



## Fall Cutting Management

### Every fall°

we get asked with the same question – when should I cut my alfalfa? We are probably all familiar with the idea of a ‘no-cut period’, usually sometime in or around September for most of us, when we have been told not to cut alfalfa. Of course the exact timing varies by location, but a little explanation might help you lead your customers through this question by being that local expert we keep talking about.

Fall is the time when our perennial forage plants are preparing for next spring’s growth. For alfalfa, that means stuffing the roots with as many carbohydrates as possible before winter sets in. When it comes to timing the last harvest, we have to do our best not to diminish those carbohydrate reserves. Those who cut in late August/Early September are banking on having enough warm weather to grow 6-8 inches of regrowth which will capture enough sunlight to fill the roots up for the winter. Poor fall growing conditions can occasionally stifle growth enough so that adequate growth doesn’t occur. At the other end of the spectrum are the growers who cut for the last time in October after the plants would typically be shutting down. An extended fall growing season can cause just enough regrowth to be harmful to stands given this treatment.

On average, either strategy can work. If alfalfa has adequate time and conditions to regrow, a late summer or early fall cutting is not harmful. Likewise, cutting off all the growth at the end of the season is not harmful either. The danger occurs when the plants expend energy putting out their initial regrowth, and then a killing frost comes. The plants actually had to deplete root reserves to put out those leaves and that energy was not replaced by photosynthesis. That leaves the plant vulnerable to winter energy and those plants won’t be able to jump out of dormancy as fast when spring comes, reducing the first-harvest yield. In one of those start and stop springs with several freeze-thaw cycles, the plant may try to initiate growth a couple of times and run out of energy completely.

The time for the early fall cutting has passed, but there may still be time for a late fall cut without much regrowth occurring. Recent research out of Canada points out that in more precise terms, early fall cut stands need to accumulate 500 growing ° days to refill root reserves. If late fall cut stands accumulate no more than 200 growing ° days, so little regrowth will occur that it will not draw down root reserves. It’s those fields that accumulate somewhere between 200-500 growing ° days that may need attention this spring. To calculate growing ° days, see the example at the end of this article. Your Byron Seed Territory Manager should be able to help you access local weather data.

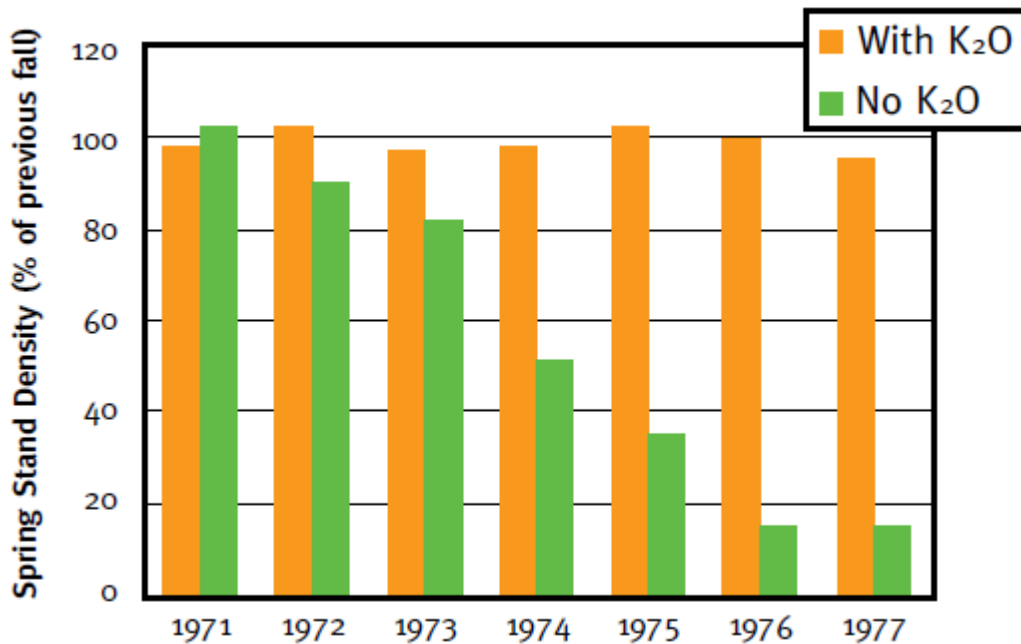
### Fall Fertility

Another important factor for getting alfalfa prepared for winter is having adequate soil fertility, especially Potassium. Potassium actually acts as antifreeze inside the plant by lowering the freezing point of the fluid inside the plant. It’s the same principle as salt water not freezing



as quickly as plain water. The attached graph shows the difference a fall application of Potassium can make over the life of the stand. You can see that the stand that received Potassium fertilizer every year stayed dense, while the one without fertility faded out. When you consider how much Potassium is removed in each ton of hay, it stands to reason that the soil can become depleted fairly quickly.

## Stand Density vs Previous Fall



Based on research conducted by L. Bailey – Agriculture and Agri-Food Canada, Brandon, Manitoba.

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### Example of Growing ° Days (GDD) for alfalfa:

The alfalfa calculation uses a base number of 41 °s F because very little growth occurs below that temperature. For our example, let's assume the high temperature today was 62 and the low was 48.

$62 + 48 = 110$   $110/2 = 55$  ° average temperature for the day.  $55$  °s minus the  $41$  ° base =  $14$  growing ° days for that day.

Perform this calculation for every day from the last cutting until the first day a killing frost of  $25$  °s occurs

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