

# **Crop Storage Institute**

PO Box 8264  
Green Bay, WI 54308  
cropstorage@cs.com

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## **FEATURE RELEASE**

### **FOCUS ON COSTS BETWEEN THE FORAGE WAGON AND THE COW**

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For more information,  
Contact: Joe Shefchik  
(630) 258-7206  
cropstorage@cs.com

In today's rapidly changing farming economy, most producers are vividly aware of the large scale costs that are required to operate their business. Most producers know the cost harvesting of this summer's crops. This cost is largely fixed. However, when we are talking about the cost of forage, the time between the harvest and the animals mouth is where cost savings can be made.

In storing the crop, there are several options to choose from. Three of the most popular are the silage bag, bunker silo, and tower silo. In the area of cost each offers advantages and disadvantages.

The silage bag requires a smaller upfront investment than the other options, but the yearly cost of buying bags must be considered. Also, this smaller capital investment is counteracted by the high cost of unloading the system. Using a skid steer to empty the bag is often time consuming. This time consuming process quickly becomes quite expensive. Information from William Lazarus of the University of Minnesota reports that the cost of running a 75-horsepower engine is \$12.57 per hour. This cost includes maintenance, fuel, and depreciation costs. It does not include the cost of labor. Assuming a cost of \$10 per hour, the total cost of unloading from the silage bag for one hour is \$22.57.

When dealing with silage bags one must also recognize that a certain percentage of your silage is not being feed, but rather being spilled on the ground. Assuming total forage consumption for the year is 1000 tons, if only 1% of the forage is spilled, this waste can mean several hundred dollars per year.

In ideal conditions the spoilage or shrinking of dry matter in a silage bag is very low, approximately 7-8%. However, there are many risks involved. If the bag is not properly filled, it can result in excessive spoilage. Also, if the bag is compromised in any way, it can result in losses exceeding 50%. This is often a factor when dealing with rodents, deer, crows, vandals, and severe weather. All of these risks need to be considered when choosing silage bags as a storage method.

The bunker silo offers many of the same advantages and disadvantages as the silage bag. Initial costs are somewhat smaller than those of the tower silo. But again, those differences in

initial investment are quickly differed by other costs. The cost of operating a tractor to remove feed from the bunker must be closely inspected. Adding the same costs as in the bag; maintenance, fuel, and depreciation, as well as adding \$10/hour for labor; the University of Minnesota report says that it costs \$34.46 to operate a 130-horsepower tractor for one hour.

Dry matter loss is also a factor that must be considered with the bunker silo. The percentage of loss is often much higher than most producers are willing to admit. According to a 1999 study of Wisconsin bunkers done by the University of Wisconsin, the average dry matter loss in bunkers is approximately 17%. Using the same 1000 tons of feed stored per year, at a cost of \$40/ton, dry matter losses will cost the average farmer \$6800/year.

The tower silo offers a much different scenario than the other two situations. The initial cost of the tower silo is higher than either the bag or the bunker. However, savings in the hidden costs counteract this larger investment.

The cost of operating the silo unloader for one hour including maintenance, depreciation, and electricity is approximately \$5.40. Adding in the labor cost, the cost per hour comes to \$15.40. A savings of \$7.17/hour from the bag and \$19.06/hour from the bunker.

The dry matter storage losses in a tower silo are one of its strongest assets. The losses are approximately 6-8%, but more importantly they are constant. Under normal conditions a silo is not subject to the extreme losses that are possible in the bag or bunker. This means that this cost can be calculated and used with confidence in a risk management or cost analysis plan.

Which of these storage methods is the best? That question may be answered differently for each situation. Total costs for each scenario will vary. Issues that were previously considered problems have often been corrected by new technology. So, when entering any forage storage situation, all costs and options should be considered.