

Reaching Crop Potential: Key Factors to Consider in Variety Selection

by Brent Johnson, Syngenta Alfalfa

Exceptional seed genetics can help a crop reach its full potential; however, individual needs also play an important role in establishing successful stands. Prior to seed selection, growers must first choose a suitable field and also understand risks to their crop from climate, pests and diseases.

Site Selection

Seed to soil contact is critical for stand establishment and optimum planting depth can vary from one-fourth of an inch to one inch depending on soil type (Figure 1)¹. Also, consider which herbicide program to use, especially if seeding after corn. Several pre-plant corn herbicides have rotational restrictions of 12-18 months, so make sure to follow label instructions when rotating to alfalfa.

Seed Treatment

Coated alfalfa seeds, an industry standard for decades, have had a positive impact on grower satisfaction by reducing replants and resulting in more plants per pound of seed planted. For example, Syngenta alfalfa products offer a newly formulated, hygroscopic alfalfa seed coating which utilizes leading-edge technologies for seed treatments and microbiology to maximize the genetic potential of the alfalfa. In 2009, Syngenta alfalfa growers using the latest coated seed treatment had 30% fewer replants when compared to the standard treatment of Apron XL[®] fungicide and Nitragin[®] Gold inoculant.²

Insect Resistance and Disease Resistance

Alfalfa pests, especially the highly destructive potato leafhopper, can limit forage yield and quality. Growers in areas where these insects are present should take advantage of the latest generation of alfalfa varieties which provide potato leafhopper resistance. Additionally, when seeding alfalfa with a cover crop, most growers do not spray for potato leafhopper, so consider using a potato leafhopper resistant variety in these instances too.

For the best chance at establishing successful stands in areas with heavy, wet or saturated soils, growers should consider selecting varieties with resistance to race two *Aphanomyces* Root Rot, a disease that causes damping-off, stunting and chlorosis of alfalfa plants.

Dormancy and Winter Hardiness

Higher fall dormancy varieties tend to have the highest yields, while lower fall dormancy ratings are associated with higher forage quality. In the Upper Midwest, alfalfa dormancies will typically range from a 3-5 rating. Central Plains fall dormancies can range from a rating of 3-6.

Persistence and winter hardiness are two other important characteristics in variety selection. Through advanced breeding techniques in recent years, researchers have separated the correlation between fall dormancy and winter hardiness. Today, it is possible to plant later fall dormancy varieties without sacrificing the winter hardiness and persistence that can lead to longer stand life.

By way of top-line genetics and cutting edge seed industry technology, more options are now available than ever before to produce better yields as long as alfalfa growers are knowledgeable and aware of specific growing conditions and individual needs.

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¹Alfalfa Management Guide - University Compendium

²Apron XL[®] and the Syngenta logo are registered trademarks of a Syngenta Group Company.

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Figure 1. Alfalfa seedling emergence soil type interacts with planting depth.

