

As fall approaches, it is essential to maximize the metabolic performance of the plant to increase the carbohydrate storage and build stronger root systems to ensure winter survival and early spring green-up. **APEX-10™** outperforms the competition in helping turf managers, nursery men, sod farmers and landscapers reach these goals.

Seeding and sodding, requires intensive fertility and irrigation management. Utilizing excessive fertilization can inhibit plant health, tie up essential nutrients and reduce bacteria and fungi activity. The addition of **APEX-10** turbo-charges seeding and sodding efforts and helps defend the plant and soil from these negative effects.

Whether seeding or sodding for cool season or warm season grasses, APEX-10 will:

- √ Improve seed germination
- √ Stimulate soil bacteria and fungi
- ✓ Improve moisture control
- √ Improve soil nutrient availability
- ✓ Increase root mass and weight
- √ Increase shoot height and density
- ✓ Retain higher levels of NPK in leaf tissue
- ✓ Boost chlorophyll and accelerate photosynthesis



APEX-10 is University Tested & Proven in Real World Applications

A New Jersey Golf Course Superintendent utilized APEX-10 on the course nursery. When he re-seeded the nursery, the results showed the grow time reduced by half. Once the growth potential was realized APEX-10 was used on the greens and eventually the entire course was treated with APEX-10.



"Increasing Height and Density of Newly Seeded Kentucky Bluegrass"
• Turf Height increased by 18.8%

Turf Density Increased 39%

Results demonstrated that APEX-10 improves turfgrass height and density when applied to soils which have been fertilized with NPK and that are deficient of phosphorus at the time of seeding.

Dr. Heckman & Dr. Hamel, Rutgers University

"Effects of APEX-10 on Reducing Irrigation Requirement in Turfgrass"

Turfgrass displayed better water holding capacity

 Increase in root and shoot mass with less irrigation
 The study concluded that APEX-10 improved plant quality and moisture retention to a far greater degree than turf that remained untreated during times of water deficit.

Dr. Huang & Pat Burgess, Rutgers University

"Effects of APEX-10 on Improving Fertilizer Efficiency in Turfgrass"

Elevated chlorophyll levels

Higher levels of NPK in leaf tissue

Greater root mass and weight

The study found that APEX-10 promoted vertical growth, higher root mass, along with greener and denser turf with lower fertility input.

Dr. Huang & Pat Burgess, Rutgers University

"Increasing Biomass & Nutrient Retention in Soil"

13% increase in total fungal and bacterial biomass in 7 days

70% increase in total fungal and bacterial biomass after 60 days

 Soil Nitrogen availability increased over 650%
 APEX-10 provides resources for bacterial and fungal growth and increases activity indicating that APEX-10 is a quick colonizing resource. The increase in soil biology indicates that microorganisms maintain higher levels of nutrients in the presence of APEX-10.

Paul Wagner, Soil Foodweb Inc.



"Evaluating Root Development & Root Strength with APEX-10 and Leonardite"

Increase in root mass, root strength and tiller density The study demonstrates that APEX-10 is measurably superior to Leonardite and will improve conditions in less than optimum growing environments.

Dr. Ervin, Dr. Zhang & J. Roberts, Virginia Tech

"Enhancing Plant Productivity during Drought Conditions"

- Increase in antioxidants
- Increase photochemical efficiency
- Increase visual quality
- Increase root weight

Study showed that APEX-10 retained much higher visual quality, less wilting, sustained growth and function. Dr. Ervin, Virginia Tech

APEX-10 is essential for all turf managers' Fall seeding and sodding applications to increase performance and ensure winter survivability.