

Alfalfa Seed Selection – Fall Dormancy and Winter Survival

There are several traits to consider when selecting an alfalfa variety (cultivar). Choosing a variety adapted to the region's climate and suitable for the intended use should be priorities. Winter survival and fall dormancy are key factors related to adaptability and use. They can affect stand, longevity, and forage yield. As a way to compare winter survival and fall dormancy among varieties, ratings have been given to alfalfa varieties that are eligible for certification. The ratings are published each year by the National Alfalfa and Forage Alliance. Winter survival and fall dormancy ratings along with pest resistance ratings can be found on the education link at www.alfalfa.org.



Alfalfa variety plots in PMC salinity study near Carrington, North Dakota

Although fall dormancy is somewhat related to winter hardiness, it is not an accurate measure of winter hardiness. Winter hardiness and fall dormancy should be considered as separate characteristics when selecting alfalfa varieties.

Winter Survival Rating (WS): Particularly important in the Northern Great Plains is the ability of an alfalfa plant to survive the winter without injury. Winter survival ratings for alfalfa varieties range from 1-6, with 1 being the most winter hardy and 6 the least hardy. The rating indicates longevity and potential to withstand multiple winters. For long term stands, alfalfa varieties with lower WS ratings should have primary consideration in northern climates.

Fall Dormancy Rating (FD): Fall dormancy relates to how soon an alfalfa variety stops growing in the fall and how early it begins growing in the spring. It is rated on a scale of 1-11, with 1 having the least fall growth and 11 with the greatest fall growth. Varieties with low fall dormancy ratings have slower shoot elongation and regrowth after harvest, and have shorter prostrate shoots in the fall. Varieties with high fall dormancy ratings have erect shoot growth in the fall and quicker shoot elongation after harvest. They tend to start growing earlier in the spring, green up faster following cutting during the season, and grow taller in the fall. Fall dormancy ratings are a very good indicator of yield potential. The advantage of growing varieties with a larger number on the fall dormancy rating scale is generally higher yields.

Winter survival and fall dormancy ratings are great tool for selecting an alfalfa variety. Other things to consider include purpose of the planting, management, and pest resistance. If NRCS/FSA cost share is involved, guidelines for winter survival ratings must be followed when making selections. The following chart provides approximate guidelines for alfalfa winter survival ratings.

Alfalfa Winter Survival Ratings		Region of Adaptation <i>*Consult NAFA ratings for specific varietal zones of adaptation</i>
Rating	Description	
1	extremely winterhardy	Northern Plains
2	very winterhardy	Northern Plains/Upper Midwest
3	winterhardy	Northwest/Upper Midwest Central Plains
4	moderately winterhardy	
5	slightly winterhardy	Southern U.S.
6	non-winterhardy	Extreme Southwest U.S.

Alfalfa Fall Dormancy Ratings	
Rating	Description
1 - 2	very dormant
3 - 4	dormant
5	moderately dormant
6 - 7	semi-dormant
8 - 9	non-dormant
10 - 11	very non-dormant