Deeply Rooted in Tradition, Growing Through Innovation™

Best of All Worlds®
LebanonTurf  1.800.233.0628
The ROOTS® brand of biologically enhanced nutrients merge nature and technology to offer leading-edge solutions for turf and plant care. ROOTS products provide an all-in-one nutrient delivery system that feeds the plant while enhancing the biological life of the soil and plant ecosystem. Turf professionals, landscapers, growers, arborists, and nursery growers trust ROOTS to provide consistent color response, improved turf density and enhanced root mass. Some ROOTS products feature mycorrhizal fungi and naturally-occurring beneficial bacteria to restore to the soil what harsh management practices have removed.

**Our Technologies**

**Mycorrhizal Fungi**

Mycorrhizal fungi expand the root zone and allow plants the ability to take in necessary water, nutrients and micronutrients that would otherwise not be available. Plant survival and performance can be improved by incorporating a diverse population of mycorrhizal fungi at planting and transplanting time. Several ROOTS products contain Myconate®, a proprietary, patented stimulant of VAM mycorrhizal fungi. No other mycorrhizal products contain this unique compound that stimulates both introduced and native mycorrhizal fungi to rapidly colonize plant roots.

**Beneficial Bacteria**

Forest soils are teeming with beneficial microbes, which contribute to the growth, health, and nutrition of forest plants. Unfortunately, many landscape soils often lack this biological diversity. Several ROOTS products deliver various species of beneficial bacteria selected for their ability to enhance soil fertility and plant nutrition, improve soil structure and, in some cases, protect from disease (i.e., EcoGuard). In natural forest soils and constructed landscapes, microbes are not just beneficial; they’re essential to healthy plant growth.

**Chelated Micronutrients**

Micronutrients are essential to the overall health of the plant, but are oftentimes tied up due to the pH of the soil or water being used to apply the products. Several ROOTS products are manufactured using chelation a process that allows micronutrients to stay soluble for a period of time and thus allow plant uptake.

**Nutrient Delivery Systems**

Our biological technologies, combined with specialized plant nutrients, provide a highly effective nutrient delivery system for plant roots. Improved nutrient availability and distribution, especially during times of deficiency or stress, are important to a plant’s performance and health. Our naturally better products create sustainable landscapes that can cost less, provide more value, and last longer.
Fertilizer for Trees, Flowers, and Shrubs

ROOTS AGRIplex micro mix
Chelated Liquid Micro-Nutrients

AGRIplex Micro Chelated Liquid is a highly concentrated product with a low application rate. It contains micronutrients including Magnesium, Sulfur, Boron, Iron, Manganese, and Zinc. It provides rapid green-up without staining. For use when transplanting and maintaining trees and shrubs, also on greens, tees, and fairways.

Key product benefits of AGRIplex:
• Quick visual response without rapid growth
• Longest lasting green-up
• Will not stain surfaces - including concrete
• Highly concentrated with low application rate

How to Apply: Foliar Spray or soil drench
Available in: 2/2.5 gallon containers / 36 cases per pallet - #27-57002

ironROOTS 0-2-4

ironROOTS Concentrate provides fast green-up for turfgrasses and iron-loving plants. It promotes better root density. For use on lawns, with new seeding and when transplanting trees and shrubs.

Key product benefits of ironROOTS:
• Fast green-up in turfgrass and iron-loving plants
• Promotes better root density
• Will not stain surfaces - including concrete
• Highly concentrated with low application rate

How to Apply: Foliar Spray or soil drench
Available in: 2/2.5 gallon containers / 36 cases per pallet - #27-56958

ROOTS Concentrate Rooting Stimulant

ROOTS concentrate is an advanced plant supplement that promotes rapid root growth and regeneration for seedings, cuttings, installation, and transplanting. For use on greens, tees, sports turf, lawns, fairways, new seeding, overseeding, hydroseeding, trees, shrubs, ornamental plants, flower beds, nursery, greenhouse and vegetables.

Key product benefits of ROOTS Concentrate:
• Promotes rapid root growth
• Quicker regeneration for seedlings, cuttings and transplants
• Helps assure successful transplantings

How to Apply: Foliar Spray or soil drench
Available in:
2/2.5 gallon containers / 36 cases per pallet - #27-56945
Additional package size available

ROOTS Fe 8 Iron Chelate

Fe 8 Iron Chelate provides quick visual response without rapid growth. The unique chelated iron formulation will not stain surfaces, including concrete. It provides long lasting green-up. For use on greens, tees, fairways, sports turf, during sod installation, and for deep root feeding of trees and shrubs.

