

### SEED COATINGS: NEW HORIZONS

*Bill Talley, President, Summit Seed Coatings*

The demand for seed coating on forages and forage legumes continues to increase in all areas of the United States. Because of this increased demand, several new coating facilities have been established closer to consumers. Coating plants are still located in seed production areas, and are still the best fit for many companies that utilize these locations based on logistics. Production has been increased to meet demand. Coating companies have added additional locations in the Midwest to be closer to customers and to alleviate trucking shortages and increased freight rates. Many forage legumes including alfalfa and crimson, red, and white clovers benefit from coating. Currently, nearly 75% of all alfalfa is coated. Many forage grasses are also being coated, such as Timothy and orchardgrass. These species compliment alfalfa grass mixtures. Flowability through the drill is also a big advantage for orchardgrass, as it is a light fluffy seed. Better flowability leads to more uniform stands.



Much has been written and discussed concerning the use and benefits of coated seed. This stems from the products that were introduced in the early 1970's. Early coatings were not bad, they were just the first generation of a process meant to ensure nodulation, increase stand establishment, and improve handling and ballistics. The coatings of today have many options available regarding value-added seed enhancements. One of the most popular enhancements is hydration polymers which are used to increase the uptake of moisture and prevent the moisture in the seed from drying out, as well as increase germination. Along with hydration polymers, seed treatments, biologicals, bio stimulants, and micro- and macronutrients are increasing in popularity. Seed companies are using multiple products, and many of these work in a synergistic effect.

Hydration polymers work well with all products by enhancing their effects with other additives, holding and concentrating the treatment closer to the seed. Longevity and survival of any added treatment is very important in the screening process for new products. Great strides have been made regarding increased shelf life in rhizobia inoculants, and many are now dated for two years after application. The enhancements that we screen for a legume species first must be compatible with the inoculant while not decreasing rhizobia numbers. Secondly, they must have a shelf life as long as the rhizobia, if not longer. Another aspect of the screening is making sure that the treatment cannot affect the germination of the seed over time. We take pride in doing these early screenings and not releasing products that have any detrimental effects or hinder inventory management. The final, and sometimes most important, part of the enhancement screening is added cost. A cost analysis is applied to ensure the final product will be marketable and affordable to the consumer.

Seeding rate is another topic of discussion regarding the planting of coated seed. It has always been recommended to plant on a pound-for-pound basis, if the farmer is following the recommended university seeding rate for their area. This is usually in the 15-20 pound range. Average survivability of seed-to-plants for alfalfa is usually in the 40% range for uncoated seed. Today's functional seed coatings focus on maximizing the number of healthy plants established from each pound of seed. Extensive farm and university testing has shown these functional coatings can convert 50-75% of alfalfa seed to healthy plants, as confirmed by recent testing at Purdue University. Seeding rates of 21.8 and 14.5 pounds of seed were planted and monitored using coated and uncoated seed. The resulting stand counts revealed the lower seeding rate produced similar plant counts to the higher rate, while using one-third less seed.

Extensive testing and research are currently being done to develop the next generation of enhanced seed coating. Major chemical and seed companies have also made large investments in acquiring biological and bio stimulant companies, and are now investing heavily in research for these products with multiple crops. The initial tests are showing improved growth, health, and increased yield can be achieved in a short timeframe. The science speaks for itself in supporting the importance and effectiveness of seed coating. Coating companies are using innovative and exciting technology and research to continually improve seed enhancements to the benefit of the farmer. The horizon looks great for new and better products in the future, and we at Summit Seed Coatings are committed to being at the forefront of the industry.