

Foliar·Pak[®]

2019 Product Catalog

MORE THAN NUTRIENTS
**WE PROVIDE
SOLUTIONS.**

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More Than Nutrients, We Provide Solutions.

This is our brand motto. We are a nutrient company, and we take pride in selecting quality raw materials like food-grade polysaccharide sugars and molasses, premium cold-pressed seaweed, plant-derived L-amino acids, and pharmaceutical-grade minerals. Still, Foliar-Pak is more than nutrients.

Foliar-Pak products can prevent plant stress from environmental factors, accelerate turfgrass establishment, enhance soil biology, encourage controlled growth, and alleviate difficult soil conditions. We provide solutions.

Made in the USA

Foliar-Pak products are made by EnP at a dedicated facility in Mendota, Illinois.

EnP is dedicated to inventing, synthesizing, and formulating specialty plant fertilizers that maximize the genetic potential of plants while reducing chemical inputs.

Amino Acid Technology

Amino acids increase nitrogen fixation and the production of chlorophyll, energy, and anti-stress compounds in plants. In addition to plant health benefits, trials have shown an increase in the efficiency and uptake of pesticides when tank mixed with amino acids.

AminoPrecise® is a proprietary formulation technology used to create Foliar-Pak's new amino acid products. Using specific amino acids in chemical reactions with each individual nutrient, we can maximize the protection, solubility, entry into the plant, and movement through the plant's vascular system for each different nutrient-amino-acid compound.

Armament® Technology

Armament is a patented, biodegradable nutrient enhancer that protects nutrient ions from interactions, antagonisms, and tie up in the soil, and increases nutrient uptake by as much as 30%. It unlocks the tied-up nutrients that already exist in the soil and enhances nutrient utilization by protecting the nutrients and keeping them in a plant-usable form.

Colonise® Technology

Foliar-Pak's new Colonise technology is a highly specific blend of eight microorganisms, microbe food, and nutrient enhancers. This technology helps target better nutrient uptake, plant resilience, color response, rooting, and turf playability.

Don't just take our word for it.

The golf course superintendents, lawn care operators, and sports turf managers using Foliar-Pak products aren't shy about what they think of them, and we're happy to share their feedback. See what Foliar-Pak users have to say about the new formulations and check out the pictures of their results placed throughout the catalog.

AMINO ACID TECHNOLOGY

Foundation Forty

1-0-15

14-2-4

18-3-4

Manganese

Magnesium

CSi L

Boron

Iron



“ When I began working at my course, we were using several nitrogen-based products that offered a quick release and color, but the effects only remained for 6 or 7 days. After I started implementing Foliar-Pak products with Foundation Forty into the mix, the effects lasted much longer. My course received 14 to 15 days of good turf quality and response. However, the effects of Foundation Forty did not stop there. On one of my fairways, I sprayed Xemplar with Foundation Forty. My course remained disease resistant for 24 days. It was easy to realize I had made the right decision.

Andrew Rhorer, Golf Course Superintendent
Boone's Trace National Golf Club | Richmond, Kentucky



“ Managing healthy putting greens is challenging, especially while trying to maintain fast green speeds. I depend on Foliar-Pak amino acid formulations because they improve plant health while allowing me to limit nitrogen inputs. Foliar-Pak has a great combination of soil and foliar products that have become the cornerstone of my fertility program. The product line has allowed me to formulate a great fertility program that works for all my playing surfaces.

Paul B. Latshaw, Director of Grounds Operation
Merion Golf Club | Ardmore, Pennsylvania

Tournaments hosted:

2004-2016 The Memorial Tournament, Muirfield Village Golf Club, Dublin, OH
2003 PGA Championship, Oak Hill Country Club, Rochester, NY
2013 Presidents Cup, Muirfield Village Golf Club Dublin, OH

Products used:

Foliar-Pak Foundation Forty
Foliar-Pak 1-0-15
Foliar-Pak Manganese
Foliar-Pak Armament K
Foliar-Pak Armament MKS
Foliar-Pak Carbosential Fe
Foliar-Pak CSI L

Foundation Forty

4-0-8 Amino Acid Concentrate

PRODUCT DESCRIPTION/BENEFITS

Foliar-Pak Foundation Forty is a highly concentrated, engineered blend of specific amino acids for increased nitrogen fixation, chlorophyll production, energy production, and the production of anti-stress compounds.

Better Stress Tolerance

Foliar-Pak Foundation Forty provides the amino acid inputs necessary to increase production of key anti-stress osmolytes such as gamma-aminobutyric acid and proline, which are loaded into the vacuole of the plant. Plants depend on these osmolytes to regulate water storage under drought, salt, and cold temperature stress.

Better Plant Energy

Foliar-Pak Foundation Forty supplies specific amino acids that work to increase nitrogen fixation, chlorophyll production, and carbon fixation, three essential plant functions that directly impact plant energy. This leads to better production and storage of carbohydrates allowing the plant to build energy reserves which it can draw upon in times of need.

Improved Uptake and Utilization

Foliar-Pak Foundation Forty facilitates greater uptake of nutrients and chemicals in two ways: by directly complexing and moving them through transcuticular pores or by loading metabolites into the stomatal guard cells. This flexes those pores open allowing easier entry and resulting in better performance of many tank-mix chemistries.

GUARANTEED MINIMUM ANALYSIS

Total Nitrogen (N) 4.0%
Soluble Potash (K₂O)..... 8.0%

Derived from: soy protein hydrolysate, potassium acetate

PRODUCT INFORMATION:

Weight per Liter: 1.49 kg
pH: 10.2

GENERAL USE GUIDE

This product is tank mix compatible with most fertilizers and pesticides. However, due to variability in water sources and pesticide formulations a compatibility test is recommended. For foliar applications delay irrigation or mowing for 12 to 24 hours.

Golf Course Greens and Tees

Apply 15 to 44 ml per 93 m² (0.5 to 1.5 US fl oz per 1,000 sq ft) in up to 7.6 L water. Apply solution to 1000 sq ft of actively growing turf. Apply every 7 to 14 days throughout the growing season.

