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**From the Spring – 2008 Delaware  
Dairy Newsletter**

## What Should You Do With a Rained on Crop?

By Limin Kung, Jr., Ph.D.

First cutting forages are subjected to a higher risk for rain during wilting. Rain on a wilting crop reduces yield and quality because: a) it prolongs wilting time and thus prolongs plant respiration leading to a loss of soluble sugars, b) it promotes the growth of undesirable microbes in the windrow that consume energy and compete for sugars during fermentation, and c) it results in a loss of soluble nutrients and leaf damage that reduces DM and energy. Research from Wisconsin reported a 22% loss in dry matter when 1 inch of rain fell on alfalfa that had been wilting for 1 day! When alfalfa was exposed to several rainfalls over a period, dry matter losses were as high as 44%!

To reduce the chances of rain damage, watch the weather forecast and consider wide swathing and/or conditioning to reduce wilting time. Tedding is also useful because it turns the crop over to expose the wetter side of the swath to sunlight for drying. However, when making hay, do not ted when the crop is over 50% DM as this may result in significant leaf shatter and a lower crude protein content of the harvested crop.

What should you do if a crop has been exposed to a significant amount of rain or has been wilting in the field for a prolonged time? First, make an assessment of the extent of damage and probability of saving the crop. In some situations, the crop has lost a substantial part of its soluble sugar content. If ensiled, the chances that this crop will undergo a clostridial fermentation in the silo are very high. Even adding 2 or 3 times the recommended dose of lactic acid bacteria (from an inoculant) may not help. We have conducted studies that show if a crop has run out of sugar, adding an inoculant or even buffered propionic acid will not prevent it from going through a clostridial fermentation. Thus, in worse case scenarios, the crop may be a total loss. Adding sugar to a rained on crop to help the fermentation process may help but will depend on the extent of original sugar lost. Adding 20 to 40 lb of molasses equivalent per ton of forage may be needed to make a difference. Evenly distributing this molasses in the forage mass during silo filling will pose a challenge. In situations where the crop is only moderately compromised, consider harvesting the crop as hay rather than silage and target it to heifers. Although the hay may be low in quality, it is still better as dry hay versus a clostridial silage.