

---

## NEWS COLUMN



Dr. Loretta Ortiz-Ribbing  
Crops and Soils Area Agent  
UW-Extension, Fond du Lac and Dodge Counties

For Feb. 2017

### **Title: Winter Weather: No Wonderland for Alfalfa**

Recent winter weather may make you ask, “Will freezing temperatures and ice harm my alfalfa?” “What about the lack of snow cover and abnormal temperatures?”

Unavoidable winter cold injury can occur on any dormant plant in the field. Fluctuating soil temperatures, for example, exert upward pressure on alfalfa plants and can cause their crown and root systems to be lifted or heaved out of the soil. These freezing and thawing cycles cause mechanical injury to the plant’s root system which not only stresses the plant, but also makes their roots vulnerable to dehydration from sun and wind exposure, and predisposes them to insects and disease.

Unseasonably warm or fluctuating air temperatures can also cause alfalfa buds and leaves to break dormancy making them prone to freeze damage with subsequent cold temperatures. Air temperatures less than 15° F can damage alfalfa crowns even when plants are well hardened off, because water in the plant’s cells freeze and rupture, causing cell death.

While you have no control over the weather, some factors such as variety selection and cultural practices are within your control. Fall growth and dormancy play a major role in an alfalfa variety’s winter hardiness. Cultivars having low top growth in the fall tend to have better winter survival. Choose to plant hardy varieties adapted to your area with good fall dormancy and winter survival. According to Dr. Dan Undersander, 30-years of data illustrates that the relationship between fall dormancy and winter survival for northern alfalfa varieties has shifted. Fall dormancy is rated on a 1 to 11 scale, where ratings of 1 or 2 equal very winter hardy, and ratings of 10 or 11 equal no cold weather survival. Previously, alfalfa varieties needed a fall dormancy rating of 2, in order for that plant to adequately survive the winter. Now, data shows that varieties with ratings of 4 or 5 can be grown with little difference in winter survival from varieties with ratings of 2.

Fall dormancy, winter survival, and disease ratings for many alfalfa varieties in Wisconsin are available on the University of Wisconsin Variety Testing website at <http://fyi.uwex.edu/forage/alfalfa-trial-results-2016/>. Select “click here for MARKETER(s).” The National Alfalfa and Forage Alliance also has a 2017 Alfalfa Variety Ratings booklet, that provides winter survival, fall dormancy, and pest resistance ratings for alfalfa varieties. Look online at [www.alfalfa.org/varietyLeaflet.php](http://www.alfalfa.org/varietyLeaflet.php).

Winter injury from cold temperatures is less likely when good cultural practices are followed that promote healthy plant growth. Alfalfa plants and root systems are healthier

-more-

---

**University of Wisconsin, United States Department of Agriculture,  
and Wisconsin Counties Cooperating.**

UW-Extension provides equal opportunities in employment and programming, including Title IX requirements. Please advise us one week prior to program if you are handicapped and require special accommodations. Requests will be kept confidential.

---

## NEWS COLUMN

Dr. Loretta Ortiz-Ribbing, Crops and Soils Area Agent  
UW-Extension, Fond du Lac and Dodge Counties  
August 7, 2016  
Page 2

when they receive proper amounts of fertilizer based on a soil test; when they are cut properly to allow carbohydrate levels in roots to accumulate in the fall; and when they are hardened off properly.

Reducing the risk of winter injury to alfalfa can be accomplished by avoiding planting in high-risk areas, choosing hardy and adapted cultivars, using good cultural practices, and by implementing management techniques that improve snow cover. Snow cover is actually beneficial to alfalfa for preventing winter injury caused by low temperatures and heaving. Snow often insulates plants protecting them from desiccating winds and low temperatures. Management techniques that trap snow include alternating strips of alfalfa with grass or some other stubble, cutting the last harvest at different heights, allowing some fall regrowth, or planting alfalfa mixed with grasses.

The best advice for now, however, is wait and see. Observe which fields will need spring scouting to assess any damage that may have occurred and to determine whether plants will outgrow injury.

Regardless of winter injury, if you want to extend the life of a thin, older, stand of alfalfa, frost seeding is an option that should be done in late February to mid-March. See Focus on Forage, Seeding into an Existing Alfalfa Stand for species and suggested seeding rates. Visit: <http://fyi.uwex.edu/forage/seeding-into-an-existing-alfalfa-stand/>

For more information please contact UW-Extension Crops & Soils Area Agent Dr. Loretta Ortiz-Ribbing at 920-929-3171 or [Loretta.OrtizRibbing@ces.uwex.edu](mailto:Loretta.OrtizRibbing@ces.uwex.edu). #alfalfawinterinjury

####