

Mississippi Beef Cattle Improvement Association

Mississippi Beef Cattle Improvement Association—Productivity and Quality



Upcoming events:

- January 12, 14, 19, 21—Mississippi Master Cattle Producer Program Webinar Internet-based Certification and Live Chat, 6:00 to 9:00 p.m.
- January 20—Mississippi BCIA Spring Bull Sale nomination deadline
- February 12—Mississippi BCIA Annual Membership meeting, Jackson, MS, 1:00 p.m.
- March 4—Hinds CC Bull Test Sale and Mississippi BCIA Spring Bull Sale, Hinds Community College Bull Sale Facility, Raymond, MS
- March—MSU Artificial Insemination School, Mississippi State, MS, TBA
- April 16—Beef Cattle Boot Camp, Prairie Research Unit, Prairie, MS, 9:00 a.m. to 3:30 p.m.
- April 17—Beef Cattle Boot Camp, Brown Loam Branch Station, Raymond, MS, 9:00 a.m. to 3:30 p.m.

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MBCIA 2009 Fall Bull Sale—CANCELLED

Due to circumstances beyond the Mississippi Beef Cattle Improvement Association's control, the 2009 MBCIA Fall Bull Sale slated for Thursday, November 12, 2009 at 12:00 noon at the Hinds Community College Sales Facility in Raymond, Mississippi has been cancelled.

If you are interested in purchasing bulls this fall, please visit with Mississippi beef cattle breeders who have bulls for sale. Some of these breeders are listed in online directories such as the MBCIA Seedstock Directory at <http://msucares.com/livestock/beef/mbcia/seedstock.html>. Mississippi beef cattle breed associations and county Extension

offices can also provide contact information for local breeders.

The Spring 2010 MBCIA bull sale to be held in conjunction with the Hinds Community College Bull Test Sale is still planned for March 4, 2010. Mark this date on your calendars as the next MBCIA bull sale. Catalogs will be distributed in February 2010. Please share this information with others who are interested in the sale.

Thank you for your support of the MBCIA bull sale program and Mississippi beef cattle breeders.

Feeding Raw Whole Soybeans to Beef Cattle

Recent weather conditions across Mississippi have disrupted soybean harvests and resulted in increased quantities of damaged soybeans in the state. Although these soybeans may not be readily accepted at grain elevators, the potential does exist for incorporation into beef cattle rations. Nonetheless, there are several important points to consider with regard to use of these damaged beans.

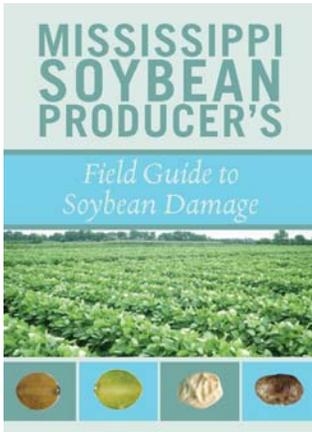
Nutrient Quality

Raw whole soybeans contain 40% crude protein and 20% fat on a dry matter basis. However, damage to soybeans may decrease their nutrient content. While it may be tempting to use these damaged soybeans due to the attractiveness of a discounted price, a feed analysis should be conducted to determine the exact quality of the nutrients available. Additionally, in designing supplement programs it is important to know the nutrient content of feeds used. Therefore, a nutrient analysis (feed test) is of the utmost importance.

Chemical Considerations

Unprocessed (uncooked) soybeans have several enzymes that can make them particularly challenging to incorporate them into cattle rations. The first is a trypsin-inhibiting enzyme, which is of importance to non-ruminants/monogastrics (horses, swine) or pre-ruminants (young calves). This enzyme can inhibit protein digestion. Therefore, it is not recommended to feed raw soybeans to monogastrics or young pre-ruminant calves (nursing calves or calves less than 300 pounds). If raw soybeans are offered to cows with calves, there is a risk that the calves may consume these soybeans.

Another concern is that raw soybeans contain urease. Urease breaks urea down into ammonia. This is of importance if cattle are receiving a supplement or feed that contains urea (non-protein nitrogen, NPN). The increased activity of urease in raw soybeans can result in a more rapid breakdown of urea into ammonia within the rumen, potentially leading to ammonia toxicity and cattle death. Be aware of all ingredients in feeds



A color field guide to soybean damage is available online at <http://msucare.com/crops/soybeans/fieldguidedamage.pdf>

Feeding Soybeans (Cont.)

provided to cattle. Many commercially available protein tubs and blocks contain urea, which can potentially be fatal to cattle when fed in conjunction with raw soybeans. Range cubes may also contain urea. Do not feed any combination of urea-containing products and raw soybeans to cattle.

