Agriculture allows a search by county, hay type and bale type to find locations in or out of state that have hay available for purchase. Hay can be listed for sale by contacting Mark Murphy if you wish to be included on the list at 573-751-5633 or Mark.Murphy@mda.mo.gov.

www.mocattle.org/haydirectory.aspx

This website by the Missouri Cattlemen's Association is a list of hay for sale.

www.agebb.missouri.edu/haylst

This website by the Missouri Department of Agriculture and University of Missouri allows a search for hay and allows a posting of hay for sale.

SOUTHEAST MISSOURI

Food Bank

Delivering Help and Hope to the Hungry

The Southeast Missouri Food Bank is eager for donations of specialty crops. The food bank will bring a 24 foot box truck to pick up available produce. Edible produce, including seconds, should be in a crate or box.

Contact James Landewee, Operations Director at 573-651-0400 several days ahead of time if possible and specify if a refrigerated truck is needed. He will provide you with a tax receipt for anything you donate to use as a tax right-off.

SBA
U. S. Small Business Administration

DISASTER ASSISTANCE

Economic Injury Loans for Small Businesses

GETTING DISASTER HELP FROM SBA

WHAT YOU NEED TO KNOW

- When the U. S. Secretary of Agriculture designates an agricultural disaster declaration the U.S. Small Business Administration (SBA) makes a disaster declaration as well. SBA's declaration makes Economic Injury Disaster Loans (EIDLs) available to **small, nonfarm businesses, small agricultural cooperatives, small businesses engaged in aquaculture** and **most private, nonprofit organizations of any size**.
- These loans provide working capital to help meet financial obligations and operating expenses, which could have been met, had the disaster not occurred.
- SBA may loan **up to $2 million** to help meet disaster caused working capital needs.
- The interest rate is **4%** for businesses and **3%** for private, nonprofit organizations.
- The loan maturity is determined by SBA, maximum is 30 years.
- Eligibility for these loans is based on the financial impact of the disaster only and not on any actual property damage.
- Eligibility includes:
  a. The disaster caused working capital needs of businesses dependent on farmers and ranchers that have suffered agricultural production losses caused by the drought.
  b. Working capital needs of businesses caused directly by the drought e.g., low water levels, water shortages other drought impacts.

How to apply

- Apply online using the Electronic Loan Application (ELA) via SBA's secure Web site at *https://disasterloan.sba.gov/ela*
- For additional information and applications:

  Visit our website at www.sba.gov/content/current-disaster-declarations
  Call SBA's disaster Customer Service Center at **(800) 659-2955**
  Hearing impaired individuals may call (800) 877-8339
  Email disastercustomerservice@sba.gov

For SE Missouri, please call Kevin Anderson, MU Extension Business Development Specialist, at 573-686-8064 for more information or visit **www.missouribusiness.net/sbtdc** to find your local SBTDC center.

Dairy Farmers Teleconference over Lunch

Over the phone, 44 Missouri dairy farmers and extension specialists shared ideas on how to feed dairy cows through the winter after a historic drought cut feed and forage supplies.

Matt Waldron, MU dairy nutritionist, asked all to think of feeds not usually used, such as broken bakery byproducts, to get extra energy for rations.

The most urgent information was to plant seeds early, September 1 is planting time, to grow winter annual cereal grains ahead of anticipated fall rains. If seed is not in the ground, you can't grow a crop, Rob Kallenbach, MU forage specialist, tells every group he visits. "By October 1, your chances are pretty well over."

Waldron told his plans for the dairy herd at MU Foremost Farm near Columbia. "I've bought 96 acres of cornstalks in a neighbor's field." The corn won't make grain as expected but will be chopped into silage. Oats will also be planted to provide forage for the dairy research herd.

Kallenbach recommended three cereal grains to plant for forage. For producing the most grass per acre, oats headed his list. Others are cereal rye and wheat. Oats won't live through the winter but others can provide grazing next spring

Joe Horner, MU economist and teleconference organizer, added, "I expect to see lots of the winter wheat to go into silage to feed dairy and beef cows." Cereal crops can be stored in silos or bagged in plastic.

The cereal grains can be seeded into bare cornfields cut for silage. Or grains can be drilled into dried-up pastures. The earlier the planting, the longer the fall growing season and the greater the potential yield. All depends on the return of rain.

Kallenbach warns farmers, "No matter what you plant, nothing will grow if the rains don't come. The soil is totally dry."

A hot topic for producers is the risk of high nitrates in cornstalks that did not produce ears. When nitrogen taken up by corn roots does not make kernels residual nitrogen in cornstalks can become deadlier in the form of nitrites in the cow's rumen. At worst, nitrates can kill cows. More likely, low doses will cause cows to lose unborn calves, lower milk production or become lethargic.