Key product benefits of Fe 8 Iron Chelate:
• Quick visual response without rapid growth
• Will not stain surfaces - including concrete
• Long lasting green-up

How to Apply: Foliar Spray or soil drench
Available in:
2/2.5 gallon containers / 36 cases per pallet - #37-56986

ROOTS M-ROOTS Granular

M-ROOTS is a blend of the natural organic ingredients in dryROOTS plus 18 species of endo- and ectomycorrhizae. M-ROOTS should be used on all plantings in disturbed or poor soil, including new construction and foundation plantings. M-ROOTS is added insurance for all valuable trees and shrubs.

Key product benefits of M-ROOTS:
• Increases transplant survival
• Improves water and nutrient absorption

How to Apply: Granular fertilizer - Planting or mix with soil
Available in:
25 lb. bag / 80 bags per pallet - #27-57141

ROOTS 3-4-4 for Azaleas and Rhododendrons

3-4-4 for Azaleas and Rhododendrons is a specially formulated fertilizer for acid loving plants like azaleas, rhododendrons, camellias, hydrangeas, hollies and evergreen trees. Use before or during the bloom period to encourage flowering, and again in the fall.

Key product benefits of 3-4-4 Azaleas and Rhododendrons:
• Contains elemental sulfur to promote soil acidity
• Contains beneficial bacteria to promote sustainable soil fertility
• Manure, sewage and sludge free

How to Apply: Granular fertilizer - planting or top dressing
Available in:
25 lb. bag / 40 bags per pallet - #27-56667

dryROOTS Formula Organic Based Fertilizer

dryROOTS formula is a special blend of nutrients formulated for new plantings, turf, flower beds and gardens. dryROOTS formula contains organic composts, humus extracts, sea kelp extracts, and other plant supplements. It is safe to use on newly planted trees, shrubs, gardens, turf and sod. dryROOTS formula helps prevent transplant shock and minimizes loss.

Key product benefits of dryROOTS:
• Helps prevent transplant loss
• Improves soil structure
• Provides important nutrients for transplanting

How to Apply: Granular fertilizer - Planting, topdressing or mix with soil
Available in:
25 lb. bag / 80 bags per pallet - #27-57220

ROOTS Healthy Start 3-4-3

Healthy Start 3-4-3 is a granular fertilizer formulated to provide organic matter and sustainable fertility for all landscape plants. Made from the finest natural ingredients, it not only provides slow-release N-P-K, but it immediately adds organic matter to the soil. Beneficial species of rhizosphere bacteria provide a new level of sustainable fertility.

Key product benefits of Healthy Start 3-4-3:
• Increases transplant survival
• Improves water and nutrient absorption
• Introduces beneficial bacteria for sustained fertility throughout the growing season
• Will not burn plants or roots
• Manure, sewage and sludge free

How to Apply: Granular fertilizer - planting or top dressing
Available in:
25 lb. bag / 40 bags per pallet - #27-24265

Healthy Start 3-4-3 is a granular fertilizer formulated to provide organic matter and sustainable fertility for all landscape plants. Made from the finest natural ingredients, it not only provides slow-release N-P-K, but it immediately adds organic matter to the soil. Beneficial species of rhizosphere bacteria provide a new level of sustainable fertility.

Key product benefits of Healthy Start 3-4-3:
• Increases transplant survival
• Improves water and nutrient absorption
• Introduces beneficial bacteria for sustained fertility throughout the growing season
• Will not burn plants or roots
• Manure, sewage and sludge free
**Fertilizer for Trees, Flowers, and Shrubs**

**ROOTS Flower Saver Plus 3-4-3**
Flower Saver Plus is a treatment for landscape plantings designed to improve health, vigor and stress resistance. It also contains mycorrhizal fungi to improve absorption of water and nutrients.

Key product benefits of Flower Saver Plus 3-4-3:
- Encourages healthy growth and abundant flowering
- Helps establish beautiful annuals and perennials
- Helps reduce labor and replacement costs
- Contains organic fertilizers, beneficial bacteria and mycorrhizal fungi to promote natural fertility

How to Apply: Granular inoculant / fertilizer - mix with soil
Available in: 30 lb. pail / 24 pallets per pallet - #27-56649

**ROOTS Injectable for Trees**
Injectable for Trees is a combination inoculant containing mycorrhizal fungi (both Ecto- and VAM) and beneficial rhizosphere bacteria. It is formulated for application to existing trees and shrubs using standard soil injection equipment.

