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WINTER SURVIVAL AND FALL DORMANCY IN ALFALFA

Whether you planed it originally or held off due to dry conditions in the fall, the time for spring planting alfalfa is just around the corner. Selecting the right seed is crucial, and two traits to consider are fall dormancy and winter survival. These traits are often treated the same, but are different. Let's take a closer look.

Winter survival or winter hardiness is the ability for an alfalfa plant to make it through winter without injury, once the plant goes dormant. This is different than the fall dormancy rating that measures the alfalfa's ability to prepare for and recover from dormancy. Winter survival is measured on a 1 to 6 scale with 1 being extremely hardy and 6 not hardy.

As temperatures drop and days shorten, alfalfa plants change their physiology to survive freezing temperatures and make it through winter. Increased hardiness can lead to reduced yield potential, but for a high dollar perennial forage, having a stand year after year is key.

On the other hand, fall dormancy is a measure of an alfalfa plant's ability to regrow in the fall. Dormancy is scored on a scale ranging from 1 to 11 with 1 being most dormant and 11 the least. Higher dormancy means a harvested plant will focus its resources in the fall more on building reserves to survive the winter and less on new growth. There are free alfalfa ratings available online that may be helpful for comparing survival and dormancy between varieties.

This tendency toward slower regrowth manifests throughout the year, with less dormant varieties typically recovering faster in the spring and producing overall higher yields. Another role dormancy plays is keeping plants from starting growth during the random warm-ups we can have in the fall and winter months. Plants that break bud during these periods are subject to winterkill and will have to start growth from new buds later on.

Finally, fall dormancy can impact the harvest timetable. Again, lower dormancy ratings means a plant regrows slower. This translates into more time to remove forage from the field before "windrow disease" and field traffic become a concern.

In the past, winter survival traits were linked with fall dormancy. With new varieties, this isn't always the case, so each trait needs to be evaluated on its own.

We want to pick a winter survival ranking that will get us through winter without compromising yield. Where you are in the state plays a big role in what to pick, but in general, 3 is as low as we want to go. Winter temperatures affect this, but maintained snow cover is also important. As snow can help insulate the ground, parts of the state that regularly have open winters may need as high or higher survival rating than colder locations with winter-long snow cover.

When selecting a fall dormancy rating, a lot depends upon your management and production goals. We want to select a variety that will make it through winter without sacrificing additional yield. If you have regular issues with stand winterkill, you may consider going with a lower rated variety. In Nebraska, we generally don't see much higher than a 5.

Bottom line, a winter survival rating of 3 is about as high as we want to go and areas with open winters or regularly colder temperatures should be even lower. For fall dormancy, a rating of 5 is about as high as we want to go to balance yield and survival. Spring recovery is important, but don't forget fall dormancy also impacts maintaining dormancy, harvest schedule, and yield potential.

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