

## Heat Effects on Alfalfa

As we experience the extreme heat of summer, plants adjust in various ways. When it gets hot, alfalfa plants suffer. Growth rates decrease and moisture stress is common, even in moist soil. Production of high-quality hay is nearly impossible due to high night-time temperatures. High night-time temperatures cause rapid metabolic rates in alfalfa, burning off valuable nutrients that plants accumulated during the day. This often produces alfalfa hay with fine stems that contain high protein, but they also have high fiber and low relative feed value. So if your hay tests low, blame the heat.

Another problem is how fast alfalfa plants mature. When it's hot, alfalfa may begin to bloom in less than four weeks. If you use blooming as a signal to harvest, this early blooming can be misleading. Alfalfa plants need more time, not less time to rebuild nutrient reserves in their roots during hot weather because they burn off nutrients instead of moving them to the roots when it is hot. So watch the calendar as well as your plants to determine when to cut.

You might adjust time of day when you cut hay. Some research has shown that cutting in late afternoon produces higher quality hay than cutting in the morning. But, on good drying days it may be wiser to cut in the morning. When hay in the windrow stays above fifty percent moisture, plant cells continue to respire, burning away valuable nutrients. Hay cut late in the day respire all night long, losing yield and quality. On good drying days, plant cells can dry enough to be stabilized before nightfall, reducing respiration losses.

Getting high quality hay is challenging. Both you and the weather must cooperate and even then there are no guarantees.

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