

# Distillers Grains for Livestock Diets: Questions and Answers



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## Product Availability

Dried and wet distillers grains with solubles are available in Vicksburg, Mississippi to livestock producers. The wet product is offered at the production facility upon request. Practical use of wet ethanol co-products such as wet distillers grains is limited by transportation costs when shipping the wet products. Storage challenges also exist to avoid spoilage, particularly during warm periods, and require feeding of the wet product within a few days. In addition, several precautions are advised in feeding dried and wet distillers grains.

## Storage and Handling Considerations

### ***How far can wet distillers grains be trucked economically?***

The moisture content of wet distillers grains often exceeds 60 percent and can approach 80 percent. This means that the majority of the weight transported for a load of wet distillers grains is water. As a rule of thumb, it is currently not economical to transport wet distillers grains by truck more than 30 to 35 miles. However, this can vary based on transportation costs and delivered prices of substitute products. Compare feedstuffs based on the price and amount of nutrients other than water.

### ***Do wet distillers grains augur well?***

Wet distillers grains come in a wet cake form and require special handling. The product is best shipped in truck loads that can be dumped. Traditional auger systems are not practical for handling wet distillers grains.

### ***How long will distillers grains store in Mississippi?***

Shelf life of wet distillers grains can range from just a few days to several weeks and is extended with cool conditions, preservatives that add to product cost, and air exclusion during storage. Due to the limited storage life, the product must be delivered to livestock within a few days of manufacture. Research data from the Midwest region of the U.S. indicate that untreated wet distillers grains may need to be fed in 4 to 5 days before significant spoilage begins in warm weather. In Mississippi, the practical storage life of wet distillers grains is likely to be reduced to 2 to 3 days during warm weather. Dried distillers grains, on the other hand, can be stored in covered storage for extended periods, similar to other dried commodity feedstuffs.

### ***Can wet distillers grains be stored for longer periods if mixed with other feeds?***

A potential method to increase wet distillers grains shelf life involves mixing with forages or dry and bulky feeds, packing the mixture, and then covering with plastic or bagging to exclude air. Air must be kept from reaching the feed. Expected storage losses for wet distillers grains are approximately 10%, similar to silage feeds. Detailed instructions on storage of wet distillers grains are available at

[http://beef.unl.edu/byprodfeeds/corn\\_coproduct\\_storage\\_manual\\_may\\_2008.pdf](http://beef.unl.edu/byprodfeeds/corn_coproduct_storage_manual_may_2008.pdf).

## Nutrient Composition

### ***What nutrient composition can be expected from distillers grains?***

Distillers grains can be excellent sources of both supplemental protein (including rumen bypass protein) and energy for beef cattle diets. However, nutrient content can be highly variable. Distillers grains vary in nutrient content from corn milling plant to plant and also within plants. The only way to be sure of the nutrient composition of distillers grains is to test a representative sample at an appropriate analytical laboratory such as the Mississippi Chemical Laboratory. Then livestock diets can be formulated properly.

## Feeding Precautions

### ***How much distillers grains should be fed to beef cattle?***

Wet distillers grains should not be offered to livestock free choice. Producers should offer mature beef cattle a maximum of 8 to 10 pounds of wet distillers grains per head per day. Feeding levels for growing calves should be closer to 3 to 4 pounds of ethanol co-products daily. Economic feeding levels for stockers are generally in the range of 15 to 25% of dietary dry matter. Feeding amounts of distillers grains are limited by the fat content of the product (often 10% on a dry matter basis). Keep dietary fat levels below 8% in mature cattle, 6% in growing cattle, and 4% in lightweight or very young calves.

### ***Should wet distillers grains be fed to horses?***

It is not recommended to feed wet distillers grains to horses. The primary concern is the possibility of mold developing in this type of feed, which can produce toxins. Dried distillers grains can be fed to horses. If dried distillers grains are used, they must be part of a formulated diet to prevent any nutrient imbalance and limited to no more than 20% of the diet.

### ***Why are sulfur levels a concern when feeding distillers grains?***

Monitor sulfur levels when feeding ethanol co-products including distillers grains. Distillers grains average approximately 0.7 to 0.8% sulfur on a dry matter basis, but sulfur content can be highly variable. Take care to make sure that sulfur intake from all dietary sources including water does not exceed 0.4% of the dry matter intake. Excessive sulfur intake can inhibit an animal's ability to properly utilize thiamine and result in polioencephalomalacia in cattle. Cattle suffering from this condition are often called "brainers". Signs can include but are not limited to blindness, inconsistent and uncoordinated movements, head pressing, "goose" stepping, lying with full body contact with the ground with the head and legs extended, tetany (muscle spasms), convulsions with paddling motions, and death. These signs usually exhibit sudden onset.

### ***What other mineral concerns exist with feeding wet distillers grains?***

Distillers grains are relatively high in phosphorus. When low quality forages or feeds high in phosphorus (such as corn or corn gluten feed) are used in combination with distillers grains, the phosphorus to calcium ratio will be high. Calcium supplementation (e.g., feed grade limestone or calcium carbonate) may be necessary to keep the calcium to phosphorus ratio within a 1:1 to 2:1 range in the total diet for beef cattle.

### ***Should moldy distillers grains be fed to livestock?***

If mold develops on distillers grains, the potential for mycotoxin production increases. Producers are advised to avoid feeding moldy feeds to livestock. Moldy feeds are often less palatable to livestock and can negatively impact animal performance and health.