Key product benefits of Injectable for Trees:
- Contains long-lasting mycorrhizal fungi spores
- Helps improve absorption of water and minerals from the soil
- Helps plants mitigate adverse environmental stresses such as drought, salinity and extremes of soil pH
- Special packaging ensures extended viability

How to Apply: Water Soluble - soil injection
Available in: 7 x 8 oz. co-packets per bag / 5 bags per case / 36 cases per pallet - #27-56649

**ROOTS Fertilizer for Flowers 12-16-12**
ROOTS Fertilizer for Flowers is formulated to improve the nutritional health, color and vigor of flowering plants. It combines chelated minerals with yucca plant extracts, humates and beneficial soil bacteria.

Key product benefits of ROOTS Fertilizer for Flowers:
- Traditional fertility enhanced with rhizosphere bacteria
- Encourages healthy growth and abundant flowering
- Fully water soluble

How to Apply: Water Soluble - drench or spray to soil
Available in:
- 8 lb. bag / 5 bags per case / 36 cases per pallet - #27-56647

**ROOTS Ecto-Injectable**
This product is designed specifically for ectomycorrhizal tree species such as pine, beech, spruce, birch, hemlock, hickory, basswood, pecan, larch, willow, cypress, oak, eucalyptus, cedar, chestnut and fir.

Key product benefits of Ecto-Injectable:
- Ectomycorrhizal fungi help trees tolerate adverse environmental conditions such as drought, soil salinity and extremes of soil pH
- Rhizosphere bacteria improve soil fertility naturally
- Can increase absorption and transfer of water and mineral nutrients from the soil to the plants

How to Apply: Water Soluble - spray, drench or injection to soil
Available in:
- 4 x 8 oz. box / 4 boxes per case / 45 cases per pallet - #27-56664

**ROOTS BioPak**
BioPak is a unique, dry, water soluble inoculant with beneficial bacteria. This product enriches the soil profile with beneficial microbes that act as a sustainable fertility "system." Once the microbes are in place in the root zone, they solubilize phosphorus, fix atmospheric nitrogen and gradually improve soil tilth – processes that encourage healthy root growth. Live beneficial microbes reproduce in the root zone to maintain populations and sustain beneficial activities.

Key product benefits of BioPak:
- Increases organic content of the soil
- Improves fertility in the root zone
- Increases the natural bioactivity in sterile or depleted soils

How to Apply: Water Soluble - drench or injection to soil
Available in:
- 50 lb. box / 36 boxes per case / 36 cases per pallet - #27-56652

**ROOTS TotalTree 20-4-10 Injectable Fertilizer with Mycorrhize**
TotalTree contains slow release nitrogen, chelated iron, mycorrhizae, and biostimulants. Inject into the soil 3 to 4 feet from the trunk around trees and shrubs. Apply in the Spring and Fall as necessary.

Key product benefits of TotalTree 20-4-10:
- A microbial fertilizer with iron and biostimulants for soil injection
- Saves time and money

How to Apply: Water soluble soil injection
Available in:
- 15 lb. bag / 100 bags per pallet - #27-57055

**ROOTS mycorrhizaROOTS Soluble Rooting Stimulant**
mycorrhizaROOTS® is the soluble injectable form of ROOTS Concentrate combined with mycorrhize. It contains 18 species of mycorrhize to provide broad spectrum application for increased nutrient uptake and enhanced root systems. It increases nutrient and water absorption and improves stress tolerance.

Key product benefits of mycorrhizaROOTS:
- Increases nutrient and water absorption
- Greatly extends the root system, improving stress tolerance

How to Apply: Water Soluble - drench or injection to soil
Available in:
- 1 lb. packages / 24 per case / 46 cases per pallet - #27-57036

**ROOTS BioPak Plus 3-0-20**
BioPak Plus is a dry, water-soluble micronutrient treatment that includes beneficial rhizosphere bacteria and 3-0-20 N-P-K fertilizer. BioPak Plus can be applied Spring, Summer & Fall!

