

## THE MANAGER

assumption is that 900 GDD (base41 F) are needed for alfalfa to build up root reserves. A second assumption is that it is safe to cut alfalfa if less than 360 GDD remain before the first killing frost, as there would be insufficient regrowth to use up enough storage carbohydrates to negatively affect alfalfa persistence. Using the 900/360 GDD criteria, we can approximate the odds that fall mowing will not cause winter injury. Approximate probabilities of either accumulating over 900 GDD or accumulating less than 360 GDD, with long-term weather data (30 consecutive years) can be calculated for alfalfa cut on a particular date in the fall. Cutting between Sept. 3 and Sept. 9, the odds of accumulating either >900 GDD or <360 GDD before first frost are approximately zero, so cutting during this period will maximize the chances of winter injury due to fall cutting in Ithaca.

### Comparing the Systems

Compare Fig. 2 (interval to first frost) to Fig. 1 (interval between last two cuts). If alfalfa was mowed on July 28, and then mowed again on Sep. 6, the chances of winter injury due to cutting are near zero for Fig. 1 (with 900 GDD accumulated between those dates all 30 years). So under one system (Fig. 2), Sep. 6 would be the worst

date to cut alfalfa, while under the other system (Fig. 1), Sept. 6 can be a very safe date to cut alfalfa. It is possible that both systems are reasonable. Allowing a 900 GDD interval before a Sept. 6 cut would make a Sept. 6 cut relatively safe. On the other hand, not allowing 900 GDD before a Sept. 6 cut might make this the worst possible time to cut an alfalfa stand.

### Conclusions

Our historical understanding of alfalfa root reserves provides evidence for maintaining some type of fall rest period for alfalfa. Applying the 900 GDD criteria to the critical fall rest period, however, results in an average rest period before first killing frost exceeding 7 weeks. Past research data provide evidence that a sufficient rest interval between the last two cuts allows us to take the last cut during the critical rest period. There does not appear to be evidence to change our basic logic for fall harvest of alfalfa. Some fine tuning of the rest interval between the last two cuts can be made using Fig. 1. These recommendations are for healthy stands. If a stand is not healthy, a more conservative harvest management may increase the chances of stand survival.

### Corn emergence and yield when planting.....

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subsequent corn growth and yield. Of our three corn silage hybrid testing sites, Aurora had the highest average yield. Silage yield (65% moisture) of the 59 hybrids from the seven listed seed companies averaged 23.4 tons/acre (Table 2). Residual effects of cold temperature after planting had zero affect on corn growth and yield.

What happens if soil conditions are once again ideal for planting in mid-April of next year? I recommend planting any time after April 15 to 20, provided your location does not experience late spring killing frosts (< 28°F after May 15-20th) and your selected fields are well-drained and do not readily flood. I wouldn't plant much deeper than 1.5 inches in April unless the top 2 inches are dry. Keep in mind, however, that silage yields were probably higher for early-June planted corn compared with late April or May-planted corn in 2011 and 2012 because dry July conditions reduced stature and kernel set in the earlier planted corn. On the other hand, silage harvest of June-planted corn was a month later. So the ideal planting date depends upon weather conditions during the growing season. But do not be afraid to plant on well-drained soils after mid-April if it is cold!

### Cover crops on northern New York farms

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harvested triticale planted as late as early October. Labor is allocated as available, and planting is complete within two weeks. McKnight selects fields that are in second, third or fourth year of corn for maximum agronomy benefits. He chooses fields that have fewer stones for efficient harvest, and selects well-drained or tiled fields.

Fisher crops 4,000 acres for 1,900 milking and dry cows. "We experimented close to the farm. This year we're 10 miles away."

Seed bed preparation is critical. Fisher uses a no-till drill on fertile, well-drained soil. McKnight observes that growth is spotty with a no-till drill or disc. He spreads 4,500 gallons of manure after corn is chopped, uses a vertical tillage tool to work the soil and create a fine-till seed bed two inches deep, rolls the seed bed, and then plants with a grain drill, roller combo. McKnight also applies 150 lbs of urea in spring for green up, which he said helps yield and is "for sure justifiable." Rye does not receive urea.