Turf Rescue or Malnourished Turf: Apply 44 ml per 93 m² (1.5 US fl oz per 1,000 sq ft) every 7 to 14 days until turf recovers.

Golf Course Fairways Sports Turf Professional Lawn Care

Apply 15 to 44 ml per 93 m² (0.5 to 1.5 US fl oz per 1,000 sq ft) in up to 7.6 L water. Apply solution to 1000 sq ft of actively growing turf. Apply every 14 to 28 days throughout the growing season.

Turf Rescue or Malnourished Turf: Apply 44 ml per 93m² (1.5 US fl oz per 1,000 sq ft) every 14 to 28 days until turf recovers.

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soil



1-0-15

with L-Amino Acids

GUARANTEED MINIMUM ANALYSIS

Total Nitrogen (N)	1.0%
Soluble Potash (K ₂ O).....	15.0%
Iron (Fe) (Actual).....	0.10%
Manganese (Mn) (Actual).....	0.05%

Derived from: soy protein hydrolysate, urea, potassium thiosulphate, iron EDTA, manganese EDTA

POTASSIUM RATES:

Rate / 1000	Potassium / 1000 (pounds actual potassium)		
	1 Application	8 Applications	16 Applications
3.0 fl oz	.036	.29	.58
6.0 fl oz	.072	.58	1.16

PRODUCT INFORMATION:

0.19 kg of Potassium per Liter
Weight per Liter: 1.26 kg
pH: 9.1

PRODUCT DESCRIPTION/BENEFITS

Foliar-Pak 1-0-15 delivers vital potassium to the plant, enhancing the ability to combat stress and disease.

Safe, reliable nutrients enhanced with our plant-derived L-amino acid package. Foliar-Pak 1-0-15 works to increase nutrient absorption and maximize plant nutrition through the use of low dose applications. These L-amino acids work in various pathways to increase nutrient uptake, nutrient transport, and improve plant tolerance of environmental stress.

Foliar-Pak 1-0-15 is a high performance foliar fertilizer that promotes turf health by offering the following advantages:

- L-amino acids are easily absorbed by plants, enhancing uptake of nutrients and tank mix products.
- Improves the plant's ability to create necessary proteins and protein structures.
- Utilization of L-amino acids allows the plant to conserve energy and strengthen root systems.
- Provides organic molecules that increase chlorophyll and photosynthesis.
- Potassium helps build leaf strength and helps the plant maintain proper osmotic relations.
- Micronutrients enhance plant colour and help build proper enzymes.



GENERAL USE GUIDE

This product is tank mix compatible with most fertilizers and pesticides. However, due to variability in water sources and pesticide formulations a compatibility test is recommended.

Golf Course Greens	Apply 88 to 355 ml per 93 m ² (3.0 to 12.0 US fl oz per 1,000 sq ft) in enough water to provide sufficient foliar coverage. Repeat application every 7 to 14 days.
Golf Course Tees and Fairways Sports Turf	Apply 88 to 180 ml per 93 m ² (3.0 to 6.0 US fl oz per 1,000 sq ft) in a minimum of 3.8 L of spray solution. Repeat application every 2 to 3 weeks.
Residential and Commercial Lawns	Apply 18.8 to 47 L per hectare (2 to 5 US gal per acre) in a minimum of 88 gal per acre of spray solution. Use the lower rates if daytime temperatures exceed 29°C or if turf is exhibiting symptoms of drought stress.

14-2-4

with L-Amino Acids

PRODUCT DESCRIPTION/BENEFITS

Foliar-Pak 14-2-4 provides reliable nutrition and controlled turfgrass growth under any environmental condition.

Foliar-Pak 14-2-4 is a high-performance foliar fertilizer containing iron, manganese, and our proprietary L-amino acid package which increases nitrogen fixation, chlorophyll production, and the production of anti-stress compounds.

- Foliar-Pak 14-2-4 offers safe, effective nutrition for instant colour response and long-term feeding with 40% of the nitrogen being controlled release. Foliar-Pak 14-2-4 continues to impress days after the initial application.
- The proprietary amino acid package in Foliar-Pak 14-2-4 will improve uptake and enhance the overall performance of other nutrients, plant growth regulators, and fungicides in the tank mix.
- The proprietary amino acid formulation is designed to help the plant build better energy through increased photosynthesis and more efficient protein production, resulting in increased carbohydrate reserves.
- Foliar-Pak 14-2-4 is formulated with specific plant metabolites easily converted to useful anti-stress compounds. These anti-stress compounds give the plant a unique ability to tolerate the stress pressures that exist in today's growing environment.
- Consistent use of Foliar-Pak 14-2-4 leads to controlled top growth, carbohydrate balance, improved stress tolerance, and better root growth.

GUARANTEED MINIMUM ANALYSIS

Total Nitrogen (N)	14.0%
Available Phosphate (P ₂ O ₅)	2.0%
Soluble Potash (K ₂ O)	4.0%
Iron (Fe) (Actual)	0.25%
Manganese (Mn) (Actual)	0.25%

Derived from: soy protein hydrolysate, urea-triazone solution, low biuret urea, potassium phosphate, potassium nitrate, iron EDTA, manganese EDTA

*Slowly available nitrogen from urea-triazone nitrogen

Nitrogen Rates

3 fl oz	= 0.03 lbs N per 1000 sq ft
4 fl oz	= 0.04 lbs N per 1000 sq ft
5 fl oz	= 0.05 lbs N per 1000 sq ft
6 fl oz	= 0.06 lbs N per 1000 sq ft
9 fl oz	= 0.10 lbs N per 1000 sq ft
12 fl oz	= 0.13 lbs N per 1000 sq ft

PRODUCT INFORMATION:

0.17 kg of Nitrogen per Liter

Weight per Liter: 1.19 kg

pH: 9.1

GENERAL USE GUIDE

This product is tank mix compatible with most fertilizers and pesticides. However, due to variability in water sources and pesticide formulations a compatibility test is recommended.

