



Ridin' Herd

► by Rick Rasby, University of Nebraska

Consider storing distillers' grain

The price of corn has been on a "roller coaster" ride, but recently the price has continued to trend downward. Usually, as the price of corn decreases, the price of distillers' grain decreases. That has not been the case for most of this year. The price of distillers' grain has remained high because of the good export market for dried distillers' grain. More recently, the price of distillers' grain has decreased.

Source of protein, energy

Distillers' grain is an excellent protein and energy source for beef cattle and works well in rations that are mostly forage. Research indicates grain byproducts and forages, when fed together, have a positive associative relationship. That means that when distillers' grain is fed with forages, there is no reduction in the digestibility of the forage and no decrease in forage intake.

In addition, distillers' grain is about 30% crude protein. At current soybean prices, distillers' grain is an economical protein source. This may be the summer to be prepared to buy distillers' grain, store it, then feed it in late fall and winter when cows need to be supplemented protein, energy or both.

Storing grain byproducts

Usually wet distillers' grain is delivered by the semi-load and should to be fed within a week (summer) to three weeks (winter). The relative short shelf-life is a key obstacle for cow-calf producers. Research has shown that wet distillers' grain will not spoil if the oxygen is removed during the storage process.

Wet distillers' grain, at 65% moisture, cannot be stored successfully by itself in a bunker silo; however, it can be stored in silo bags if there is no pressure put on the material to "squeeze" the air out. If there is pressure put on the bag, the bag will tear. The forages used for bagging and bunkering are usually ground using a 5-inch screen and are used as bulking agents.

For more information go to <http://beef.unl.edu>. At the top of the homepage there is a navigation bar titled "Cattle

Production." Hold the arrow over "Cattle Production," then move your arrow down over "By-Product Feeds." Click on "By-Product Feeds" and resource materials for storage of distillers' grain will appear. There is a set of YouTube videos that demonstrate the storage process.

Wet distillers' grain stored in a bunker or in an Ag-Bag will need some forage added for best storage results. For beef cattle, medium- to low-quality forages work well for the storage method. Most producers will use wheat straw, cornstalk bales or Conservation Reserve Program (CRP) hay as the forage source. The combination of wet distillers' grain and forage will vary depending on the moisture content of the forage and distillers' grain. Ethanol plants will have the average moisture content of their byproducts. Sample the forage for nutrient quality and moisture.

Storage in a silage bag

When the combinations of feeds were bagged, the bagger was held at a constant pressure of 300 psi. As the amount of forage that is included with the wet distillers' grain increases, the height of the bag increases. In contrast, as the amount of the forage in the mix decreases, the bag begins to "squat." As the bag squats, there is a greater potential for the bag to split.

The minimum inclusion amounts when bagging wheat straw and cornstalks is a mixture of 12.5% wheat straw with 87.5% wet distillers' grain [dry-matter (DM) basis]. The percentages on an as-is basis are

dependent on the DM or moisture content of both the straw (or forage) and wet distillers' grain. Grass hay is less fibrous than either wheat straw or cornstalks and, as a result, more grass hay is needed when mixed with distillers' grain.

Storage in a bunker silo

The percentage of forage and wet distillers' grain that is optimal is different

when storing in a bunker silo compared to a silo bag. The percentage of grass hay needed in the mixture is between 30% and 40% on a DM basis. The 40% grass hay:60% wet distillers' ratio packs best when using large, heavy equipment for packing. Research has indicated a 25% wheat straw:75% wet distillers' ratio on a DM basis is too wet to get a good pack and seal.

A local producer used a ratio of 35% wheat straw:65% wet distillers' on a DM basis and, using heavy equipment to pack

the mixture, indicated the material packed well. Be flexible, as it is easy to know if the mixture is too wet or too dry. If it is too wet, the equipment will sink and the mixture will be difficult to drive on; if it is too dry, it will be "spongy" when driven on to pack. Either way, this will not result in a good seal for the ensiling process.

Calculations for planning purposes can be found at: http://extensionfiles.unl.edu/Beef/corn_coproduct_storage_manual_may_2008.pdf.

Storage of modified distillers' grain

Modified distillers' grain can be successfully stored without adding forage to the mix. Modified distillers' grain is about 50% dry matter. It can be stored in an Ag-Bag or in a bunker silo. When stored in a bunker, it will be too wet to drive on it and pack. Pile the modified distillers' grain and cover with plastic until it is needed.

Storage of dried distillers' grain

Dried distillers' grain is 90% DM and can

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be stored in an overhead bin or on a concrete slab in a building. Losses can be substantial if stored outside because it is dry and very fine in texture. If the material is put in an overhead bin and it is hot, it will bridge, get really hard, and will be difficult to get out of the overhead bin. Dried distillers' grain that has been allowed to cool before being put into an overhead bin is less likely to bridge.

Final thoughts

Distillers' grains have recently come down

in price. Distillers' grains are a good protein and energy source for beef cattle. Many times diets for beef cattle, because they are fed or graze medium- to low-quality forages in the late fall and winter, are deficient in protein. Start to plan now for supplementation needs this fall and winter.

On our beef website on the "By-product Feeds" page is an Excel spreadsheet called "STORE" that will help you determine the costs when storing distillers' grain in the

summer for use in the winter. Use this cost spreadsheet to compare stored distillers' grains to other feed sources that may be used for fall and winter feeding strategies.



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