Cornstalks are not the only nitrate threat. Tests at the MU Veterinary Diagnostic Lab show dangerous levels of nitrates in fescue, pigweeds, Johnson grass and millet. Any drought-damaged forage can be dangerous.

Cutting and ensiling standing corn can reduce nitrate content by 25 to 50 percent after 60 days of fermentation in a silo.

Advice from MU Extension veterinarian Scott Poock was to test forages going into the silo—and the feed coming out. The cost of forage testing is less than the cost of a dead cow. Waldron came back to add that nutrient analysis as well as nitrate tests should be run on all feed. That allows a nutritionist to write an adequate milking ration for cows.

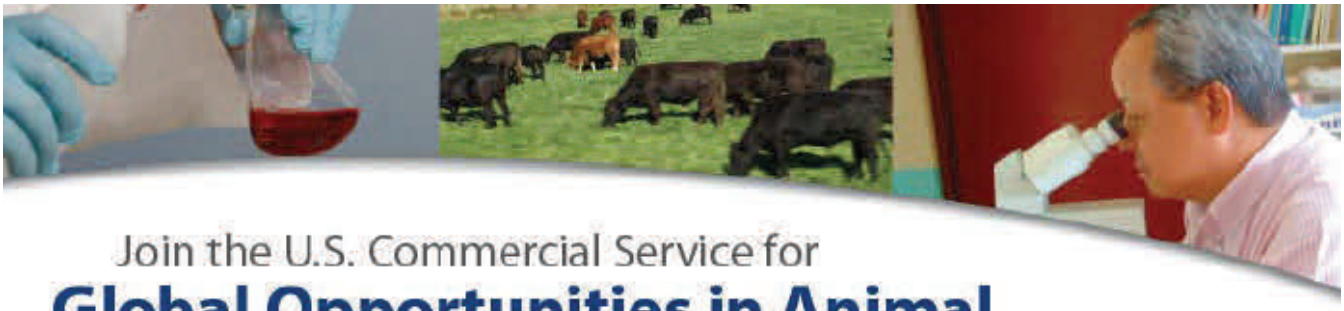
A dairy producer asked how to compare feed values of high-priced corn with hominy, which is available in truckloads nearby. He was referred to the list of byproduct feeds updated weekly on the MU AgEBB website http://agebb.missouri.edu/dairy/byprod/bplist.asp.

Horner, MU Extension economist, started the call-ins to reach dairy farmers who don't have a nearby dairy extension specialist. But any dairy producer can call in for the biweekly "talk shows." Farmers can find the call-in number, listen to past calls and find drought guides on the teleconference website at agebb.missouri.edu/dairy/droughtconf/.

The noon-hour calls are held every two weeks this fall on Mondays. The next one is September 10.

The programs are part of the MU College of Agriculture, Food and Natural Resources, MU Commercial Agriculture and MU Extension.

Duane Dailey, Senior Writer, University of Missouri, Columbia, MO



Join the U.S. Commercial Service for

Global Opportunities in Animal Health: Australia and Brazil

We invite you to join us and hear from U.S. Commercial Service country industry specialists on opportunities in Australia and Brazil. This program, designed for U.S. companies in the animal health sector, will be held in Columbia, MO and Olathe, KS. Featured guest speakers, Ms. Monique Roos, U.S. Consulate General Sydney, and Mr. Robert Pohl, U.S. Embassy Brazil, will discuss how U.S. businesses can take advantage of the growing animal health sector in two of the world's largest and diversified economies that offer U.S. companies many opportunities to export their goods and services.

Topics of discussion will include:

- Market overview and opportunities in the animal health sectors in Australia and Brazil
- Best practices on market entry strategies
- Regulatory issues and trends
- Local perspective: challenges and tips for success from U.S. companies

Companies only need to attend one program:

MISSOURI

Date: Tuesday, September 18, 2012
Time 8:00am; **Seminar:** 8:30am - 12:00pm

Place: **University of Missouri – Columbia**
Christopher S. Bond Life Sciences Center
Columbia, MO 65211

KANSAS

Date: Thursday, September 20, 2012
Time: 8:00am; **Seminar:** 8:30am - 12:00pm

Place: **Kansas State University - Olathe Campus**
Olathe, KS 66061

Meet One-on-One with Country Specialists

Following each program, one-on-one meetings with Monique Roos and Robert Pohl will be available for registered participants to discuss their company's export potential and to establish a plan for action. Check our registration page for further details.

Meetings times are limited and pre-scheduled on a first come basis, so please register today!

