

Fall alfalfa: To mow or not to mow?

THERE are several schools of thought regarding fall management of alfalfa in areas where declining autumn temperatures result in the plants becoming dormant. The first — and oldest — recommends that the final cut of alfalfa be done by late August or early September, letting the regrowth remain in the field through the winter.

The specific last “safe” harvest date would, of course, depend on how far north your farm is located. Harvesting in mid-September risks having the plants regrow after harvest, using up some of the carbohydrates needed to get through the winter. In this case, even if the alfalfa didn’t winterkill, first-cut yields the following spring would be considerably reduced.

The second fall strategy permits a harvest provided that it’s early enough so there’s sufficient heat (at least 500 base 41°F Growing Degree Days) for regrowth and carbohydrate accumulation prior to a killing frost. Another option is to delay mowing

until there will be minimal regrowth (less than 200 Growing Degree Days) following harvest. By waiting until a frost has either killed the top growth or an extended period of cool conditions have almost entirely stopped growth, a fall harvest should have little impact on winter survival, particularly if a long (4 to 6 inches) stubble is left to catch and hold snow.

We saw a dramatic demonstration of the potential pitfalls of fall alfalfa harvest when a farmer in the New York’s Champlain Valley mowed part of an alfalfa field in early October. The first hard frost of the fall occurred that night, wilting the leaflets on the part of the field that wasn’t harvested. The farmer mowed the remaining portion the following morning. The alfalfa mowed the first day regrew several inches before the next killing frost, while that mowed the second day didn’t regrow at all.

The following spring there was a distinct line separating the two harvest dates: The alfalfa that regrew several inches suffered severe winter damage, while the alfalfa that didn’t regrow came through in fine shape. The root reserves expended to produce those few inches of

regrowth on the portion of the field mowed that first day obviously put too much stress on the plants.

The third fall harvest system, based on university research in the northeastern U.S., assumes that the length of the harvest interval prior to fall harvest is more important than the actual date of fall harvest. A harvest interval of six to seven weeks is recommended prior to a fall harvest, and an unusually early harvest the following spring should be avoided to allow plants to store root carbohydrates.

In some years, alfalfa will regrow a few inches under this harvest regime, but that may aid in catching and holding a snow cover. This system may work better with established plants in their first or second year of production which usually have fewer root and crown diseases than do older plants.

“Make hay while the sun shines,” but not in mid-September or later! Fall alfalfa can be challenging to harvest and deceiving in yield. It has very large leaflets, often the size of a quarter. Those large leaflets often don’t as much yield as a “tractor seat evaluation” would suggest. One ton of dry matter per acre is very good, but half a ton may be more common.

The need for this forage should be compared to the harvesting cost. On the bright side, as long as there hasn’t been a killing frost, you can afford to wait a few days for ideal harvest weather since forage quality is at a very high level and declining very slowly.

Other fall harvest factors

Potassium. A lot of alfalfa doesn’t winterkill, it starves to death from inadequate soil potassium levels.

Soil drainage. Proper drainage permits good root development, essential for nutrient uptake and the accumulation of root reserves.

Soil pH. An acid soil ties up plant nutrients, preventing them from being absorbed by plant roots, and rhizobial bacteria don’t function well in acid soils, leaving alfalfa plants starved for nitrogen.

Summer harvest management. Alfalfa that’s been intensively managed (30 day or less harvest intervals) during the summer may not be the best candidate for a fall harvest.

Variety. Choose alfalfa varieties with good winter survival ratings which are not the same as fall dormancy ratings. 

Thomas is retired from the William H. Miner Agricultural Research Institute and is the president of Oak Point Agronomics, Hammond, N.Y. Mahanna is with Pioneer, a DuPont Business, and is an adjunct professor at Iowa State University.