

The Latest Across the Plains

Unused Feed

"We're a blessed nation because we can grow our own food. A nation that can feed its people is a nation more secure." - George W. Bush

Save Money \$\$\$ Test Your Feeds

Tests are relatively inexpensive, usually costing less than \$18, for the information derived. Contact our office to set up an appointment to have us pull feed samples if we have not done so yet.

We want to hear from you...

Do you have a question you would like one of the nutritionists to address in depth in our newsletter? Just submit your question through our website www.GPLC-Inc.com and we will get to work on it.

Timely Reminders

- ◆ Keep pens box scraped.
- ◆ Haul manure whenever possible.
- ◆ Have your calving facilities and OB equipment ready.
- ◆ Have the right mineral for your cows' stage of production.
- ◆ Prepare now so your Hi-mag and Fly control minerals are on hand.
- ◆ Semen check bulls and make sure they are in adequate body condition.
- ◆ If you are in a high anaplasmosis area, begin talking to your vet now about a VFD.
- ◆ Target a BCS of 5.0-5.5 on mature cows and 5.5-6.0 on heifers at calving.
- ◆ Be sure to adjust cow nutrition to match requirements as they calve.
- ◆ Make sure waterers are clean and in good working order.
- ◆ Decide which implant and vaccination program you will use on your calves.
- ◆ Have your synchronization and AI program plan laid out.

Storing Byproducts

With the volatility of price on byproducts the last 12 months, some of you might be questioning if you should even keep it in your rations. However, most of you will probably have an opportunity to buy distillers at a lower cost due to seasonally low prices or fire sales. Historical data has shown that some of the lowest prices for by-products occur over the summer months (Figure 1). If priced low enough, it might be advantageous to purchase half or all your by-product needs and store it.

Storage of byproducts can be done in many ways and the overall concept is similar to putting up silage, oxygen is the enemy. The exception is that you are not

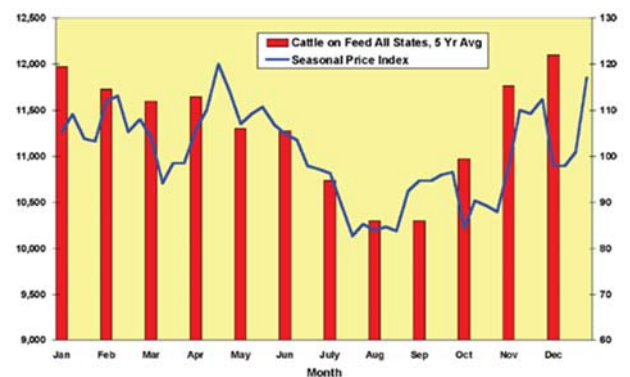


Figure 1. 2003 to 2006 DDG average monthly price (Waterbury and Mark, 2008) compared with cattle-on-feed by month from 2003 to 2007 for the U.S. (adapted from USDA National Agricultural Statistics Service).

trying to ferment the byproduct. Wet gluten and distillers do not have available starch so that limits the medium for mold growth and fermentation. They also are low in pH due to previous fermentation so mold growth will be limited. Prior to buying by-products to store for future use, it is important to have a plan of how you will store it. By-products can be stored in either an ag bag or bunker, however, there are a few things to keep in mind prior to choosing your storage method.

When storing WDG in an ag bag, you cannot apply any back pressure with the cables, otherwise the bag may split out. As you can see in Figure 2 (Storage of Wet Corn Co-Products, University of Nebraska - Lincoln), no pressure was being applied while bagging the WDG during the University of Nebraska research study. The bag needs to be on flat, level ground so the distillers does not flow to one end of the bag. This will also prevent the bag from rolling down the hill.

