



Forage Management

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Late Summer Alfalfa Harvest? Take Labor Day Off!

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Alfalfa harvest schedule is an annual discussion as day length begins to shorten and with many areas facing short forage supplies the topic has even greater emphasis. The bottom line is that the underlying principles for risk to an alfalfa crop remain the same regardless of forage inventories; however, your tolerance for the risk involved certainly changes based on forage needs.

Decision making factors

- **Is it alfalfa or grass?**
 - Stand decisions for fertility and harvest management should be derived from stand composition.
 - Stands with >50% alfalfa should be managed as alfalfa.
- **Stand Health?**
 - Healthy alfalfa stands are more tolerant to fall cuttings.
 - Soils with high soil test potassium (K) levels and pH above 6.5 contribute to healthy alfalfa stands and will reduce the risks associated with fall harvest.
 - Weather conditions such as prolonged drought can add to plant stress.
- **What are your forage goals?**
 - Is your goal to maximize quality or to maximize the lifespan of the stand?
 - Many arguments have been made that “babying” an alfalfa stand for longevity does not gain you anything if it results in over mature low quality forages.
- **What is the age of the alfalfa stand?**
 - Alfalfa stands (3rd year or older) are at higher risk than younger stands (1st or 2nd production year).
- **Is it worth the time and effort?**
 - Generally speaking, fall harvested alfalfa does not yield very well.
 - Take into consideration the time, effort and harvesting costs.
 - In many cases, the total amount of harvested forage is worth less than what you spent on harvest costs.
 - You may be further ahead to buy additional hay or haylage if it is available in your area.

Harvest Timing Risk Management

The critical time for alfalfa in the fall relates to the ability of the plant to build root reserves prior to a killing frost (28°F). Following a cutting the plant depletes root reserves to begin regrowth before putting energy back into the roots. A killing frost during this time is most detrimental.

Table 1. Ithaca (central NY) vs. Watertown (northern NY), 30 years of weather data (1982-2011).

	Ithaca	Watertown
Range in 1 st 28°F frost date	Sep. 29 – Nov. 5	Sep. 20 – Oct.28
Average date of 1 st frost	Oct. 16	Oct. 7

The longstanding recommendation for NY is to leave 6-7 weeks between the last two cuttings of the year (Critical Fall Rest Period). Studies have shown that with this cutting interval harvest during the critical fall rest period is less likely to cause stand losses.

The 6-7 week cutting interval can be further refined using growing degree day data, using 900 growing degree days (GDD, base 41°F) as a minimal interval between the last two cuttings. The following Figures show cutting dates and average growing degree day accumulation for Ithaca, NY (Figure 1) and Watertown, NY (Figure 2). Additionally it is assumed that if less than 360 GDD's accumulate between last harvest and frost alfalfa regrowth will be minimal and at less risk of frost injury. Figures 3 & 4 shows the odds of accumulating greater than 900 GDD's between the last two cuttings and less than 360 GDD's following the last cut for Ithaca (Figure 3) and Watertown (Figure 4).

Data for Central and Northern NY indicate that late August and early September provide the lowest chance of falling into the correct windows for adequate GDD accumulation with a fall cutting.

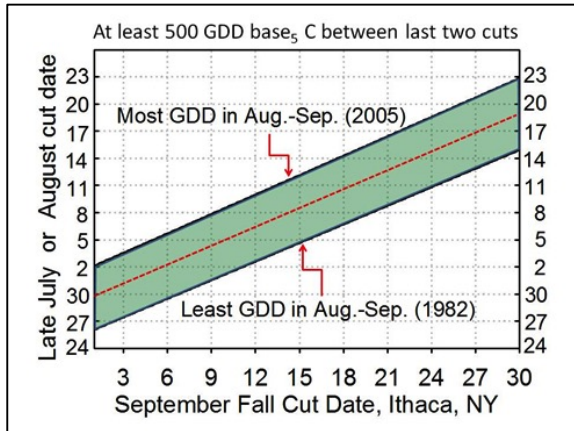


Figure 1. Range in rest period between September cut and previous cut to accumulate 500 GDD base5 C (or 900 GDD base41 F) for Ithaca, NY. Based on 1982-2011 weather data.

