Alfalfa is normally considered a high yielding, high quality, deep tap rooted, drought tolerant, perennial legume that does best on deep, well drained, fertile soils, and does poorly on acid as well as poorly drained sites. The suggestion that alfalfa could be grown successfully on soils that were not well drained was not a consideration.

Unfortunately, however, not all soils in the northeast are well drained. And while there have been a limited number of alfalfa varieties on the market with the potential of producing secondary roots with a spreading root growth habit none have performed well in the normal humid climate of the northeast. Thus, alfalfa breeders have continued to search for germ plasm with a root system that would tolerate less well drained soils and still persist and produce satisfactory yields of quality forage.

PS 105 Branch Rooted Alfalfa is one result of this search with a root system genetically designed to express a greater degree of the branched rooted trait. This trait helps keep more of the branched root system closer to the surface and better secures the plant in the ground when freezing and thawing occurs. The branch rooted trait tends to be indeterminate which means it will adjust as moisture stresses intensify. In addition to the branched root trait PS 105BR has produced good forage yields on well drained soils, has better than average persistence and production on less well drained soils, and is winter hardy with better than average multipest resistance. It would be considered a companion alfalfa to Preferred Seed’s high yielding, deep rooted varieties on soils that are less than well drained.
**Forage Yield**

PS 105BR has been evaluated for yield against check varieties over a wide range of soil and climatic conditions in the upper midwest and northeast. On well drained soils forage yields of PS 105BR have been similar to yields of check varieties. On less than well drained soils yields of PS 105BR have been consistently 5 to 10% higher than check varieties with consistently better persistence.

**Pest Resistance**

In the Northeast the 6 diseases most commonly associated with alfalfa stand losses are: Bacterial wilt (Bw), Fusarium wilt (Fw), Verticillum wilt (Vw), Anthracnose (An), Phytophthora root rot (Prr), and Aphanomyces root rot (Apn). Table 1 reflects the degree of resistance of PS105BR to these 6 diseases, as well as its resistance to Pea aphid, an insect that can on occasion be a serious pest of alfalfa in the northeast. Based on the University of Wisconsin disease resistance index (DRI) PS 105 has a DRI of 27 out of a possible 30 points.

**Winterhardiness and Fall Dormancy**

Winterhardiness and fall dormancy ratings are helpful to determine where a variety is best adapted. For older varieties winterhardiness was closely associated with early fall dormancy and slow recovery after cutting. With today’s technology in alfalfa breeding that is no longer true. PS 105BR, for example, has excellent winter survival (rating of 2 on a scale of 1 to 6), equal or more hardy than Vernal. On the other hand it combines fast recovery after harvest with a fall dormancy of 3.0 (on a scale of 1 to 9) providing somewhat more flexibility in cutting management than with Vernal.

**Forage Quality**

PS 105BR has not been evaluated in detailed feeding trials. However, based on its agronomic characteristics the forage quality of PS 105BR is expected to be similar to that of other improved alfalfa varieties.

**About Seed of PS 105 Branch Rooted Alfalfa**

To assure maximum stand establishment and crop performance seed of PS 105BR is pre inoculated with Nitrogen Gold and treated with Apron fungicide for protection against seedling diseases.