**Spring:** Helps plants recover from winter stress. Provides minerals needed for new root growth.

**Summer:** Maintains vigorous plant growth and green color.

**Fall:** Prepares plants for winter stresses from cold, desiccating wind, lack of moisture and frozen ground.

Key product benefits of BioPak Plus 3-0-20:
- Contains 7% chelated iron and includes Mg, S, B, Mn, and Zn
- Promotes quick recovery from stress
- Reverses mineral deficiencies that cause chlorosis & necrosis
- Improves root function without stimulating excessive top growth
- Provides soluble nutrients in acidic, neutral and alkaline soils

How to Apply: Water Soluble - Spray, drench or injection to soil
Available in:
- 5 x 1 lb. foil packets per bag / 5 bags per case / 36 cases per pallet - #27-56656

Additional package size available:

**ROOTS Concentrate**
mycorrhizaROOTS® Concentrate is the non-soluble injectable form of mycorrhizaROOTS. It contains 18 species of mycorrhize to provide broad spectrum application for increased nutrient uptake and enhanced root systems.

Key product benefits of mycorrhizaROOTS Concentrate:
- Increases nutrient and water absorption
- Greatly extends the root system, improving stress tolerance

How to Apply: Water Soluble - drench or injection to soil
Available in:
- 30 lb. pail / 24 pallets per pallet - #27-56649
Fertilizer for Trees, Flowers, and Shrubs

ROOTS Fertilizer for Trees
ROOTS Fertilizer for Trees is a water-dispersible chemical and biological fertility product. The chemically-based elements meet trees’ nutrient needs quickly, while the beneficial microbes sustain fertility over the long term. Slow-release nitrogen is milled so that ROOTS Fertilizer for Trees will not clog equipment. An advanced surfactant helps the product to readily penetrate the soil. ROOTS Fertilizer for Trees is available in three different formulations to provide more fertilization program options. All formulations contain the same micronutrient and microbial analyses.

Key product benefits of RootS For Trees:
• Microbial analyses.
• Formulations to provide more fertilization program options.

How to Apply: Water soluble - drench or injection
Available in three different formulations:
- 27-9-9 with 50% slow-release nitrogen
- 8 lb. bag / 5 bags per case / 30 cases per pallet - #27-56620
- 11-22-22 SRN with 50% slow-release nitrogen
- 8 lb. bag / 5 bags per case / 30 cases per pallet - #27-56632
- 11-22-22 with 100% fully-soluble nitrogen
- 8 lb. bag / 5 bags per case / 30 cases per pallet - #27-56636
Also available in 40 lb. bags.

ROOTS Plant Food 7-7-7
ORGANIC BASED FERTILIZER

RootS® Plant Food 7-7-7 SGN 200 provides a total feeding solution for healthy trees, beds and shrubs. Each bag contains a unique combination: organic based fertilizer, organic based ingredients, and microbes. For use with garden and bedding plants, trees, shrubs, containers, and in potting and seeding mixes.

Key product benefits of Plant Food 7-7-7:
• Bio stimulant complex stimulates root growth
• Adds microbes for increased plant performance
• Controlled release feeding

How to Apply: Granular fertilizer - Planting, topdressing or mix with soil
Available in:
- 40 lb. bag / 50 bags per pallet - #27-56898

ROOTS Palm Saver 6-3-6

Palm Saver 6-3-6 is used in establishing or maintaining palms and tropical plants. Palm Saver is designed to restore soil fertility and address the mineral requirements common to palms and other tropical plants.

Key product benefits of Palm Saver:
• Provides a sustainable supply of nitrogen, phosphorus and other basic minerals necessary for continuing active plant development
• Adds microbes for increased plant performance
• Increases absorption and transfer of water and mineral nutrients from the soil

How to Apply: Granular fertilizer - Planting or drill into soil
Available in:
- 42 lb. pail / 24 pails per pallet - #27-56644

ROOTS TRANSPLANT 1-STEP
PLANTING/TRANSPLANTING SURVIVAL KIT

Transplant 1-Step contains everything you need to ensure survival of valuable trees, shrubs and flowers. Water-holding gel decreases the risk of drought-related stress and yield losses. Contains a broad selection of mycorrhizal fungi for increased nutrient uptake and enhanced root systems. It also contains ROOTS organic-based fertilizer to enhance root growth and increase stress tolerance. For use on all types of ornamental plants, trees and shrubs.