Feeding Whole Soybeans

Despite the previous considerations, whole soybeans can be used successfully in beef cattle feeding programs if managed correctly. Whole soybeans can be effectively used as protein supplements for beef cattle. Nonetheless, feeding guidelines must be followed.

Due to the high fat content (20%), whole soybeans should be limit fed at a level so that the total dietary fat level does not exceed 6% for mature cattle or 4% for growing cattle. High fat levels can lead to reduced digestibility of forages and other feedstuffs; interfere with calcium, magnesium, and vitamin A absorption; cause fluctuations in feed intake; and result in scours (diarrhea). Because of fat intake concerns, do not feed whole soybeans free-choice or at levels that exceed total dietary fat recommendations. Grazing soybean stubble containing whole beans can result in overconsumption and is not recommended.

Grinding raw soybeans can increase digestibility. However, grinding soybeans decreases shelf life, because the fat inside the beans becomes exposed to the elements and can become rancid. Feed ground soy-

beans within 3 weeks following processing and sooner during humid conditions. With current harvest conditions, soybeans may have high quantities of mold. Additionally, with the hot dry climate experienced early in the growing season, the potential for aflatoxin is high. Mold does not have to be visible for mycotoxins such as aflatoxin to be present. In addition to obtaining a feed nutrient analysis, conduct an aflatoxin-screening test on raw soybeans prior to feeding. Calves are more susceptible to aflatoxicosis than mature cattle. For young calves, aflatoxin levels exceeding 20 parts per billion can disrupt normal rumen function, suppress immune function, inhibit protein building, and lead to cancer. Proper soybean drying and storage can reduce the potential for mold growth and mycotoxin presence.

Conclusions

With the increase in damaged soybeans due to poor harvesting conditions, many cattle producers have the opportunity to acquire raw whole soybeans at discounted prices. Raw whole soybeans can be successfully used in beef cattle diets only if feeding guidelines are followed. Do not allow young calves to consume raw soybeans, and limit feeding quantities of whole soybeans to all cattle. Feed ground soybeans within 3 weeks of processing. Obtain a nutrient analysis and an aflatoxin test prior to purchasing or feeding any damaged soybeans. The nutrient analysis will help determine feeding quality and allow for appropriate diet formulation.

Dealing with Excessively Wet Conditions on Cattle Operations

Recent rains in many areas of Mississippi have created challenges and problems for beef cattle operations. September and October are typically some of the driest months of the year, but this year they have been some of the wettest. Potential concerns on beef cattle operations this fall are discussed here.

Nutrition

Nutrition and herd health are likely to be the production areas most impacted by exces-

sive rainfall. Reports from producers indicate that body conditions scores of breeding herds and average daily gains of stocker calves have been lower than expected in many cases, despite providing access to forage and feed that might produce acceptable gains in most years. High moisture levels in pasture plants result in less dry matter consumed for a given quantity of forage. In addition, the nutritional value or quality of warm-season forages tends to drop this time of year. In the event that tem-

"...Feeding guidelines must be followed when offering raw whole soybeans to cattle."

Wet Conditions (Cont.)

peratures become cold during wet conditions, cattle maintenance energy requirements increase as well.

Some cattle may not consume enough dry matter to meet intake and nutrient demands. This can occur on pastures with what appears to be “plenty of forage” available for cattle. It may at first seem counter-intuitive to put out hay on pasture with apparent adequate available forage. However, providing hay to these cattle can improve dry matter intake. Hay will also decrease the rate of gut passage, allowing cattle to perform better on pasture. Some producers may balk at putting out hay this early in the winter feeding season because of limited inventories and concerns about having enough hay to make it through the winter. Yet, by not meeting cattle intake and nutrient needs, producers will face even greater challenges later. Cows will calve in poor body condition, will not rebreed on time, and calves will not meet weight gain targets.

In addition to the effects of wet weather on nutrient availability, mud can affect feeding behavior. Muddy areas create a suction effect on the legs and hooves of cattle. This makes it hard for cattle to move around feeders, and they stand still instead. Four to 8 inches of mud can decrease intake by 4 to 8% and slow gains by 14%. Belly-deep mud can reduce intake by 30%. It is extremely important to control mud accumulation so that it does not affect feeding behavior.

It may also be tempting to skip feedings during rainy days or because of challenges with muddy feed storage and feeding areas. For cattle on limit-fed rations, where they are hand fed daily, skipping feedings could lead to digestive upset when feeds are reintroduced to cattle. Skipped feedings also mean less total intake of these rations over time, which will lower performance.