Registration: Your $75 registration fee includes the morning seminar, continental breakfast, hand-out materials, and customized market research.

Space is limited. Register today at:
http://export.gov/missouri/kansascity/tradeevents/localevents/index.asp

Dates: September 18th - Columbia, MO
September 20th - Olathe, KS

Cost: $75 per person

Register: By September 12, 2012

No refunds after this date. Substitutions accepted.

For more information:

Ruby.Sima@trade.gov
(816) 421-1876

Regina.Heise@trade.gov
(816) 421-1876

Joshua.Burke@trade.gov
(314) 425-3343

Supporting Organizations

KC ANIMAL HEALTH CORRIDOR

KANSAS STATE UNIVERSITY | Olathe

Mizzou Advantage
University of Missouri

U.S. COMMERCIAL SERVICE
United States of America
Department of Commerce

U.S. Commercial Service – Connecting you to global markets.

Harvest Management in Rice

Harvest management preserves rice quality and yield that contribute directly to profit. Timing field draining and harvest are keys to high head rice yields. Other harvesting factors that affect head rice yield include grain moisture content, field rewetting of grain, severe threshing impacts and excessive foreign matter (trash) in rice.

Rice quality may be lower if rice is harvested either at high or low moisture contents. The ends of wet rice kernels grind off and become dust as they are processed. Rice may crack if it dries to below 15% moisture content. Rapid rewetting (rain), once rice reaches 15% or less moisture content, is a key cause for lowered head rice yields.

General Rule: Recommended harvest range to avoid quality or yield reductions is 17 - 21% moisture. Plan combine capacity to complete harvest by the time rice reaches 16 percent.

Head rice yield is the weight percentage of rough rice that remains as whole rice (three fourths kernel or greater) after complete milling. Environmental conditions, such as drought, low sunlight intensity, disease, inadequate or excessive nitrogen and draining water early in hot weather, all intensify stress on rice kernels. The tendency of kernels to break under stress differs among varieties.

Milling yield is the weight percentage of rough rice that remains as milled rice; i.e., the sum of head rice and “brokens.” The value of broken fractions varies with market demand, high milling yield and low foreign material content may provide $30 to $45 more income per acre.

General Rule: One percentage point reduction in head rice costs up to 2 1/2 cents per bushel. One percentage point reduction in broken rice costs about 1 3/4 cents per bushel.

Estimating Field Loss: Field loss has often ranged from 4 to 6 bushels per acre. Combines typically experience a few percent losses until they are overloaded.

One good evaluation of combine operation is to count field loss. Also, check the amount of trash and hulled kernels in the bin and the proportion of trash in the tailings. Table 12-7 is based on sampling a 5 square foot area entirely across the header. Use these sample dimensions for counting loss and divide the number of kernels lying within the sample area by 5 to obtain total field loss per square foot.

Table 12-7. Dimensions for Field Loss Estimate Sample Size to Obtain 5 Square Feet Across Header Width

Header Width, Ft.	Sample Dimensions
18	18 ft x 3 1/4 in
20	20 ft x 3 in
22	22 ft x 2 3/4 in
24	24 ft x 2 1/2 in

The last step is using Table 12-8 to convert the loss number to bushels per acre. Use the number at the head of the column that is nearest the loss value per square foot and read the entry in the right column.

Sam Atwell, Agronomy Rice Specialist, University of Missouri Extension, New Madrid, MO

Table 12-8. Converting Field Loss Counts into Bushels per Acre

Number of Rice Kernels Uniformly Spread Over One Square Foot	Average Field Loss Bu/A
25	1.3
50	2.5
75	3.7
100	5.1
125	6.4

UNIVERSITY OF MISSOURI Extension

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If you are interested in receiving this publication via e-mail or being removed from the email list please send a request to denklers@missouri.edu.

Future Meetings & Events -

Arkansas Nutrition Conference: September 4-6, 2012. at the John Q. Hammons Convention Center in Rogers, AR. For details go to www.thepoultryfederation.com

Wurdock Farm Field Day: October 5, 2012. Registration begins at 8am with tours starting at 9am at the Farm in Cook Station, MO.

Southeast Missouri Watermelon Meeting: December 5, 2012 in Kennett, MO.

Missouri Livestock Symposium: December 7-8, 2012 in Kirksville, MO Call (660) 665-9866 or (660) 341-6625 or go to http://missourilivestock.com

Missouri Cattlemen's Association Annual Convention and Trade Show: December 11-13, 2012 at the Holiday Inn Executive Center in Columbia, MO

For information on commodities and markets visit - http://extension.missouri.edu/seregion/fmmkt.htm