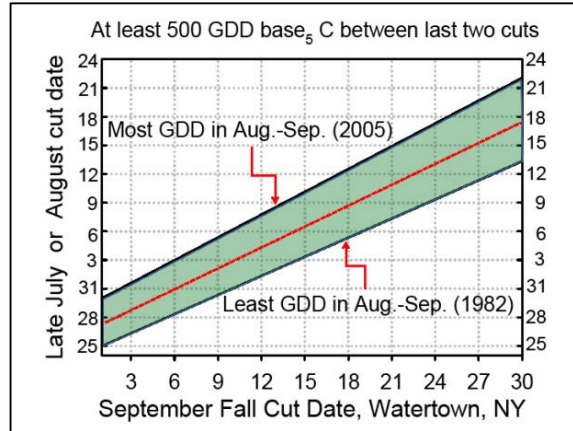


Figure 2. Range in rest period between September cut and previous cut to accumulate 500 GDD base5 C (or 900 GDD base41 F) for Watertown, NY. Based on 1982-2011 weather data.

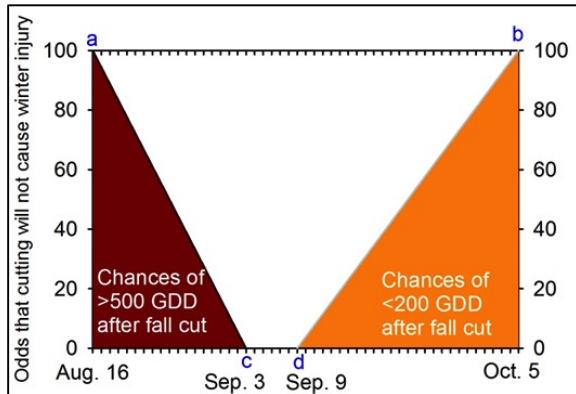


Figure 3. Approximate chances that fall cutting will not cause winter injury to alfalfa in Ithaca, NY. Based on 1982-2011 weather data and GDD base5 C (500 and 200 equivalent to 900 and 360 GDD base41 F). This is based on killing frost dates considered as the first 28°F temperature.

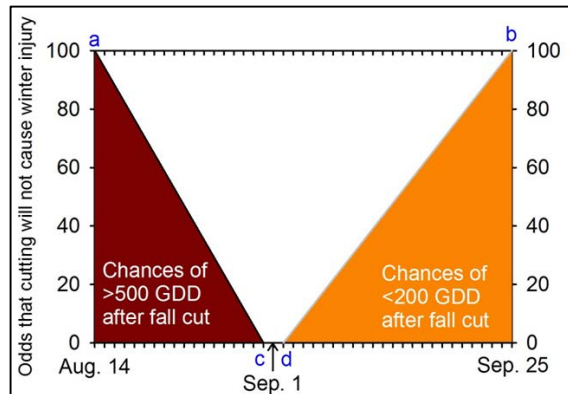


Figure 4. Approximate chances that fall cutting will not cause winter injury to alfalfa in Watertown, NY. Based on 1982-2011 weather data and GDD base5 C (500 and 200 equivalent to 900 and 360 GDD base41 F). This is based on killing frost dates considered as the first 28°F temperature.

Note: Figures present GDD's at base 5°C where: 500 GDD base 5°C = 900 GDD base 41°F and 200 GDD base 5°C = 360 GDD base 41°F

Reference

Cherney; J.H, D.J.R. Cherney, and P.R. Peterson, Cornell University. Alfalfa Fall Harvest Guidelines in NY – Should They Change?. What's Cropping Up? Vol. 22, No.3

http://scs.cals.cornell.edu/sites/scs.cals.cornell.edu/files/shared/documents/wcu/WCU_Vol22_No3.pdf