Golf Course Greens	Apply 88 ml to 355 ml per 93 m ² (3.0 to 12.0 fluid US oz. per 1000 sq. ft.) in enough water to provide sufficient foliar coverage. Apply every 7 to 14 days throughout the growing season. Rapidly growing turf may require higher rates.
Golf Course Fairways Sports Turf	Apply 88 ml to 266 ml per 93 m ² (3.0 to 9.0 fluid US oz. per 1000 sq. ft.) in up to 2.0 US gal water. Apply solution to 1000 sq. ft. of actively growing turf. Apply every 14 to 28 days throughout the growing season.

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18-3-4

with L-Amino Acids

GUARANTEED MINIMUM ANALYSIS

Total Nitrogen (N)	18.0%
Available Phosphate (P ₂ O ₅)	3.0%
Soluble Potash (K ₂ O).....	4.0%

Derived from: urea, ammonium nitrate, ammonium phosphate, potassium nitrate, soy protein hydrolysate

Nitrogen Rates

- 3 fl oz = 0.04 lbs N per 1000 sq ft
- 4 fl oz = 0.06 lbs N per 1000 sq ft
- 5 fl oz = 0.07 lbs N per 1000 sq ft
- 6 fl oz = 0.09 lbs N per 1000 sq ft
- 8 fl oz = 0.12 lbs N per 1000 sq ft

PRODUCT INFORMATION:

1.91 lbs of Nitrogen per Liter
 Weight per Liter: 1.22 kg
 pH: 6.7

PRODUCT DESCRIPTION/BENEFITS

Foliar-Pak 18-3-4 is a high performance foliar fertilizer that provides excellent turf health by offering the following advantages:

- Provides immediate, long lasting colour and controlled growth.
- L-amino acids are easily absorbed by plants and enhance uptake of most tank mix products.
- Improves the plant's ability to create necessary proteins and protein structures.
- Utilization of L-amino acids allows the plant to conserve energy and strengthen root systems.
- Provides organic molecules that increase chlorophyll and photosynthesis.
- Offers excellent compatibility and no burn risk at recommended rates.

Safe, reliable nutrients enhanced with a new plant derived L-amino acid package specific to increasing nitrogen fixation, chlorophyll and energy production. Foliar-Pak 18-3-4 increases nutrient absorption and maximizes plant nutrition through the use of low dose applications. L-amino acids work in various pathways to increase nutrient uptake, nutrient transport, and improve plant tolerance of environmental stress.



GENERAL USE GUIDE

This product is tank mix compatible with most fertilizers and pesticides. However, due to variability in water sources and pesticide formulations a compatibility test is recommended.

Golf Course Greens	Apply 88 to 355 ml per 93 m ² (3.0 to 12.0 US fl oz per 1,000 sq ft) in enough water to provide sufficient foliar coverage. Repeat application every 7 to 14 days. Transition and warm season turf may require more frequent applications.
Golf Course Tees and Fairways Sports Turf	Apply 88 to 180 ml per 93 m ² (3.0 to 6.0 US fl oz per 1,000 sq ft) in a minimum of 3.8 L of spray solution. Repeat application every 2 to 3 weeks.
Residential and Commercial Lawns	Apply 18.8 to 47 L per Hectare (2 to 5 US gal per acre) in a minimum of 88 gal per acre of spray solution. Use the lower rates if daytime temperatures exceed 29°C or if turf is exhibiting symptoms of drought stress.

Manganese

2-0-0 with L-Amino Acids

PRODUCT DESCRIPTION/BENEFITS

Foliar-Pak Manganese is specially formulated with plant metabolites that increase nutrient uptake and improve plant health. It contains three natural and modified plant metabolites specifically designed to protect manganese and magnesium.

Foliar-Pak Manganese increases turf health by offering the following advantages:

- Protected manganese and magnesium provide long-lasting colour through being direct and indirect components of chlorophyll.
- Focused amino acid package increases photosynthetic efficiency, prolongs the life of chloroplasts, and produces anti-stress compounds.
- Manganese works to activate multiple plant enzymes.
- Available manganese can decrease susceptibility to soil patch disease organisms.

Triple Protected Manganese and Magnesium

Foliar-Pak Manganese is a unique formulation utilizing natural and modified plant metabolites which protect nutrients for increased plant availability.

Each plant metabolite performs well in its own niche. The low-molecular weight plant metabolites allow for movement through the stomatal pores and trans-cuticular pores; the high-molecular weight modified plant metabolite chelates the manganese and magnesium for secondary uptake via the soil. This engineered redundancy ensures rapid uptake for the turf in all growing conditions.

GENERAL USE GUIDE	
This product is tank mix compatible with most fertilizers and pesticides. However, due to variability in water sources and pesticide formulations a compatibility test is recommended.	
<p>Golf Course Greens and Tees</p>	<p>Apply 15 ml to 90 ml per 93 m² (0.5 to 3.0 fluid US oz. per 1000 sq. ft.) in enough water to provide sufficient foliar coverage. Apply every 7 to 14 days throughout the growing season.</p> <p>Rapidly growing turf may require higher rates.</p>
<p>Golf Course Fairways Sports Turf</p>	<p>Apply 30 ml to 90 ml per 93 m² (1.0 to 3.0 fluid US oz. per 1000 sq. ft.) in up to 2.0 US gal water. Apply solution to 1000 sq. ft. of actively growing turf. Apply every 14 to 28 days throughout the growing season.</p>

GUARANTEED MINIMUM ANALYSIS

Total Nitrogen (N)	2.0%
Magnesium (Mg) (Actual).....	1.0%
Manganese (Mn) (Actual).....	3.0%

Derived from: soy protein hydrolysate, magnesium nitrate, manganese sulphate

PRODUCT INFORMATION:

Weight per Liter: 1.19 kg
pH: 5.3



Magnesium

3-0-0 with L-Amino Acids

GUARANTEED MINIMUM ANALYSIS

Total Nitrogen (N) 3.0%
 Magnesium (Mg) (Actual)..... 3.0%

Derived from: soy protein hydrolysate, magnesium hydroxide

PRODUCT INFORMATION:

Weight per Liter: 1.8 kg
 pH: 6.0

AMINOPRECISE®

AminoPrecise® is a proprietary formulation technology used to create Foliar-Pak's new amino acid products. Using specific amino acids in chemical reactions with each individual nutrient, we can maximize the protection, solubility, entry into the plant, and movement through the plant's vascular system for each different nutrient-amino-acid compound.

