

# MEASURE AND MANAGE

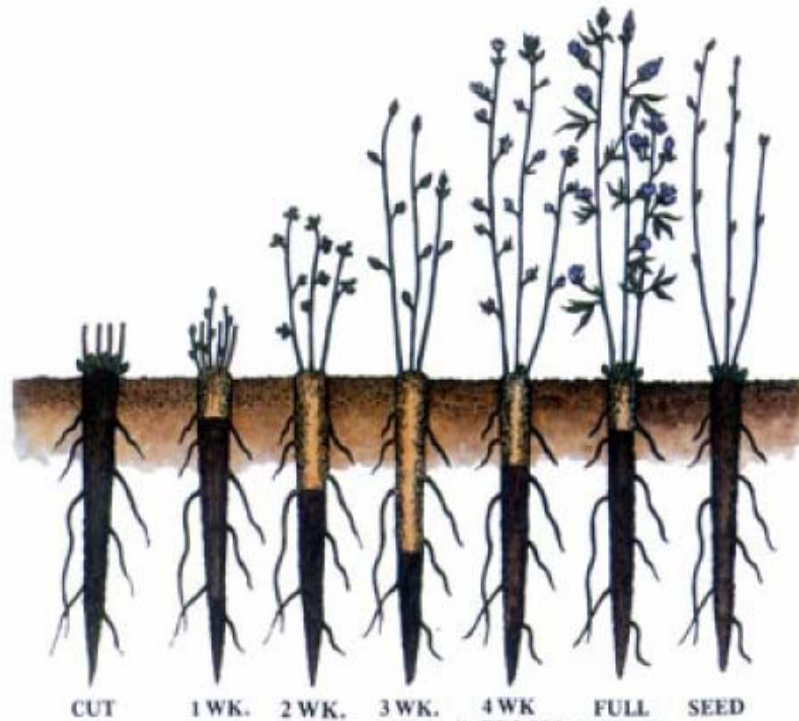
## Taking Late Cuts of Alfalfa During the Critical Fall Rest Period

By Dale Cowan  
[dcowan@agtest.com](mailto:dcowan@agtest.com)  
Agri-Food Laboratories CCA.On

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Late August is ideal for taking that last cutting of alfalfa. The timing of this cutting can be important to the long-term health and survivability of the stand. It is best for alfalfa to not be cut during the 5 to 6 week period before a killing frost. During this critical period, cold resistance and energy reserves for winter survival are built up. We do get asked about taking cuts in September. This can be risky however some producers have good experience and appear not to cause any adverse effects.

A killing frost for alfalfa occurs when temperatures drop to  $-5^{\circ}\text{C}$  or less for several hours. So the period from mid-August (in the north) through to mid September (in the south) is the critical fall rest period in Ontario. Harvesting during this period decreases accumulation of energy reserves and development of cold hardiness.



The above schematic illustrates the relative energy reserves in the alfalfa roots. The dark part shows the level of stored energy. If the last cut was taken at a relatively mature stage

then the roots are full of energy as the plant grows it pulls energy to the top growth. As soon as there is sufficient top growth the reserves are replenished in the roots by the photosynthate generated in the top growth. Depending on when the crop is cut during this time period and when cold weather is experienced will determine the degree of potential damage to the crowns based on the energy level in the root.

Research suggests that any yield gained in this time period is lost in next years first cut. This is not always true and is further dependant upon other factors associated with stand management practices.

Mark Sulc from Ohio, states it best in these 7 points

“When harvesting alfalfa during the critical fall period, several factors can help reduce the risk of winter injury:

1. Young, healthy stands are less susceptible to winter injury from fall harvesting than older stands. On the other hand, more future production potential is lost if a younger stand is injured from fall cutting.
2. Forages in well-drained soils will be at lower risk of injury than those with marginal drainage. Fall cutting should not be attempted on soils prone to heaving! Removal of the top growth cover increases the potential for heaving injury.
3. Length of harvest interval during the growing season is often more important than the actual date of fall cutting. Making a 3rd cutting during the fall is less risky than making a 4th cutting in the fall, because a 3-cut schedule allows longer intervals for plant recovery between cuttings compared with a 4-cut schedule. Likewise, a growth interval of 45 days BEFORE a fall harvest will reduce the risk of injury compared with a pre-harvest growth interval of 30 days. The longer growth period allows more energy buildup before the fall harvest, lessening the amount of energy reserves needing to be built up after harvest.
4. Fields with optimal soil fertility levels (pH, P, K) are at less risk than where fertility levels are lower.
5. Disease resistant and winter hardy varieties lessen the risk of injury from fall cutting.
6. Alfalfa that was not under stress during the summer will be at lower risk. Any stress (wet soils, potato leafhopper injury, etc) that weakened the crop during the year can increase the risk of damage from fall cutting.
7. Cutting AFTER a killing frost (-5C / 25 F for several hours) in late October or early November can be an option for well-drained soils only. Leave a 6-inch stubble after late fall cutting. Cutting this late in the year prevents regrowth that burns up energy and protein reserves; however late removal of plant cover increases the risk of frost heaving! Fall cutting should not be practiced on soils prone to heaving.

Some of the key components are keeping a stand healthy by choosing good varieties, timely stand management and Soil Testing to determine where your nutrient levels are, especially potassium.“

Agri-Food Laboratories testing services can help keep you moving in the right direction by providing high quality analysis combined with years of seasoned agronomy knowledge in crop production.

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