Key product benefits of Transplant 1-Step:
• Can help reduce transplanting/transferring losses
• Formulated for low-moisture environments
• Comprehensive, all-in-one planting aid

How to Apply: Mix with backfill at planting
Available in:
- 4 oz. packages, 60 / bucket / 64 buckets per pallet - #27-57078

Additional package size available

ROOTS Tree Saver

Tree Saver is specifically designed to reduce transplant stress while improving soil hydration and fertility. It’s applied to the root zone of trees and shrubs at planting. Five species of mycorrhizal fungi and six species of beneficial bacteria are packed into this formula to improve plant nutrition and provide sustainable soil fertility.

Key product benefits of Tree Saver:
• Helps reduce transplant shock and loss rates.
• Helps plants mitigate adverse environmental stresses such as drought, salinity and extremes of soil pH
• Mycorrhizal fungi can improve absorption of water and minerals from the soil

How to Apply: Mix with backfill at planting
Available in:
- 150 x 3 oz. packs / pail / 24 pails per pallet - #27-56658

Additional package size available

ROOTS Healthy Start Tablets

Tablets 12-8-8

Healthy Start Tablets are unique biological fertilizing tablets that contain nitrogen-fixing and phosphorus-solubilizing bacteria, natural humates, and slow-release organic nutrients for sustainable plant growth. These planting tablets condition the soil while fertilizing the plant to achieve healthy, sustainable growth.

Key product benefits of Healthy Start Tablets:
• Provides an iron form that is not susceptible to leaching
• Includes humic acids, which are naturally present in forest soils, but are often lacking in managed settings
• Up to 18 to 24 month slow release

How to Apply: In planting hole or with dibble bar
Available in:
- 25 lb. box / 40 boxes per pallet - #27-24466

Additional package size available

Mycorrhizal Fungi
Beneficial Bacteria
Biostimulants
Chelated Micronutrients
**Fertilizer for Turf**

**ROOTS Healthy Start 3-4-3**
Healthy Start 3-4-3 is a granular fertilizer formulated to provide organic matter and sustainable fertility for all landscape plants. Made from the finest natural ingredients, it not only provides slow-release N-P-K, but it immediately adds organic matter to the soil. Beneficial species of rhizosphere bacteria provide a new level of sustainable fertility.

Key product benefits of Healthy Start:
- Restores natural fertility to disturbed soils
- Slowly releases nutrients as it biodegrades
- Adds rich organic matter to soil
- Introduces beneficial bacteria for sustained fertility throughout the growing season
- Will not burn plants or roots
- Foundation product for many landscape contractors
- Maneure, sewage and sludge free

How to Apply: Granular fertilizer - planting or top dressing
Available in:
- 25 lb. bag / 40 bags per pallet - #27-24265

**dryROOTS Formula Organic Based Fertilizer**
dryROOTS formula is a special blend of nutrients formulated for new plantings, turf, flower beds and gardens. Its formula contains organic composts, humus extracts, sea kelp extracts, and other plant supplements. It is safe to use on newly planted trees, shrubs, gardens, turf and sod. dryROOTS formula helps prevent transplant shock and minimizes loss.

Key product benefits of dryROOTS:
- Helps prevent transplant loss
- Improves soil structure
- Provides important nutrients for transplanting

How to Apply: Granular fertilizer - planting or top dressing
Available in:
- 25 lb. bag / 80 bags per pallet - #27-57220

**ROOTS Turf Food Granular Fertilizers**
ROOTS Turf Food is a proprietary all-in-one nutrient delivery system designed to feed the plant and enhance the biological life of the soil and plant ecosystem. ROOTS Turf Food formulations provide a synergistic benefit to plant health by combining premium, organic-based components with multiple strains of beneficial microbes. For use on fairways and lawns.

Key product benefits of Turf Food:
- Outstanding and consistent color response
- Improves turf density and root mass
- Minimal roller and mower pick-up
- Low soluble salts minimize any burn potential

How to Apply: Granular fertilizer - spreader
Organic-based Turf Food is available in a variety of analysis all in 50 lb. bag / 40 bags per pallet. For a complete list of products, please visit the website.

**endORoots Granular Mycorrhizal Rooting Stimulant**
endoROOTs is a balanced blend of biostimulants plus mycorrhizal fungi. The biostimulants/vitamins assist the turf to heal the holes left behind from aerification while the mycorrhizal fungi significantly increase the root system’s ability to take up valuable nutrients and water.