PRODUCT DESCRIPTION/BENEFITS

Foliar-Pak Magnesium is a newly formulated fertilizer that increases magnesium content in plants by offering the following advantages:

- Protected by a 2:1 ratio of amino acids to magnesium, the magnesium is fully chelated by amino acids.
- Complete chelation of the magnesium ion maximizes the solubility of the complex, and the protection given to magnesium, which increases foliar entry into plants, while also ensuring a more efficient movement through the vascular system.
- The amino acids used help the plant build better energy through increased photosynthesis, nitrogen fixation, and anti-stress molecule production.
- Acting in concert with the amino acids, magnesium will build chlorophyll in the plant, while also preserving ribosome structure and integrity in cells.



GENERAL USE GUIDE

Used to increase the magnesium content in plants and soil where magnesium deficiencies are present. Use as part of a complete soil fertility program. This product is tank mix compatible with most fertilizers and pesticides. However, due to variability in water sources and pesticide formulations a compatibility test is recommended.

Golf Course Greens, Tees and Fairways Sports Turf Lawns

Apply 15 ml to 90 ml per 93 m² (0.5 to 3.0 US fl. oz. per 1000 sq. ft.) in enough water to provide sufficient foliar coverage.
 Repeat application every 7 to 21 days or as determined by tissue tests.

Bedding Plants Hanging Baskets

Apply 15 ml to 90 ml (0.5 to 3.0 US fl. oz.) per 1 US gallon, and drench 1 US gallon of finished solution per 2 m² (20 sq. ft.) of planted area. Do not treat the general bed space. Treat each annual plant as if it covers 1 sq. ft.
 For optimum results, apply magnesium as prescribed by a soil test.

Shrubs and Trees

Apply 15 ml to 90 ml (0.5 to 3.0 fl. oz.) per 1 US gallon, and drench 1 US gallon of finished solution per 2.5 cm diameter of tree or shrub.
 In areas where turf is present, inject the solution into the soil. For optimum results, apply magnesium as prescribed by a soil test.

CSi L

2-0-0 with 25% Si

PRODUCT DESCRIPTION/BENEFITS

Foliar-Pak CSi L is one of the most concentrated liquid silicon products in the market at 25% SiO₂ by weight. It is derived from silicic acid, and forms a low molecular weight silica polymer.

- Foliar-Pak CSi L is paired with a specific amino acid that acts as an osmolyte in the plant—which helps keep water in the cell, creating optimal turgor pressure and rigidity in the turf.
- With the silicon, Foliar-Pak CSi L will improve plant tolerance to biotic and abiotic stress by producing stronger cell walls, thicker cuticles and reducing evapotranspiration.
- Unlike other silicon products on the market, Foliar-Pak CSi L is tank-mix compatible with a variety of other products as it is built to not interact with other molecules in the spray tank.
- Owing to its small molecular weight and size, Foliar-Pak CSi L moves through the foliage very easily, unlike other silicon products such as silicates and slags that are not soluble, and therefore are not readily available for plant uptake and use.
- Silicon delivered from Foliar-Pak CSi L will increase plant turgidity, resulting in more upright growth, smoother surfaces, better green speed and better wear tolerance.

GUARANTEED MINIMUM ANALYSIS

Total Nitrogen (N) 2.0%
 Derived from: soy protein hydrolysate

NON PLANT FOOD INGREDIENTS

Silicon Dioxide (SiO₂) 25.0%
 Derived from: colloidal silica, protein hydrolysates

PRODUCT INFORMATION:

Weight per Liter: 1.23 kg
 pH: 8.5

AMINOPRECISE®

AminoPrecise® is a proprietary formulation technology used to create Foliar-Pak's new amino acid products. Using specific amino acids in chemical reactions with each individual nutrient, we can maximize the protection, solubility, entry into the plant, and movement through the plant's vascular system for each different nutrient-amino acid compound.

GENERAL USE GUIDE

This product is tank mix compatible with most fertilizers and pesticides. However, due to variability in water sources and pesticide formulations a compatibility test is recommended.

**Golf Course Greens,
 Tees, and Fairways
 Sports Turf**

Apply 15 to 60 ml per 93 m² (0.5 to 2.0 fluid US oz per 1000 sq. ft.) in enough water to provide sufficient foliar coverage.

Repeat application every 7 to 21 days.

Warm season turf may require more frequent applications.



Boron

7-0-0

GUARANTEED MINIMUM ANALYSIS

Total Nitrogen (N) 7.0%
 Boron (B) (Actual) 3.0%

Derived from: soy protein hydrolysate, boric acid

PRODUCT INFORMATION:

Weight per Liter: 1.36 kg
 pH: 8.9

AMINOPRECISE®

AminoPrecise® is a proprietary formulation technology used to create Foliar-Pak's new amino acid products. Using specific amino acids in chemical reactions with each individual nutrient, we can maximize the protection, solubility, entry into the plant, and movement through the plant's vascular system for each different nutrient-amino acid compound.

PRODUCT DESCRIPTION/BENEFITS

Foliar-Pak Boron is a highly concentrated liquid boron product formulated by reacting boric acid with a specific amino acid to deliver a new boron-amino acid complex. This complex increases the boron solubility, helping it move into the plant more effectively. The amino acid itself metabolizes into important structures that improve plant performance. Foliar-Pak Boron provides health responses not offered from other Boron fertilizers.

