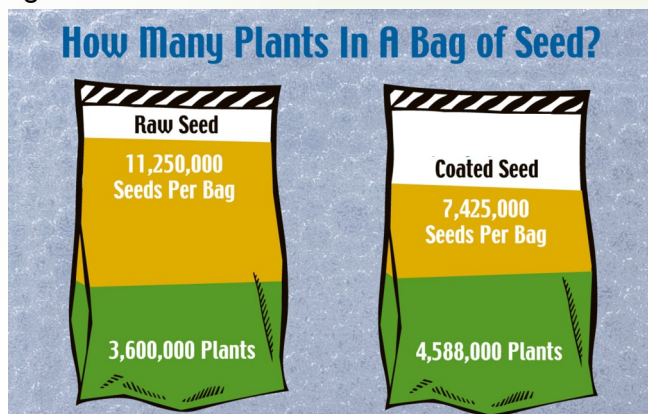# Why We Coat Seed

King's AgriSeeds uses a variety of seed coatings, both Conventional (CT) and OMRI-approved (OC), to improve seedling establishment and growth. They help the seed get a head start using water absorbing coating materials, nutrients, and biological inoculants in various combinations. Conventionally treated seeds may also include a fungicide and/or insecticide.

Coating does reduce the total number of seeds per pound, but it is a cost-effective tool because it ultimately helps more seeds germinate and grow, and makes for a more uniform stand. In many cases, it also makes the individual seeds denser, improving rate of flow through the drill. Since coating technologies im-

How Many Plants In A Bag of Seed?

Raw Seed
11,250,000 Seeds Per Bag

Coated Seed
7,425,000 Seeds Per Bag

3,600,000 Plants

4,588,000 Plants

Data from Cornell University and Summit Seeds

prove both seed germination and plant establishment, the seeding rates for most forages do not need to be increased. (See King's seeding rate recommendations.)

The following are a few coatings commonly used in King's AgriSeeds products.

KingFisher Surestand Hydro Brand (by Summit Seed Coatings)

SUMMIT SEED COATINGS

For both conventional and OMRI-approved grasses and legumes, these coatings improve the seed germination, early growth, and lifelong stand.

The Super Hydrating polymer holds water around the seed and keeps the micronutrients in concentration around the growing root, giving maximum benefit for germination and early growth.

Larger seed size helps with more even seed distribution and improved seed to soil contact.

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High Energy Forages and Soil Building Cover Crops

At A Glance—Coated Seeds May Contribute...

- *Water absorbent technology that helps the seed hold on to water and establish in the presence of less moisture. Can also help the seed hold onto fungicide applications.*

- *Nutrients that improve germination and early growth*

- *Biological inoculants of Rhizobium bacteria in high concentrations to help legumes fix nitrogen, or beneficial fungi, such as Mychorrhizae, that help roots access nutrients.*

- *Density and weight for better flow through equipment or through established crop canopy.*

- *Larger seed size helps seed to soil contact*

- *Colored coatings help visual monitoring of seed drop.*

- *Fungicide and/or insecticide (CT only)*

- *More uniform stands.*

Summary only. See seed tags for details about specific coating products.

Seed Treatments

KingFisher Surestand Hydro CT Contains—

- Hydroloc, a water absorbent technology that helps the seed hold on to water and establish in the presence of less moisture. Can also help the seed hold onto fungicide applications.

- Myco Seed Treat—blend of plant-beneficial bacteria and fungi (including Mycorrhizae) accompanied by a nutrient package to support them during their initial stages of growth. These microorganisms contribute to increased soil nutrient cycling, as well as improved productivity, giving the new seedling a lifelong benefit.

- Quickstart Micronutrient package (0.03 oz/lb of coating)-
  1% Iron
  10% Manganese
  40% Zinc

- Apron XL Fungicide (mefenoxam)—For protection against systemic downy mildews and diseases caused by soilborne Pythium and Phytophthera pp.

- Nitrogen-fixing Rhizobium bacteria (legumes only)

KingFisher Surestand Hydro Green OC (OMRI-Approved) Contains—

- Hydroloc hydration component to help the seed hold onto moisture

- Myco Seed Treat—blend of plant-beneficial bacteria and fungi

- Nitrogen-fixing Rhizobium bacteria (legumes only)

Yellow-Jacket (Barenbrug brand legumes and grasses)
A spongy, water-absorbing layer around the seed that also increases seeds' density and weight, helping with flow through a drill and establishment through growing crop canopy or crop residue when interseeded.

University trials show that superabsorbants can absorb and hold fungicides and protect seedlings up to three weeks after seeding. Fungicide on uncoated seed washes off, quickly limiting their benefit.

The Yellow Jacket formulation also contains Apron XL® (metalaxyl). A new technology turf fungicide that specifically helps prevent Pythium infestation in newly seeded areas, Apron XL preserves root development and significantly increases the survival rate of seedling turf during higher temperatures.

Research trials at the University of New Mexico also show that Yellow Jacket enhanced seed establishes faster and requires less water. Yellow Jacket simultaneously helps the seed thrive while conserving water.

Seed Treatments

Nitro-NP™ for Grasses (By Smith Seed Services):
- Water absorbing coating increases seedling germination.
- Phosphorus quickens root hair development. Healthier roots mean more vigorous and competitive plant growth.
- Slow-release nitrogen feeds new shoots and leaves.

Nitro-Coat® for Legumes (By Smith Seed Services) (OMRI-approved)
Rhizobium inoculant for legumes, physical seed protection, moisture absorption aid, and fungicide retention.

A key to any successful establishment and early seed development is moisture. Nitro-Coat® is both naturally hydrophobic and hydroscopic. The protective coating prevents seeds from suddenly germinating during a brief single moisture event, while at the same time naturally absorbing water during sufficient moisture events and helps attract soil moisture to the seed for better stand establishment.

With Nitro-Coat® each seed is also inoculated with the correct Rhizobium strains and coated through a proven process that ensures a very high level of successful inoculation for each plant.

Fungicide Retention: Fungicides have been proven protections against diseases like root-rot and pythium. When requested and applied, Nitro-Coat® is designed to keep these valuable protectors near the seed through early seedling development.

Seed Treatments

SUMMIT SEED COATINGS

Fresh Weight per Tray

Legend:
- Std Coating
- Ctg + MN
- Ctg + MN + Hydroloc
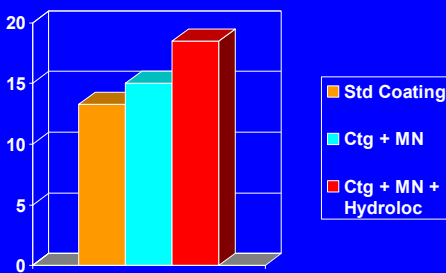
Std Coating = Summit Seeds Apex Coating for Legumes;
MN = Micronutrient Package
Hydroloc = Hydration Component

Test Proven: More Plants Per Bag
Coated vs. Uncoated Seed

SEED	3 WEEKS AFTER PLANTING			FALL	
	SEEDLING RATE LBS/ACRE	PLANTS/ SQ.FT.	% SEED TO PLANTS	PLANTS/ SQ.FT.	% SEED TO PLANTS
Uncoated	15	29.9	40.4	24.2	32.7
Coated	15	40.2	85.5	29.3	62.3
Uncoated	20	39.3	40.1	29.4	30.0
Coated	20	45.2	71.7	29.8	47.3

Source: Cornell University