Key product benefits of endORoots:
- Improves recovery rate from aerification
- Increases root mass and turf density
- Excellent for newly planted sod establishment

How to Apply: Granular fertilizer - spread, then brush or work into holes after aerification
Available in:
- 50 lb. bag / 40 bags per pallet - #27-57134

**ROOTS 1>2>3 Premix Plus Microbiologically Enhanced Plant Nutrition**
1>2>3 Premix Plus provides chelated micronutrients plus a blend of microbial cultures. It provides deeper root mass, greener color without rapid growth and improved turf health. The improved formula delivers faster recovery and quicker green-up from drought conditions. For use on greens, tees, sports turf, when overseeding, installing sod, turf renovation, during fertigation and for injection.

Key product benefits of 1>2>3 Premix Plus:
- Deeper roots
- Greater root mass development
- Greener color without rapid growth
- Improved turf health

How to Apply: Spray or drench, then water in
Available in:
- 2/2.5 gallon containers / 36 cases per pallet - #37-56549

**ROOTS FE-6% Plus Iron Chelate and Kelp Extract**
Fe 6% Plus is a chelated iron fertilizer with the added benefits of seaplant extract for turf stress. Provides tournament green up without increase turf growth. The seaplant extracts increase the turf’s ability to withstand heat stress, tolerate drought and resist disease by producing carbohydrate reserves and root mass.

Key product benefits of Fe 6% Plus:
- Quick visual green-up response without rapid turf growth
- Longest lasting green-up
- Will not stain surfaces - including concrete
- Highly concentrated with low application rate

How to Apply: Foliar Spray or drench
Available in:
- 2/2.5 gallon containers / 36 cases per pallet - #37-57002

**ROOTS TurfVigor 9-3-6 Microbial Fertilizer**
TurfVigor combines patented high impact microbial strains, and macro- and micronutrients in one formulation. This product is designed to increase turfgrass stress tolerance associated with temperature, drought, physical injury, and other environmental conditions. It maximizes nutrient uptake improving turf color and quality. For use on greens, tees, fairways, lawns, athletic fields, and when overseeding.

Key product benefits of TurfVigor:
- Maximizes nutrient uptake
- Improves color and quality
- Maintains root mass under stress conditions
- Accelerates physical damage recovery

How to Apply: Foliar Spray - spray, drench, fertigation, then water in
Available in:
- 2/2.5 gallon containers / 36 cases per pallet - #37-56554

**ROOTS AGriplex micro mix Chelated Liquid Micro-Nutrients**
AGriplex Micro Chelated Liquid is a highly concentrated product with a low application rate. It contains micro nutrients including Magnesium, Sulfur, Boron, Iron, Manganese, and Zinc. It provides rapid green-up without staining. For use when transplanting and maintaining trees and shrubs, also on greens, tees, and fairways.

Key product benefits of AGriplex:
- Quick visual response without rapid growth
- Longest lasting green-up
- Will not stain surfaces - including concrete
- Highly concentrated with low application rate

How to Apply: Foliar Spray or drench
Available in:
- 2/2.5 gallon containers / 36 cases per pallet - #37-57002

**ROOTS AGriplex Micro Chelated Liquid Micro-Nutrients**
AGriplex Micro Chelated Liquid is a highly concentrated product with a low application rate. It contains micro nutrients including Magnesium, Sulfur, Boron, Iron, Manganese, and Zinc. It provides rapid green-up without staining. For use when transplanting and maintaining trees and shrubs, also on greens, tees, and fairways.

Key product benefits of AGriplex:
- Quick visual response without rapid growth
- Longest lasting green-up
- Will not stain surfaces - including concrete
- Highly concentrated with low application rate

How to Apply: Foliar Spray or drench
Available in:
- 2/2.5 gallon containers / 36 cases per pallet - #37-57002
Fertilizer for Turf

ROOTS Concentrate Rooting Stimulant

ROOTS concentrate is an advanced plant supplement that promotes rapid root growth and regeneration for seedlings, cuttings, installation, and transplanting. For use on greens, tees, sports turf, lawns, fairways, new seeding, overseeding, hydroseeding, trees, shrubs, ornamental plants, flower beds, nursery, greenhouse and vegetables.

Key product benefits of ROOTS Concentrate:
• Promotes rapid root growth
• Quicker regeneration for seedlings, cuttings and transplants
• Helps assure successful transplantings

How to Apply: Foliar Spray or drench

Available in: 2/2.5 gallon containers / 36 cases per pallet - #15-56786

Additional package size available

ROOTS ironROOTS 0-2-4

ironROOTS® Concentrate provides fast green-up for turfgrass and acid loving plants. It promotes better root density. For use on lawns, with new seeding and when transplanting trees and shrubs.

