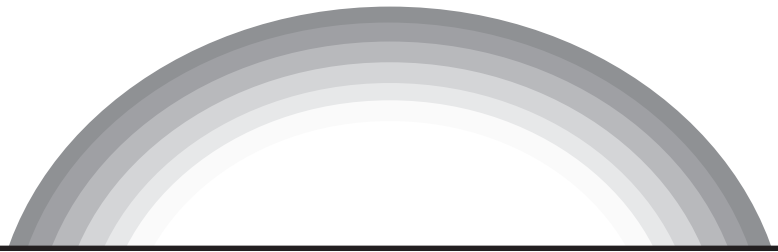


Disaster Recovery



Livestock

Rain-damaged hay: A likelihood this flood year

If you were unlucky with your hay harvest, like 80 to 90 percent of Iowa's farmers, then your hay probably got rained on. The big question is what hay damage was done and what is the feeding value?

Dry matter and nutrient loss depend upon two primary factors: 1) how dry was the hay when rain occurred and 2) how much rain, and 3) how favorable was the environment for drying after the rain.

A light rain (less than one inch) on recently cut hay causes only minimal damage, but may extend drying time a few hours. Rain, on nearly dry hay (less than 30 percent moisture) often leads to significant nutrient losses, particularly nutrient losses from leaching and leaf shatter from additional raking or handling operations. Generally, the more rain the cut crop receives results in greater leaching losses, longer curing times, more handling operations and greater cumulative nutrient losses.

Recent research results published by Michael Collins, University of Kentucky, indicate dry matter yield is decreased by 5 percent or more per inch of rain received in the windrow. Digestibility can be reduced 10 percent or more due to the effects of rain on leaching and leaf shatter.

The leaching and leaf shatter loss results in an increase of the neutral detergent fiber (NDF) fraction and a decrease in the nutritive value of the harvested crop. This is similar to what happens when harvest is delayed 10 days to two weeks before harvest. As the NDF component increases, forage intake is reduced and animal performance is lowered.

Last year Ann Cowen, ISU Model Farms Project coordinator, surveyed hays in south central Iowa. Many samples of the second cutting received rain damage, while others were put up without rain, giving a look into this matter of rain damage. Most noted was the 3 percentage point drop in crude protein. However, even more important to the beef cow producer was the 4.6 percentage point drop in total digestible nutrients (estimate of energy content). This agrees with survey work done in northeastern Kansas a few years ago where they experienced a 4.6 percentage point drop in crude protein.

Hay test results of second cutting alfalfa-grass hays.				
	% Crude Protein	%ADF	%NDF	%TDN
No Rain Hay	16.7	42.2	52.4	54.4
Rained on Hay	13.7	46.2	62.0	49.8

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Source: Ann Cowen, ISU Beef-Sheep Research Report

How does moisture affect vitamin A? No question, this nutrient is lost quickly due to weather damage. Again, Kansas work showed that 90 to 95 percent of the vitamin A was lost from original levels after remaining three weeks in the wind-row. One solution is to either give your cow herd an injection of Vitamin A or fortify the rations with commercial vitamin premixes.

Other significant sources of loss in the feeding value of the hay crop are storage and feeding losses. Hay can be stored safely with minimal storage losses if baled at 20 percent moisture or less. Most of this seasons first two hay crops were stored at higher than desired moisture levels. Hay baled at 22 percent moisture or higher will usually become musty or moldy and undergo excessive heating that will further reduce the availability or nutrients and palatability. Loss of hay stored outside in contact with wet soil also can be large.

Managing the feeding of the entire forage supply through the winter is the smart thing to do. An important first step is to sample the various types of forage that you have available and have them tested for nutritive quality. Forages should be analyzed for dry matter, crude protein (CP), acid detergent fiber (ADF), calcium (Ca), and phosphorus (P). Once you have a good measure of the nutritive quality of your total forage supply, a qualified nutritionist can help you develop sound rations for your cattle program, by allocating your forage inventory to your livestock according to their nutritional needs and recommend supplements if needed.

Use damaged hay and low quality hay first in your wintering programs when energy and protein needs are lowest in the beef cow. Save your best forage for last when beef cow requirements increase with late pregnancy. For calf feeding, good gains require good quality, palatable forage. If the hay is musty or moldy, don't use it for growing calves because feed intake will be lowered and resulting gains will be poorer.

. . . and justice for all

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