



Factors Affecting the October Alfalfa Harvesting Decision

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Abundant late summer moisture and favorable temperatures have many alfalfa stands in Minnesota looking very productive this fall. Whether or not to harvest that growth can be a difficult decision, but October harvesting makes sense (and cents) in many situations.

Risk aversion. Cutting any time after the end of August carries some risk of increased winter injury. If you are unable or unwilling to take that risk for whatever reason, it's probably best to avoid cutting after September 1. But in many cases, fall cutting has minimal risk. The amount of risk depends on the interaction of many factors; some we can control, some we cannot. Some of those factors are outlined below.

Stand length/rotation strategy. How old is the stand and how long do you want/need to keep it? If your goal is to keep the stand for 5 or more years, fall harvesting may be too risky for you. If you plan to keep the stand for 3 or 4 years to capitalize on the benefits of shorter rotations, fall harvesting is a viable option to maximize yields.

Feed supply. What is your feed inventory? Do you need high quality feed? Fall alfalfa is usually some of the highest quality alfalfa of the season.

Timing of the fall cut. It's generally best to try to avoid the "fall critical period", which is usually defined as September 1 to mid-October. This is because harvesting during this window can result in inadequate time for regrowth to restore root reserves prior to a killing frost. But the critical period becomes less important as cutting frequency decreases. For example, a second cutting in September is safer than a fourth cutting in September. There is no need to wait for a killing frost. In fact, it's usually better not to wait. A killing frost will induce leaf drop and quality and yield decline. Dormancy is a response to the combination of decreasing daylength and temperature. Once October arrives, cut when weather and your time permit.

Previous cutting frequency. Stands cut more frequently are at greater risk of winter injury if cut during the fall. Fall cutting will be safer where at least one crop during the year has reached the flowering stage.

Stand age. Younger stands are less susceptible to winter injury than older stands, because young alfalfa plants are healthier than older plants. Thus, younger stands are less likely to be

injured by fall cutting. Healthy stands seeded to winter hardy varieties in spring 2005 should be very tolerant of October harvesting.

Variety winter hardiness. Cheap seed may or may not have good winter hardiness. Varieties with known winter survival indices of around 2.0 or less should be more tolerant of fall cutting.

Soil potassium. Alfalfa uses a lot of potassium, and its winter survival has been linked to soil K levels. Fields with medium or low levels of K will be less tolerant of fall cutting.

Soil drainage. Alfalfa fields that are waterlogged now or at any point during the season are less tolerant of fall harvesting.

Ryegrass nurse crop or grass/alfalfa mixtures. Alfalfa mixed with grass should be more tolerant of fall cutting due to a greater ability to catch and hold insulating snow cover and the soil insulating effects of grass crowns/residue. Seeding-year stands where Italian or annual ryegrass was seeded as a nurse crop may *need* to be harvested in October to reduce competition and potential smothering of alfalfa by the ryegrass.

Quality next spring. We've conducted experiments on two farms in southeastern Minnesota. On one farm, fall residue after a third cutting in mid-August significantly reduced quality of the next year's first cutting. On the second farm, it didn't. Some Wisconsin data indicate little affect of fall residue on spring quality. Thus, fall residue probably more often than not has little detrimental affect on quality the next spring. But if there is a lot of fall residue and it doesn't get matted down by snow over winter, it may reduce quality next spring. If that is a concern next spring, fall residue can be clipped when the ground is still frozen before spring regrowth starts; this can be a challenge to time though without damaging the stand.

Uncut strips. Leaving uncut strips about every 20 feet can help catch insulating snow cover, especially where winds have a tendency to blow snow off the field (pretty much most of Minnesota, eh?).

Grazing. Grazing is a great option for fall harvesting alfalfa. Patterns of use by grazing animals often leave better stubble for catching insulating snow. But don't graze when the soil is wet, lest stand damage occur. Alfalfa-grass mixtures or alfalfa with a ryegrass nurse crop can probably be grazed during somewhat wetter fall conditions. Follow bloat precautions if grazing pure alfalfa, especially right after a killing frost.

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