

## Harvesting and Storing Dry Corn Silage

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The wet, cool summer reduced the rate of maturation of corn plants which delayed silage chopping. Now as corn plants finally mature, the wet fall has made it difficult to get into fields to make silage and the plants are becoming dry. Corn silage that is too dry does not pack well in the silo which increases spoilage, heat damage, and mold growth. The risk of spoilage problems increase as dry matter (DM) of corn silage is greater than the values listed below (the risk increases at an increasing rate as silage becomes drier):

Stored in bunkers: 35% dry matter  
Stored in upright (concrete stave): 40%  
Stored in steel sealed silos: 45%  
Stored in bags: 40%

### Recommendations:

1. Chop finer. As the DM concentration of silage increases, the silage should be chopped finer to promote good packing and digestibility of the kernel. Fine chopping can have negative effects on cow health if the diets are not formulated for adequate effective fiber by accounting for the smaller particle size.
2. Use a kernel processor. Kernel processed corn silage tends to pack more densely than unprocessed corn silage which may help increase aerobic stability. Kernel processing will also increase starch digestibility by breaking the kernel. Poor starch digestibility is a major problem with dry, mature corn silage.
3. Add water at the time of filling. This can help increase packing density but the amount of water needed is substantial. Per 1 ton of wet material, approximately 14 gallons of water is needed to decrease DM concentration two units. The flow rate from a garden hose typically ranges from 8 to 10 gallons per minute. In most cases, the rate of silo filling has to be reduced to add an adequate amount of water.
4. Use an additive that promotes aerobic stability. The two most effective products for increasing aerobic stability of corn silage is propionic acid and *Lactobacillus buchneri* inoculant. Recent research has shown that the addition of approximately 4 lb of buffered propionic acid per wet ton of corn silage during filling increases stability and decreases mold growth. *L. buchneri* is a species of bacteria that increases the concentrations of acetic and propionic acids (both of which inhibit growth of molds and yeast) in silage. This inoculant should be added per manufacturer's instructions (usually at least  $1 \times 10^5$  cfu/g of wet forage) at the time of filling. For dry corn silage, a liquid inoculant is usually better than a dry inoculant.

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