When storing distillers in a bunker, you can use a similar concept to storing silage. However, to eliminate oxygen from a silage pile, silage is packed into a bag, pile, or pit. The challenge is that WDG (33% DM) does not have the consistency to be able to get a tractor on the pile and pack it. Corn gluten feed and mWDG (46% DM) may not have enough consistency either. One solution is to add enough forage to give the product enough consistency to be able to be driven over and packed into a pile. Too much forage or forages not mixed well enough will trap air and the oxygen will allow mold growth to take place. According to the University of Nebraska researchers, if you mix 5% wheat straw AF (as fed) with 95% WDG AF, that should give you enough consistency to allow a tractor to pack the product into a pile. If you are using grass hay you will need to use 6.5% AF to 93.5% WDG AF, due to the lower cellular structure of the grass hay compared to the wheat straw.

Another option is to build a pit with four walls where the live bottom trailer can dump over the wall (Figure 3), which could be done by digging a bunker into a hill side with concrete blocks or bales blocking the end (Figures 4 & 5). This method allows you to skip mixing the forage and packing the product because the WDG, when piled, will settle and eliminate the oxygen. You will only need to cover the pile. It is important to note that if you do not place concrete blocks or bales at the end, the WDG will easily spill out the front of the pile.



Figure 2. Successfully bagging and storing straight WDG (65% moisture) without any pressure.



Figure 3. Dumping WDG without mixed forages in a bunker made of hay bales.



Figure 4. The completed bunker and stored WDG.



Figure 5. Feeding the WDG that was stored in a bunker without forages. A hay preservative would prevent the mold seen on the top.

The last storage option I will discuss using is a mixture of WDG and DDG. According to the University of Nebraska, a mix consisting of 27.4% DDG with 72.6% WDG on an as fed basis should give you the consistency needed to be able to pack into a storage pit. Depending on the price of the DDG, this may be a cheaper and better option.

Before you commit to buying and storing byproduct, you need to be sure it is going to be economically beneficial for you to do so. In the 2012 Nebraska Beef Report, Harding, et. al. calculated a 12.3% shrink on straight WDG that was placed in an open face bunker. Your shrink in a bag is probably much less, 3 to 5%. You will also have to add interest on the money that you have to pay for the product and the labor cost it takes to store it vs feeding it on delivery. Other costs include the bag or plastic to cover the pile, preservative to spray on the pile if used, the cost of the forage, and the opportunity cost of the bunker or land that it is stored on.

For an example, if you can buy 20 loads of WDG or 500 ton for \$30/ton delivered and you have ground CRP hay for \$60/ton, your total cost per ton of product would be \$31.95/ton AF prior to storage. The DM of the pile would be 37.5%. For this example, I would estimate storage cost to spend 24 hours mixing and storing the mix at \$70/hour including equipment plus \$1,500 for the cost of the bunker for 6 months plus plastic and tires at \$500 equals \$3,680 for the pile or \$7.36 per ton. If we add those two together, we get \$39.31. Now we can apply shrink and interest to the cost by taking $\$39.31 / 85\%$ (15% shrink) equals $\$46.25 / 98\%$ (4% interest for 6 months) for a total cost of \$47.17.

In conclusion, it is very possible to take advantage of fire sales or low seasonal prices of byproducts to protect yourself from seasonal and unexpected high byproduct prices. This may also be an option for smaller producers that only need a load of byproduct once every two to four weeks. There is added cost so be sure that those costs are calculated in, especially the shrink, before making your decision. In all cases, just like silage, the use of plastic will greatly reduce your shrink/spoilage loss. Without a plastic covering, your shrink could be in excess of 20%. Unlike silage, an inoculate would not be beneficial due to the lack of fermentable carbohydrates; however, a hay preservative would be beneficial to reduce mold growth. Good luck this year and if you have any questions please give one of us a call.

Feed Shrink – Reducing and Managing Costs Associated with Lost Inventory

Outside of managing nutrition and using available technology, how else can we reduce the costs of feeding cattle? Rising feed costs should encourage all of us to be looking for ways to reduce waste, herein known as feed shrink. I know, I know – how much more control can we exert on daily operations, right? You might just be surprised! The purpose of this article is to identify some common sources of feed shrink, and to encourage thought towards simple ways to reduce cost of the number one expense incurred in feeding cattle – feed!