Many operations do not have 4-wheel drive tractors or adequate road beds or feeding surfaces to avoid getting trucks and other equipment stuck in the mud. Even when gravel can be hauled in to the ranch, it may be difficult to adequately spread it during the muddy conditions. Long-term ranch

plans should include addressing these facility and equipment challenges as appropriate. Short-term ways of addressing this problem might involve moving feeding areas or working with neighbors to share equipment or feed storage facilities. In extreme cases, where hay supplies are trapped in areas now inaccessible due to mud and lack of equipment to navigate the mud, custom hiring professional help might be needed.

Pastures

Pasture damage from cattle hooves is particularly noticeable during very wet periods. Trampling creates muddy pastures with less available forage for grazing. Pasture damage is often worst in areas where cattle loaf or congregate such as shade or near water and feeding areas. When feeding hay, start towards the back of the pasture and work towards the front to keep mud from blocking pasture access. Pasture damage expands to new areas each time hay or feeding areas are moved.

High stocking rates increase pasture damage. This often occurs within a relatively short period of time. Although pasture damage is largely unavoidable during very wet periods, use of feeding pads, lanes for moving cattle, rotational grazing methods, and lower stocking rates can help limit this damage. Make notes about pasture layout and damage, so that long-term modifications can be made to better control this problem in the future.

Winter forage establishment is greatly affected by fall rains. Fall is typically when winter pastures are planted. Planting delays due to excessively wet conditions will delay forage growth and readiness of winter pastures for grazing. Long delays can push planting dates back to the point that winter forages are less productive or even unsuccessful. In that case, consider different alternatives such as purchased feeds and hay or forages that can be established later. Conditions may also be ripe for blast to develop. Late infestations of armyworms can be problematic as well, particularly when fields are too wet to spray pesticides to control infestations.

“...Mud can affect cattle feeding behavior. Four to 8 inches of mud can slow weight gains by 14%.”



Recent rains have created challenges and problems for cattle operations

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Send questions or comments to Jane Parish or Justin Rhinehart, Extension Beef Specialists, Mississippi State University Extension Service



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Visit MBCIA online at
<http://msucares.com/livestock/beef/mbcia/>

MBCIA Membership Application

Name: _____

Address: _____

City: _____

County: _____ State: _____ Zip: _____

Phone: _____ Email: _____

(Check one) Seedstock: Commercial:

Cattle breed(s): _____

Completed applications and \$5 annual dues or \$100 life-time dues payable to Mississippi BCIA should be mailed to:

Mississippi Beef Cattle Improvement Association
Jane Parish, Extension Beef Cattle Specialist
Box 9815, Mississippi State, MS 39762

Wet Conditions (Cont.)

Because many beef cattle winter nutrition programs are designed around forages, changes to forage systems affect feeding programs. Producers make hay inventory decisions considering expected winter grazing and expected hay feeding start and stop dates. Having to feed hay earlier and having less winter grazing than expected can create hay supply shortfalls. If this appears to be the scenario on a given ranch, make immediate arrangements to acquire additional hay supplies, additional feeds, and/or reduce animal numbers.

Herd Health

Many Mississippi cow herds calve during the fall. It is important to watch fall-calving herds for calves being born in mud holes or pools of water. If temperatures drop during wet conditions, calves are at increased risk for hypothermia. Providing calving areas that are relatively dry, free from manure build-up, and with wind breaks will be necessary. In isolated instances, calves may become trapped in mud. Close observation of cattle is critical to identify these situations.

Muddy areas with heavy manure concentrations often have heavy loads of disease-causing organisms such as bacteria. Mosquito populations may also be higher when pools of stagnant water are available to serve as mosquito breeding grounds. Instances of calf scours, naval ill, and foot rot can be increased during these conditions. Consult a veterinarian for advice on disease prevention and treatment. Be sure to treat calf navels at birth with an iodine solution and

watch closely for signs of infection. Treat all sick calves promptly.

Cattle may drink from muddy pools of surface water that harbor infectious pathogens. To try to keep this from happening with temporary fencing that will keep cattle out of low-lying areas. Provide fresh, clean water supplies to cattle at all times. Extreme cases, where temporary fencing and intensive rotation are necessary, may require additional water sources. Consider using a tank truck or temporary water lines. Insulate above-ground pipes if the problems continue into winter.

Calves from spring-calving herds, the predominant calving season in Mississippi, are usually weaned in fall. Stress from excessively wet conditions adds to the challenges that calves face at weaning. Calf health and performance can be affected by this. Use low-stress weaning methods, appropriate vaccination and parasite control strategies, and high-quality feeds and forages for weaned calves.

To protect cattle health and ensure acceptable performance, observe cattle closely and take needed steps to improve the production environment during excessively wet conditions. The next instance of excessively wet conditions could occur at any time during the year, so address ranch infrastructure, equipment, and management changes in advance to allow the operation to better deal with these conditions in the future. For more information about coping with excessively wet conditions on beef cattle operations, contact an office of the Mississippi State University Extension Service.