- Foliar-Pak Boron is a prescriptive fertilizer used as a supplement when soil or tissue levels are found deficient.
- Foliar-Pak Boron will improve energy transformation reactions and carbohydrate transport mechanisms.
- Boron deficiencies result in lower Potassium uptake, lower rates of water absorption and lower transpiration.
- Root cell elongation is dependent upon good Boron levels.
- Calcium and Boron work in tandem to form pectates that strengthen cell walls.
- Boron is required for lignin formation but when boron is limited the process is derailed resulting in harmful free radical production instead.
- The amino acid component in Foliar-Pak Boron metabolizes into structures that increase chlorophyll production and build anti-stress compounds.



GENERAL USE GUIDE

This product is tank mix compatible with most fertilizers and pesticides. However, due to variability in water sources and pesticide formulations a compatibility test is recommended.

**Golf Course Greens,
 Tees and Fairways
 Sports Turf
 Lawns**

Apply 22 to 60 ml per 93 m² (0.75 to 2.0 fluid US oz per 1000 sq ft) in enough water to provide sufficient foliar coverage. Repeat applications every 7 to 21 days or as determined by tissue tests.

Iron

5-0-0

PRODUCT DESCRIPTION/BENEFITS

- Improves turf colour when added to tank mixes with PGR and certain fungicides.
- Provides proper pH reduction and stability to chemical tank-mix combinations.
- Multiple chelators provide rapid colour response as well as longer residual colour.
- Soluble organic nitrogen increases uptake and efficacy of nutrients and PGR's.
- Ideal ratio of iron and manganese provides unsurpassed colour response.

Triple Protected Iron and Manganese

Foliar-Pak Iron is a unique combination of iron and manganese that is protected by three different natural and modified plant metabolites. Each plant metabolite performs well in its own niche. The low-molecular-weight plant metabolites allow for movement through the stomatal pores and trans-cuticular pores; the high-molecular-weight modified plant metabolite chelates the iron and manganese for secondary uptake via the soil. This engineered redundancy ensures rapid uptake for the turf in all growing conditions.

GUARANTEED MINIMUM ANALYSIS

Total Nitrogen (N)	5.0%
Iron (Fe) (Actual)	4.0%
Manganese (Mn) (Actual)	1.0%

Derived from: urea, soy protein hydrolysate, ferrous sulphate, manganese sulphate

PRODUCT INFORMATION:

Weight per Liter: 1.23 kg
pH: 4.5

GENERAL USE GUIDE

This product is tank mix compatible with most fertilizers and pesticides. However, due to variability in water sources and pesticide formulations a compatibility test is recommended.

Golf Course Lawns Sports Turf	Apply 30 ml to 95 ml per 93 m ² (1.0 to 3.0 US fl oz per 1000 sq ft) in enough water to provide sufficient foliar coverage. Repeat application every 7 to 21 days throughout the growing season. Rapidly growing turf may require higher rates to maintain the desired turf colour.
Ornamentals and Shrubs	<p>Deep Root Injection: Apply 60 ml per 25 mm (2 US fl oz per inch) of trunk diameter.</p> <p>Foliar Spray: Add 450 ml per 380 litre (15 US fl oz to 100 gal) of water. Spray directly onto leaf surfaces until the point of runoff.</p> <p>Soil Applications: Mix 15 ml per 3.8 L of water (0.5 US fl oz per gal of water). Apply 7.6 L (2 US gal) of this solution per sq yd of garden.</p> <p>Transplants: Apply 45 ml (1.5 US fl oz per gal of water). Apply 1 US gal of this solution per 25 mm trunk diameter or per planting.</p>

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soil



ARMAMENT TECHNOLOGY

Armament® P

Armament® K

Armament® Bio

Armament® Concentrate

Armament® P

3-12-2 protected by Armament®

PRODUCT DESCRIPTION/BENEFITS

Foliar-Pak Armament P protects nutrients from adverse interactions in the soil while increasing phosphorus uptake and efficiency by as much as 30%.

Foliar-Pak Armament P is a premium phosphorus supplement for highly maintained turfgrass. It is formulated with long chain carbon technology specifically designed to deliver phosphorus to plant roots.

- Phosphorus is essential for protein synthesis, cell division, and the development of new tissue.
- Foliar-Pak Armament P increases phosphorus availability by loosely complexing and preventing common soil nutrient interactions that tie-up phosphorus.
- Armament technology increases nutrient availability by unlocking existing tied-up soil nutrients and converting them into plant usable nutrients.
- Acting as a buffer, Foliar-Pak Armament P can be used in high pH and hard water.

GUARANTEED MINIMUM ANALYSIS

Total Nitrogen (N)	3.0%
Available Phosphate (P ₂ O ₅)	12.0%
Soluble Potash (K ₂ O).....	2.0%

Derived from: monoammonium phosphate, potassium nitrate

Phosphorus Rates

3 fl oz =	0.028 lbs P ₂ O ₅ per 1000 sq ft
4 fl oz =	0.037 lbs P ₂ O ₅ per 1000 sq ft
5 fl oz =	0.047 lbs P ₂ O ₅ per 1000 sq ft
6 fl oz =	0.056 lbs P ₂ O ₅ per 1000 sq ft

PRODUCT INFORMATION:

Weight per Liter: 1.19 kg
pH: 5.3

GENERAL USE GUIDE

This product is tank mix compatible with most fertilizers and pesticides. However, due to variability in water sources and pesticide formulations a compatibility test is recommended.

**Golf Course Greens,
Tees, and Fairways
Sports Turf**

Apply 29 ml to 176 ml per 93 m² (1.0 to 6.0 fluid US oz. per 1000 sq. ft.) in enough water to provide sufficient plant coverage. Repeat application every 7 to 28 days during the growing season. For best results water into turf canopy within 24 hours.



