

HEAT DAMAGE TO MOIST HAY

Did you bale some first cutting hay a little tough due to high humidity and frequent rain showers? If so, your hay could mold, spoil, or suffer heat damage.

Excessive heat can cause hay to be less digestible, especially the protein. Heat damaged hay often turns a brownish color and has a sweet caramel odor. Cattle often eat this hay readily, but because of the heat damage, its nutritional value might be low.

Heat produced by a bale basically comes from two sources. Some heat is produced by biochemical reactions from the plants themselves as hay cures. This heating is relatively minor and rarely causes hay temperature to rise above 110 degrees. Very little damage occurs to hay that gets no warmer than this 110 degrees.

Most heat in hay, though, is caused by the metabolic activity of microorganisms. Millions of these microbes exist in all hay and they thrive when extra moisture is abundant.

As the metabolic activity of these microbes increases, the temperature of your hay rises. Hay with only a little excess moisture probably will get no warmer than 120 degrees. Wetter hay, though, quickly can get as warm as 150 degrees. Hay that gets this warm nearly always becomes discolored, and nutritional value can decline considerably. If hay temperature rises above 170 degrees, chemical reactions can begin to occur that produce enough heat to quickly raise temperatures over 400 degrees and cause fires.

We all bale hay a little too wet from time to time. Be wary of the fire danger with wet hay and store it away from buildings and other hay just in case. Also, remember the lower feed value that is caused by heat damage in wet hay. Get a thorough forage test and then use this hay accordingly.

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