Key product benefits of ironROOTS:
• Fast green-up in turfgrass and iron-loving plants
• Promotes better root density
• Will not stain surfaces - including concrete
• Highly concentrated with low application rate

How to Apply: Foliar Spray or drench

Available in: 2/2.5 gallon containers / 36 cases per pallet - #27-56958

Additional package size available

ROOTS EcoGuard Biofungicide

EcoGuard Biofungicide is a concentrated suspension of the bacterial spores which has been found effective as a natural inhibitor of a variety of agronomically important fungal disease species. EcoGuard Biofungicide formulation is typically applied as a foliar spray or soil drench on lawns and ornamental turf. EcoGuard® Biofungicide is a preventative or curative treatment for a variety of fungal diseases on ornamental lawns, golf courses and other turfgrass.

Key product benefits of EcoGuard Biofungicide:
• Controls dollar spot and anthracnose
• Faster recovery from disease damage
• Perfect for resistance management and IPM programs
• EPA registered as lower risk pesticide

How to Apply: Foliar Spray

Available in: 2/2.5 gallon containers / 36 cases per pallet - #15-56786

ROOTS Turf Saver 3-4-3

Turf Saver is a mycorrhizal fungi inoculant formulated for turf installations on lawns and maintenance. It contains a blend of VA mycorrhizal (VAM) fungi and rhizosphere bacteria selected for their beneficial activities in the rhizosphere of plants. Turf Saver contains formononetin, a stimulant of VAM fungi to increase colonization rates of the grass roots.

Key product benefits of Turf Saver 3-4-3:
• Use for turf installation and maintenance
• Contains beneficial mycorrhizal fungi and rhizosphere bacteria

How to Apply: Granular inoculant/fertilizer. Spread, then brush or work into holes after aerification

Available in: 50 lb. box / 36 boxes per pallet - #27-56639

Additional package size available

ROOTS BioPak

BioPak is a unique, dry, water soluble inoculant with beneficial bacteria. This product enriches the soil profile with beneficial microbes that act as a sustainable fertility “system.” Once the microbes are in place in the root zone, they solubilize phosphorus, fix atmospheric nitrogen and gradually improve soil tilth – processes that encourage healthy root growth. Live beneficial microbes reproduce in the root zone to maintain populations and sustain beneficial activities.

Key product benefits of BioPak:
• Increases organic content of the soil
• Improves fertility in the root zone
• Increases the natural bioactivity in sterile or depleted soils

How to Apply: Water Soluble - drench or injection to soil

Available in: 50 lb. box / 36 boxes per pallet - #27-56652

Additional package size available

ROOTS Healthy Turf 8-1-9

Healthy Turf 8-1-9, a 100% organic product, is formulated to provide slow-releasing organic nutrients to turf grass. Healthy Turf 8-1-9 is made with natural organic ingredients and includes beneficial rhizosphere bacteria to boost biological activity in the soil.

Key product benefits of Healthy Turf 8-1-9:
• Improves soil fertility and restores bioactivity
• Adds rich organic matter to the soil
• Releases nutrients gradually over 6 to 8 weeks
• Introduces beneficial bacteria for sustained fertility
• Contains no manure, sewage or sludge

How to Apply: Granular fertilizer - spreader

Available in: 50 lb. bag / 40 bags per pallet - #27-24272

BioPak Plus is a dry, water-soluble micronutrient treatment that includes beneficial rhizosphere bacteria and 3-0-20 N-P-K fertilizer. BioPak Plus can be applied Spring, Summer & Fall!

Spring: Helps plants recover from winter stress. Provides minerals needed for new root growth.

Summer: Maintains vigorous plant growth and green color.

Fall: Prepares plants for winter stresses from cold, desiccating wind, lack of moisture and frozen ground.