Armament® K

0-0-24 protected by Armament®

GUARANTEED MINIMUM ANALYSIS

Soluble Potash (K₂O)..... 24.0%

Derived from: potassium acetate

Potassium Rates

- 3 fl oz = .06 lbs K₂O per 1000 sq ft
- 4 fl oz = .08 lbs K₂O per 1000 sq ft
- 5 fl oz = .1 lbs K₂O per 1000 sq ft
- 6 fl oz = .12 lbs K₂O per 1000 sq ft
- 9 fl oz = .18 lbs K₂O per 1000 sq ft

PRODUCT INFORMATION:

Weight per Liter: 1.32 kg
pH: 8.6

PRODUCT DESCRIPTION/BENEFITS

Foliar-Pak Armament K protects nutrients from adverse interactions in the soil while increasing potassium uptake and efficiency by as much as 30%.

Foliar-Pak Armament K is a premium potassium supplement for highly maintained turfgrass. It is formulated with long chain carbon technology specifically designed to deliver potassium to plant roots.

- Potassium controls the translocation of carbohydrates and plant osmotic relations and is integral to protein synthesis.
- Foliar-Pak Armament K provides a high analysis liquid potassium that can be effectively tank mixed with other nutrients and wetting agents.
- Armament technology ensures predictable nutrient availability.
- Armament technology increases nutrient availability by unlocking existing tied-up soil nutrients and converting them into plant usable nutrients.
- Acting as a buffer, Foliar-Pak Armament K can be used in high pH and hard water.



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soil

GENERAL USE GUIDE

This product is tank mix compatible with most fertilizers and pesticides. However, due to variability in water sources and pesticide formulations a compatibility test is recommended.

Golf Course Greens and Tees

Apply 29 ml to 176 ml per 93 m² (1.0 to 6.0 fluid US oz. per 1000 sq. ft.) in enough water to provide sufficient plant coverage. Repeat application every 7 to 28 days during the growing season. For best results water into turf canopy within 24 hours.

Golf Course Fairways Sports Turf

Apply 29 ml to 176 ml per 93 m² (1.0 to 6.0 fluid US oz. per 1000 sq. ft.) in enough water to provide sufficient plant coverage. Repeat application every 14 to 28 days during the growing season. For best results water into turf canopy within 24 hours.



“ I’ve been on the Foliar-Pak greens program for three seasons now, and the products keep getting better and better. We spray and just watch the greens come alive. We’re mowing at a higher height of cut than what we have in the past, but that plant is standing up so strong that we are still getting the same kind of green speeds out of them. Foliar-Pak has made a big difference for us.

Tom Bolon, Golf Course Superintendent

Lake Forest Country Club | Hudson, Ohio



“ I have used Foliar-Pak Armament Bio for a year now and it just blows me away. In the past, I used a lot of raw product on my fairways to get that organic component into my program and the mixing involved just took so much time. Armament Bio actually saves me time. It's a quick, easy mix. I'm also seeing results from it. It gave my turf long-lasting color and I was able to apply one fewer plant protectant spray this season. I was even able to apply a very low amount of nitrogen on my fairways because of Armament Bio. It's a truly unbelievable product.

Tom Kinsman, Golf Course Superintendent

Whistle Bear Golf Club | Ontario, Canada

Armament® Bio

2-0-0

PRODUCT DESCRIPTION/BENEFITS

Engineered and natural biological enhancers work in synergy to increase soil microbial activity, maximize root structure, and optimize nutrient uptake. Armament Bio is a powerful combination of plant and soil enhancers designed to produce more vigorous, resilient plants that are able to defend against disease, insects, environmental stresses and heavy traffic.

- Seaweed, humic acids, molasses, amino acids, and sugar alcohols support the proliferation of natural soil diversity.
- Armament and Colonise technologies increase soil nutrient availability while natural complexors and chelators deliver nutrients effectively to the roots.
- Natural carbon components—seaweed, humic acids, and amino acids—contribute to physiological changes that promote better root density and functioning.
- Armament Bio reduces nutrient waste and the need for additional nutrient inputs because it unlocks the tied-up nutrients that already exist in the soil, turning them into plant usable nutrition.

GUARANTEED MINIMUM ANALYSIS

Total Nitrogen (N) 2.0%
Derived from: soy protein hydrolysate

NON PLANT FOOD INGREDIENTS

Black Strap Molasses 10.0%
(microbe food)
Seaweed Extract 2.5%
(Derived from *Ascophyllum nodosum* (microbe food))
Humic Acid 1.5%
Vitamin B-1 0.2%
(Thiamine Hydrochloride)

(1) ENDO MYCORRHIZAE: *Glomus intraradices*: 1.1 prop/ml; *Glomus mosseae*: 1.1 prop/ml; *Glomus aggregatum*: 1.1 prop/ml; *Glomus monosporum*: 0.055 prop/ml; *Gigaspora margarita*: 0.055 prop/ml

(2) ECTO MYCORRHIZAE: *Rhizopogon luteolus*: 57,400 prop/ml; *Pisolithus tinctorius*: 343,750 prop/ml; *Laccaria bicolor*: 22,962 prop/ml; *Laccaria laccata*: 22,962 prop/ml

PRODUCT INFORMATION:

Weight per Liter: 1.18 kg
pH: 7.2

GENERAL USE GUIDE

This product is tank mix compatible with most fertilizers and pesticides. However, due to variability in water sources and pesticide formulations a compatibility test is recommended.

Golf Course Greens, Tees and Fairways

Apply 176 ml per 93 m² (6.0 fluid US oz per 1,000 ft sq) in enough water to provide sufficient foliar coverage. Reapply monthly at 88 ml per 93 m² (3.0 fluid US oz per 1,000 ft sq) or biweekly at 41 ml per 93 m² (1.5 fluid US oz per 1,000 ft sq) during the growing season.

Ornamentals Shrubs and Trees

Soil Drench & Foliar Application: Add 5 to 10 ml per liter (64 to 128 fluid US oz) per 100 US gal of water and drench into root zone.

For foliar application, spray the solution to the point of runoff. Apply every 4 to 6 weeks.

foliar

soil



Armament[®] Concentrate

0-0-9 protected by Armament[®]

GUARANTEED MINIMUM ANALYSIS	
Soluble Potash (K ₂ O).....	9.0%
Derived from: potassium acetate	

PRODUCT INFORMATION:

Weight per Liter: 1.27 kg
pH: 7.2

PRODUCT DESCRIPTION/BENEFITS

Foliar-Pak Armament Concentrate keeps nutrients in suspension, preventing interactions in the spray tank and improving nutrient availability.

