

# **Cost of Storing Grain**

he availability of storage adds flexibility to a marketing program. Storage enables the producer to use marketing tools involving storage of grain after harvest.

The proper use of storage in some years will increase a producer's income. However, maximum storage income results from selective rather than continuous use of storage facilities. Storage facilities should be used only when storage is expected to be profitable.

# **Storage costs**

The cost components of storing grain versus selling at harvest are:

- Storage facility cost
- Interest on grain inventory
- Extra drying of corn
- Extra corn shrinkage
- Extra handling cost
- Quality deterioration

## **Storage facility cost**

If grain is stored in existing farm storage facilities, the ownership costs (depreciation, return on investment, insurance, etc.) of the farm storage facility are not included in the analysis of whether to store grain in a particular year.

These costs are not included because the ownership costs of the farm storage facility are incurred whether grain is stored or sold from the field at harvest. Therefore, these costs do not affect the annual decision of whether or not to store grain.

If grain is stored commercially, the commercial storage charge is a cost of storage. The storage charge varies among elevators but usually is a fixed charge for the first few months with an additional charge for each additional month thereafter.

A charge for the cost of aerating dried grain stored on the farm may be included. It is estimated that aeration costs for managing dry grain in storage (cooling grain into winter and subsequently warming grain in the spring to match outside temperature) will cost from .2 to .3 of a cent per bushel under good management. These charges are for keeping already dried grain in condition.

#### **Interest on inventory**

Some costs of storing grain are hidden. An example is the interest cost of having money tied-up in stored grain inventory. If a producer has a loan, the loan can be repaid with the proceeds from the sale of grain. So interest expense is reduced. However, if the grain is stored, the loan is not repaid and interest expense continues. So, a cost of storing grain is the additional interest expense incurred.

Even if no money is borrowed, there is an interest cost of storing grain. If the grain is sold, the proceeds can be invested in the business or placed in savings to earn an interest return. If the grain is stored, the amount of interest foregone is a cost of storage.

#### Extra drying

The cost of drying corn to a safe storage level is a cost of storing corn. Many producers prefer to dry farm stored corn that they intended to store into the summer to about 13 to 13.5 percent moisture. However, No. 2 corn sold at harvest can be 15 or 15.5 percent moisture, depending upon elevator policy. The extra drying fuel and power costs required to remove the additional moisture is a cost of corn storage.

## Extra shrinkage

Because grain is sold on a weight basis (No. 2 corn weighs 56 lbs.), the removal of additional moisture for farm stored corn also reduces the number of

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bushels. This reduction in bushels is a cost of storage.

To compute the extra shrinkage for farm stored corn, use a shrink factor of 1.25 percent. Commercial elevators often use a shrink factor of 1.35 percent to 1.4 percent. The extra shrink cost is figured by multiplying the extra points of moisture removed times the shrink factor times the current corn price. For example, the cost of removing an additional two points of moisture for farm storage when corn price is \$2.30 is  $6\phi$ . (2 x 1.25% x \$2.30 =  $6\phi$ ).

# **Extra handling**

The cost of moving grain in and out of farm storage is a cost of storage. Costs vary as to the type of handling equipment, bin size, and bin shape.

Generally, handling costs are greater for flat storage and smaller bins. The extra handling costs associated with most farm storage facilities range from  $1.5\phi$  to  $2.0\phi$  per bushel.

# **Quality deterioration**

A cost of farm storage is the possibility of additional grain shrinkage and quality deterioration. Generally, loss due to shrinkage from moving grain into and out of storage and shrinkage during storage is ½ to 1 percent. The cost of the shrinkage loss can be computed by multiplying the percentage by the corn price.

Quality deterioration is quite variable depending on the quality of grain placed in farm storage and how the stored grain is managed.

If the grain is stored commercially, these costs are covered in the elevator storage charge.