Key product benefits of BioPak Plus 3-0-20:
• Contains 7% chelated iron and includes Mg, S, B, Mn, and Zn
• Promotes quick recovery from stress
• Reverses mineral deficiencies that cause chlorosis & necrosis
• Improves root function without stimulating excessive top growth
• Provides soluble nutrients in acidic, neutral and alkaline soils

How to Apply: Water Soluble - Spray, drench or injection to soil

Available in: 5 x 1 lb. foil packets per bag / 5 bags per case / 36 cases per pallet - #27-56656

Additional package size available

Fertilizer for Turf

Mycorrhizal Fungi + Beneficial Bacteria + Biostimulants + Chelated Micronutrients
Specialty Use Products

**ROOTS Pond Saver**

Pond Saver is a concentrated, dry microbial product that quickly biodegrades the nutrients, organic matter and hydrocarbons in water that contribute to sludge, clouding and foul odors. Naturally-occurring bacteria quickly clean and deodorize nutrient-rich waters. Pond Saver is a natural, biodegradable product that is nontoxic to humans, plants and animals, including fish.

**Key product benefits of Pond Saver:**
- Improves water clarity and quality
- Can reduce sludge and organic sediment buildup with regular use
- Controls unpleasant pond odors

**How to Apply:** Water Soluble, add to pond

**Available in:**
- 5 lb. bag / 5 bags per case / 36 cases per pallet - #27-24650

**Additional package size available**

**ROOTS BioPam**

BioPam is a combination tackifier/inoculant for superior hydroseeding. BioPam binds together the various components of hydromulch to improve water penetration and retention and maintains cooler soil temperature. The select rhizosphere bacteria formulated in BioPam become active in the hydromulch to improve plant nutrition and establishment.

**Key product benefits of BioPam:**
- Helps maintain a moist environment for seed germination
- Introduces beneficial rhizosphere bacteria into the root zone to create sustainable soil fertility in hard-to-establish areas

**How to Apply:** Water Soluble, for Hydroseeding

**Available in:**
- 5 lb. box / 4 boxes per case / 45 cases per pallet - #27-24648

**ROOTS Yuccah**

Yuccah is a natural-based wetting agent and soil penetrant. It is 90% derived from Yucca schidigera, a unique desert plant that produces natural surfactant compounds to help it manage water more efficiently. These surfactant compounds help improve distribution and retention of water, even in very dry, water resistant soils. Yuccah is a safe alternative to 100% chemical wetting agents.

**Key product benefits of Yuccah:**
- Increases water penetration for soil drench and injection treatments
- Alleviates dry spots in compacted soils
- Acts as an adjuvant for wettable pesticides or fertilizers, increasing their spreadability

**How to Apply:** Adjuvant or soil wetting agent

**Available in:**
- 2.5 gallon / 2 jugs per case / 18 cases per pallet - #37-24562

**Additional package size available**

**ROOTS Root Dip**

Root Dip is used as a preplant root dip gel to inoculate bareroot and containerized tree seedlings with beneficial mycorrhizal fungi and rhizosphere bacteria prior to field planting or potting. It contains five superior species of endo- and ectomycorrhizal fungi that will colonize the roots of tree and shrub species under a broad range of growing conditions.

**How to Apply:** Water gel - for root dipping

**Available in:**
- 5 x 15 oz. packets / 4 boxes per case / 25 cases per pallet - #27-56665

**ROOTS Terra-Sorb**

Terra-Sorb is a potassium-based copolymer gel that significantly increases the water-holding capacity of soil. It absorbs up to 150 times its weight in water and slowly releases it to nearby plant roots. Terra-Sorb will repeatedly absorb and release water for several years, until it biodegrades naturally. By gelling with dilute solutions of fertilizer, Terra-Sorb can also act as a fertilizer carrier.

**Key product benefits of Terra-Sorb:**
- Significantly increases water-holding capacity of soil
- Slowly releases water into the root zone
- Can prevent plant losses due to dry soil

**How to Apply:** Mix with soil at planting

**Available in:**
- Medium Grade 10 lb. bag - #27-24644
- Fine Grade 10 lb. bag - #27-24645
- Coarse Grade 44 lb. box - #27-56594

**Additional package size available**

**ROOTS Mosquito Dunks**

Application has never been easier. These disk-shaped, floating briquettes control mosquito larvae for 30 days or more under typical conditions. One dunk treats up to 100 sq. ft. of standing water. These dunks have been used in all types of mosquito breeding areas, and are safe for humans, fish and wildlife.

**How to Apply:** Dunk into water

**Available in:**
- 20 dunks/ card / 5 cards/ case - #14-24651

**Additional package size available**

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**Specialty Use Products**

**Mycorrhizal Fungi**

**Beneficial Bacteria**

**Biostimulants**

**Chelated Micronutrients**