Armament technology is a patented, biodegradable nutrient enhancer. This high-molecular weight structure holds a large population of negative charges. These negative charges gently complex positively charged metals, keeping them in solution.

Apply Foliar-Pak Armament Concentrate with routine fertilizer applications for deeper, stronger roots, more resilient turf and longer lasting colour.

- Foliar-Pak Armament Concentrate increases nutrient uptake and ensures predictable nutrient availability.
- Foliar-Pak Armament Concentrate unlocks the tied-up nutrients that already exist in the soil, turning them into plant usable nutrition.
- Armament technology prevents nutrient-to-nutrient interactions and chemical changes in the spray tank and the soil.
- Completely biodegradable and will not accumulate in the environment.
- Acting as a buffer, Foliar-Pak Armament Concentrate can be used in high pH and hard water.



GENERAL USE GUIDE	
This product is tank mix compatible with most fertilizers and pesticides. However, due to variability in water sources and pesticide formulations a compatibility test is recommended.	
<p>Golf Course Greens, Tees and Fairways</p> <p>Sports Turf</p> <p>Lawns</p>	<p>Apply monthly to any turf surface at a rate of 0.9 to 1.5 L per hectare (12 to 20 fluid US oz per acre). Can be applied less frequently at rates between 1.5 to 3.75 L per hectare (20 to 50 fluid US oz).</p> <p>May be tank mixed with other soil applied products. Dries safely on the leaf surface, but for best results water into soil profile as soon as possible.</p>
<p>Ornamentals</p>	<p>Mix 473 ml to 946 ml (16 to 32 US fl oz) in 100 US gal of water. Spray to the point of runoff or drench into soil.</p>

SPECIALTY NUTRIENTS

Amperage

Carbo 5

Bio 12-6-6

30-0-0

Talon

Amperage

5-0-0

GUARANTEED MINIMUM ANALYSIS

Total Nitrogen (N)	5.0%
Sulphur (S) (Actual)	2.2%
Iron (Fe) (Actual)	2.0%
Manganese (Mn) (Actual).....	2.0%
Zinc (Zn) (Actual).....	2.0%

Derived from: soy protein hydrolysate, urea, ferrous sulfate, manganese sulphate, zinc sulphate

NON PLANT FOOD INGREDIENTS

Molasses..... 14.0%

Derived from: protein hydrolysates

PRODUCT INFORMATION:

Weight per Liter: 1.36 kg

pH: 2.7

PRODUCT DESCRIPTION/BENEFITS

Foliar-Pak Amperage is newly formulated with amino acids to enhance uptake efficiency and provide further plant health benefits. The iron, manganese and zinc are complexed with low-molecular-weight amino acids that allow for movement through the stomatal pores and transcuticular pores. This increases the uptake efficiency, allowing lower use rates than the previous formulation.

Foliar-Pak Amperage is a great warm or cool season turf product that increases plant and soil health by offering the following advantages:

- Foliar-Pak Amperage is formulated with a blend of molasses and amino acids that provides exceptional plant health and soil health benefits.
- Foliar-Pak Amperage is formulated with a blend of gluconic sugars that hold the metallic ions in solution allowing the plant to assimilate the nutrients as they are required.
- Foliar-Pak Amperage is great for maintaining base levels of the primary minerals required for complete photosynthesis especially during periods of cool temperatures.
- Especially useful when plant metabolism declines due to low sunlight and sub-optimal temperatures.
- Foliar-Pak Amperage will provide excellent plant colour response due to superior uptake of micronutrients chelated with gluconates.
- Sugars from natural molasses energize plants and microbes with available carbon sources that stimulate biological activity.
- Greatly increases microbial activity and can aid in thatch reduction.



GENERAL USE GUIDE

This product is tank mix compatible with most fertilizers and pesticides. However, due to variability in water sources and pesticide formulations a compatibility test is recommended.

Golf Course Greens and Tees	Apply 30 to 90 ml per 93 m ² (1.0 to 3.0 US fl oz per 1000 sq ft) in a minimum of 1.9 L of spray solution. Repeat application every 7 to 14 days during periods of active turf growth or increased plant stress.
Golf Course Fairways Sports Turf Lawn	Apply 30 to 90 ml per 93 m ² (1.0 to 3.0 US fl oz per 1000 sq ft) in a minimum of 1.9 L of spray solution. Repeat application every 14 to 28 days during periods of active turf growth or increased plant stress.

Carbo 5

with L-Amino Acids

PRODUCT DESCRIPTION/BENEFITS

Foliar-Pak Carbosential® Fe yields outstanding residual colour, increased nutrient uptake, and improved overall plant health.

- Improved formulation using additional natural plant metabolites that increase foliar and root uptake of iron.
- Foliar-Pak Carbosential® Fe provides timely delivery of iron to the turf through both foliar and root absorption.
- Foliar-Pak Carbosential® Fe contains plant-available amino acids that significantly increase nutrient uptake and utilization. Amino acids help the plant maintain proper metabolic functions, giving it a unique health advantage.
- Foliar-Pak Carbosential® Fe feeds and stimulates the microbial populations.
- Application rates for Carbosential® Fe are much lower compared to traditional iron micronutrient products. At 10 to 14 oz. per acre, one 2.5 gallon container will treat the same area as one 30 gallon drum of other products.

GUARANTEED MINIMUM ANALYSIS

Iron (Fe) (Actual)..... 5.0%

Derived from: soy protein hydrolysates, iron polysaccharide

PRODUCT INFORMATION:

Weight per Liter: 1.21 kg

pH: 4.5

GENERAL USE GUIDE

This product is tank mix compatible with most fertilizers and pesticides. However, due to variability in water sources and pesticide formulations a compatibility test is recommended.