Shrink can be a top expense that often goes unnoticed when protocols and systems are not in place to measure or manage it. Of course, some loss is considered as a calculated risk, right? The problem persists if an abnormal occurrence is allowed to become the norm. The cost can be incredible! For example, for a feedlot of 1000 head, where feed cost is \$2.50/calf/day and shrink is 8%. The total cost of shrink for 165 DOF would be \$33,000.00 or \$4,125.00 for every 1% shrink.

To put the issue into further perspective, here is some “Feed for Thought”. Consider the amount of money lost using the numbers below from Dr. Dan Loy of Iowa State University:

Table 1. Shrink loss estimates in common feedlot ingredients

Ingredient	Open Pile	Commodity Shed	Bulk Bin
Bakery waste	8 – 16%	4 – 7%	-
Brewers grain, dry	12 – 20%	5 – 8%	2 – 5%
Brewers grain, wet	15 – 30%	15 – 30%	-
Concentrates	4 – 5%	4 – 5%	-
Corn silage	10 – 50%	-	-
Cottonseed, whole	10 – 20%	5 – 15%	-
Distillers grains, dry	15 – 22%	7 – 10%	3 – 6%
Distillers grain, wet	15 – 40%	15 – 40%	-
Dry meal feeds	5 – 10%	3 – 8%	2 – 4%
Dry grains	5 – 8%	4 – 7%	2 – 4%
High-moisture corn	2 – 9%	-	-
Ground hay	10 – 20%	5 – 20%	-
Wheat midds	14 – 22%	4 – 9%	3 – 5%
Soybean hulls	12 – 20%	5 – 10%	2 – 5%

Source: Dan Loy; Feed Management – Bunker to Bunk

The bad news? These are just a few ingredients that we use daily. The good news? We can control shrink loss! Before discussing how we can control loss from feed shrink, it might be worthwhile to review a few common sources of inventory loss – better defined as feed bought or raised that does not get consumed by the cattle we feed. Ultimately, feed lost to shrink does not generate revenue! Shrink shows its ugly face in many ways, but some of the most common are listed below:

- Inventory management
- Storage and handling
- Tracked over feed
- Weather (wind and rain)
- Pests
- Inaccurate scales
- Feeding errors
- Cattle tossing feed
- Feed refusals
- Bunk heating and spoiling

Now, on to the good stuff. How can we manage shrink? First, we need to identify the source. As the old saying goes, “You cannot monitor what you do not measure.” We must have a system in place that allows us to manage inventory accurately and effectively. We need to track feed as it arrives, as it is loaded, and as it is fed. Monitoring and identifying which feeds are being lost, how, and where will allow us to develop better management practices (BMPs) that will ultimately make the bottom line blacker.

Relative to storage and infrastructure, the judgement is out and the verdict is clear. For the purposes of this article, I will not visit how commodity bays and concrete will eventually pay for themselves. Instead, I will focus on how we can instill BMPs without adding too much overhead. The take home points here that will cover most of the shrink sources mentioned above are:

1. Develop an inventory management strategy – technology is available that makes this considerably simple
2. Harvesting and storing silages, earlage and other wet-harvested feeds properly – failing to do so can result in considerable shrink, spoilage, and nutrient loss; oxygen barrier covers and inoculants provide ample returns on investment
3. Train employees using BMPs that reduce loss during storage and handling
4. Avoid running over ingredients and tracking them into mud or areas where they cannot be fed without significant contamination
5. Store feeds using a method that protects them from the weather and pests as best as possible
6. Use older feeds first – especially true with wet feeds
7. Maintain accurate scales
8. Train employees using BMPs that reduce errors and variances with loading, mixing, and delivering feed – technology is available that allows for management, tracking and feed calling

In most cases, feed shrink will never reach zero. We should establish benchmarks and set obtainable goals. It is my contention that improvements in feed shrink will also lead to improvements in cattle performance. Variations caused by feeding errors and inconsistencies also have implications on feed consumption, digestive insults, and overall feed efficiency. Reducing feed shrink may be one of your best ways to improve the bottom line during this time of increased feed costs. Additionally, you will benefit yearly from the lessons learned. Great Plains Livestock Consulting would love to discuss opportunities to make your operation become more efficient – and sustainable. Please do not hesitate to contact us!



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