



NEWS RELEASE

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ALFALFA WINTER INJURY & KILL: EVALUATING STANDS FOR 2022

How did your alfalfa stands make it through for this coming season? This past winter was certainly variable with the weather patterns. Spring has been slow to warm up, but things are starting to green up.

It is time to evaluate their alfalfa fields to determine each field's condition and if any of them did not survive well enough to keep.

Here are some tips to help you get started on evaluating alfalfa fields for winter injury:

- **Stands which are slow to green up.**
Compare your stand to other fields in the area. If you notice that some areas are starting to grow and other areas of your alfalfa field still brown, it is time to check those brown stands for injury or death.
- **Winter-killed roots will have a gray appearance.**
If the root is soft and water can be easily squeezed from it, or it has a brown color, it is a possible sign of winter cold-related death.
- **Asymmetrical growth and uneven growth.**
These are also two indicators of winter injury. Compare the shoots on the same plant, and if you notice that one set of shoots seems to be drastically outperforming another in terms of growth, it could be that winter cold damaged the bud structure of your plants.

If stands have been injured, you can follow these guideline to make decisions if a stand should be kept or rotated out of alfalfa. Stand yield potential based on stem densities per square foot can be assessed in the following manner:

- **Greater than 55** stems indicates density will not be a limiting factor,
- **Between 40 and 55** stems indicates some yield reduction but fields may be adequate in years of low inventories and high value,
- **Fewer than 40** stems indicate a poor stand and consideration for termination.

UW Extension has a good publication with additional information and really nice pictures of roots in different health conditions at the following website to assist evaluating alfalfa stands:
<https://tinyurl.com/y39n5mf4>



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As you look at the fields and think about what happened to this field that caused it to winter kill, here are the six top factors that lead to winter injury and kill.

1. **Stand Age**-Older stands are more likely to winterkill than younger plants.
2. **Soil pH**- Soils with a pH above 6.6 are less likely to experience winter injury.
3. **Soil fertility**- Stands planted in soils with high natural fertility are less likely to experience winter injury than those with low fertility.
4. **Variety**- Alfalfa varieties with superior winter hardiness ratings and a high disease resistance index are less likely to experience winter injury.
5. **Cutting Management**- Harvest frequency and timing of fall cutting will affect alfalfa winter hardiness. The general trend shows that the shorter the interval between cuttings during the growing season, the greater risk of winter injury. An aggressive harvest schedule prevents the plant from storing carbohydrates in its root structure which it will need to maintain health as it regrows. Stands in which last cutting is taken between September 1 and middle of October are at greatest risk, as plants did not have enough time to accumulate adequate carbohydrate levels in the root system before winter.
6. **Snow Cover**- Snow provides insulation to the plants and the crown. The crucial temperature region is two to four inches below the soil surface where a large part of the root structure is located. Stands that have at least six inches of stubble left will be able to retain more snow cover and be less susceptible to winter injury.

Contact your local UW Extension Office for more information.