

Laura's Recipe

TURF ENDURANCE 2 A soluble powder

GUARANTEED ANALYSIS

Total Nitrogen (N).....	27.00%
27.00 % Urea Nitrogen	
Available Phosphate (P ₂ O ₅).....	4.00%
Soluble Potash (K ₂ O).....	5.00%
Iron (Fe).....	0.60 %
0.60 % Water Soluble Iron (Fe)	

NUTRIENTS DERIVED FROM

Urea, Di-potassium Phosphate, Ferrous Sulfate

- **Microbial Based Specialty Fertilizer**
- **Simultaneously Feeds Turf & Enhances Soil Biology**
- **Enhances Color, Quality & Vigor of Turfgrass**

Contains Phosphate Solubilizing & Phosphate Mineralizing Bacteria / Fungi

(*B. subtilis*, *B. amyloliquefaciens*, *B. megaterium*, *B. coagulans*, *P. fluorescens*, *P. putida*, *T. harzianum*, *T. reesei*)

- * Most soils contain an abundance of phosphorus, problem is its usually in an insoluble form and cannot be assimilated by the plant
- * Beneficial soil organisms have the capacity to convert insoluble phosphatic based compounds into plant available phosphorous
 - * Beneficial soil bacteria & soil fungi produce secondary metabolites such as organic acids & enzymes
- * These secondary metabolites are responsible for the conversion of insoluble phosphates into plant available phosphorous
 - * Inorganic Mineral phosphates such as calcium phosphate and iron phosphate are solubilized by organic acids
 - * Organic Acids include gluconic acid, 2-ketogluconic acid, lactic acid, isovaleric acid & acetic acid
 - * Organic phosphates such as phytic acid and mono-esters are mineralized by enzymes
 - * Phosphate Mineralizing Enzymes include phytase, acid phosphatase, D-glycerophosphatase
- * Phosphate Solubilization and Phosphate Mineralization results in increased phosphorous availability to plant
- * Increased phosphorous availability enhances flowering process, promotes root growth, root development, plant establishment

Contains Plant Growth Promoting Rhizo-Bacteria (PGPRB)

(*B. subtilis*, *B. amyloliquefaciens*, *B. firmus*, *B. licheniformis*, *B. pumilus*, *P. fluorescens*, *S. griseus*, *S. lydicus*)

- * Stimulating plant growth was once entirely attributed to supplemental applications of N, P, K fertilizers
- * The emphasis for stimulating plant growth has shifted to the use of Plant Growth Hormones produced by soil organisms
 - * Plant Growth Hormones are secondary metabolites produced by beneficial soil bacteria & actinobacteria
 - * Collectively these organisms are referred to as Plant Growth Promoting Rhizo-Bacteria or PGPRB
- * Plant Growth Promoting Rhizo-Bacteria produce plant growth hormones such as auxins, cytokinins & gibberellins
- * Auxins stimulate flowering, root architecture, issue differentiation, lateral root initiation, polar root hair positioning & root gravitropism
 - * Gibberillins control cell elongation, cell division, cell differentiation & stress reduction
- * Cytokinins stimulate flowering, control cell division in roots & shoots, increased resistance to drought, enhances chlorophyll synthesis
- * Hormones produced by bacteria promote controlled plant growth (root & shoot) independent of supplemental fertilizer applications

Contains Free Living Nitrogen Fixing Bacteria

(*P. durum*, *P. polymyxa*)

Convert atmospheric di-nitrogen (N₂) into plant available ammonia (NH₃)

Process is mediated by nitrogenase enzyme (secondary metabolite)

Paenibacillus are mesophilic, facultative anaerobes, function in both aerobic & anaerobic soil environments

Paenibacillus form tough endospore covering to protect them against harsh environmental conditions

ALSO CONTAINS NON-PLANT FOOD INGREDIENTS

Bacillus subtilis 40,000,000 CFU per gram, Bacillus firmus 40,000,000 CFU per gram,
Bacillus licheniformis 40,000,000 CFU per gram, Bacillus amyloliquefaciens 40,000,000 CFU per gram,
Bacillus megaterium 40,000,000 CFU per gram Bacillus pasteurii 40,000,000 CFU per gram,
Bacillus pumilus 40,000,000 CFU per gram, Bacillus coagulans 40,000,000 CFU per gram,
Paenibacillus polymyxa 40,000,000 CFU per gram, Paenibacillus durum 40,000,000 CFU per gram,
Pseudomonas fluorescens 10,000,000 CFU per gram, Pseudomonas putida 10,000,000 CFU per gram,
Streptomyces lydicus 10,000,000 CFU per gram, Streptomyces griseus 10,000,000 CFU per gram,
Trichoderma harzianum 10,000,000 CFU per gram, Trichoderma reesei 10,000,000 CFU per gram
9.75 % Dextrose, 1.25 % Sucrose

APPLICATION RATES

APPLICATION	AMOUNT	COVERAGE	FREQUENCY - TIMING
Greens & Tees - Push Up	2 - 3 oz	1000 sq ft	14 – 28 days
Greens & Tees - Sand Based	4 - 6 oz	1000 sq ft	14 – 28 days
Fairways – Sports Turf	1.5 - 2 oz	1000 sq ft	28 days
Grow In, Renovation, Over-seeding	6 oz	1000 sq ft	3 days after seeding, then at 14 day intervals

- * Packaged in 24 lb pail containing 6 x 4 lb bags
- * Each 4 lb bag treats 1/2 acre of push - up tees & greens
- * Each 4 lb bag treats 1/4 acre of sand based tees & greens
- * Product should be stored in a cool, area out of direct sunlight.
- * Product contains hygroscopic ingredients store in dry environment
- * Keep container sealed, when stored properly products has 24 month shelf life
- * When applying product mixture to soil be sure to utilize an adequate volume of water to achieve desired coverage.
- * We recommend a minimum of 1.5 - 2.0 gal of water per 1000 sq ft