Golf Course Greens, Tees, and Fairways	Apply 0.9 L to 1.2 L per hectare (12 to 16 US fl oz per acre) in enough water to provide sufficient foliar coverage. Apply every 2 to 4 weeks.
Sports Turf Lawns	Apply 0.9 L to 1.2 L per hectare (12 to 16 US fl oz per acre) in enough water to provide sufficient foliar coverage. Apply every 2 to 4 weeks.
Severe Deficiencies and Increased Verdure	On areas of poor soil conditions, poor fertility or recovery situations: Apply up to 3.6 L per hectare (48 US fl oz per acre) in enough water to provide sufficient foliar coverage.

foliar

soil



Bio 12-6-6

GUARANTEED MINIMUM ANALYSIS

Total Nitrogen (N)	12.0%
Available Phosphate (P ₂ O ₅)	6.0%
Soluble Potash (K ₂ O).....	6.0%
Boron (B) (Actual)	0.02%
Copper (Cu) (Actual).....	0.05%
Iron (Fe) (Actual).....	0.10%
Manganese (Mn) (Actual).....	0.05%
Zinc (Zn) (Actual).....	0.5%

Derived from: fish solubles, feathermeal and colloidal phosphates, borax, copper glucoheptonates, iron glucoheptonates, manganese glucoheptonates, zinc glucoheptonates

NON PLANT FOOD INGREDIENTS

Sea Plant Extract	4.0%
Humic Acid	2.0%

Derived from: Ascophyllum nodosum, leonardite, protein hydrolysates

Nitrogen Rates

3 fl oz =	0.028 lbs N per 1000 sq ft
4 fl oz =	0.031 lbs N per 1000 sq ft
5 fl oz =	0.039 lbs N per 1000 sq ft
6 fl oz =	0.055 lbs N per 1000 sq ft

PRODUCT INFORMATION:

0.14 kg of Nitrogen per Liter
 Weight per Liter: 1.2 kg
 pH: 4.4



PRODUCT DESCRIPTION/BENEFITS

- Foliar-Pak Bio 12-6-6 provides bioactive ingredients which improve microbial activity and nutrient availability while reducing fertilizer inputs into the environment.
- Foliar-Pak Bio 12-6-6 promotes rapid root growth and speeds recovery of damaged or stressed turf.
- Plant extracts, humic and fulvic acids influence plant processes to increase uptake of nutrients and improve plant vigor.
- Foliar-Pak Bio 12-6-6 provides long-lasting colour and growth. It helps maximize use of foliar and soil nutrients.

GENERAL USE GUIDE

This product is tank mix compatible with most fertilizers and pesticides. However, due to variability in water sources and pesticide formulations a compatibility test is recommended.

Golf Course Greens and Tees	Apply 88 ml to 266 ml per 93 m ² (3.0 to 9.0 US fl oz per 1000 sq ft) in enough water to provide sufficient foliar coverage. Apply every 7 to 14 days.
Golf Course Fairways Sports Turf Lawns	Apply 88 ml to 355 ml per 93 m ² (3.0 to 12.0 US fl oz per 1000 sq ft) in up to 2.0 US gal water. Apply every 7 to 28 days.
Ornamentals	Soil Drench: Add 8 to 16 ml per liter (1.0 to 2.0 US fl oz per one gallon) of water. Drench into soil root zone. Foliar Application: Add 16 to 32 ml per liter (2.0 to 4.0 US fl oz per one gallon) of water. Spray directly onto leaf surfaces until the point of runoff.



Don't just take our word for it.



It's what you get when you use a company with passion for what they do. #advancedturf #FoliarPakMania #wawaseelake #provenwinner



The Property Company

@ThePropertycom2 · 10/3/18

Landscape Design, Installation, and Maintenance



Another @FoliarPak spray day!!! @AdvancedTurf @kysmitty5



Megan VanArsdale

@MegEVanArsdale · 9/18/18

Grounds Director, Boyle County Schools



Eat your heart out @FoliarPak all 21 of em are this good! Thanks @grassguy42 and that fella up north @mtturfman ! @AdvancedTurf



Dan Francis

@francisdmrion · 9/4/18

Golf Course Superintendent, Wildwood Golf Club

30-0-0

60% Slowly Available Nitrogen

GUARANTEED MINIMUM ANALYSIS

Total Nitrogen (N) 30.0%

Derived from: urea-triazone, methylene urea, urea

*Slowly available nitrogen from methylene ureas and triazone

Nitrogen per Liquid Ounce

3 oz/1000 = 0.07 lb Nitrogen

6 oz/1000 = 0.14 lb Nitrogen

9 oz/1000 = 0.21 lb Nitrogen

12 oz/1000 = 0.28 lb Nitrogen

15 oz/1000 = 0.36 lb Nitrogen

24 oz/1000 = 0.57 lb Nitrogen

PRODUCT INFORMATION:

Weight per Liter: 1.96 kg

pH: 4.5

PRODUCT DESCRIPTION/BENEFITS

Foliar-Pak 30-0-0 is an ideal nitrogen source for higher cut turfgrass.

- Foliar-Pak 30-0-0 corrects soil and plant nitrogen deficiencies with a steady, even release and no growth surges.
- Foliar-Pak 30-0-0 has a low salt index and utilizes complex nitrogen molecules.
- Foliar-Pak 30-0-0 is a foliar or soil-applied slow release fertilizer that provides a variable release rate dependent upon microbial activity and application rate.
- Slow drying time results in more leaf penetration and better foliar uptake performance.
- Foliar-Pak 30-0-0 results in less leaching and volatilization for better budgetary and environmental impacts.



foliar

soil

GENERAL USE GUIDE

This product is tank mix compatible with most fertilizers and pesticides. However, due to variability in water sources and pesticide formulations a compatibility test is recommended.

**Golf Course Greens,
Tees, and Fairways
Sports Turf
Lawns**

Apply 120 to 450 ml per 100 m² (4.0 to 15.0 US fl oz per 1000 sq. ft.) in up to 2.0 US gal water. Apply solution to 1000 sq. ft. of actively growing turf. Apply every 14 to 28 days throughout the growing season.



“ What we’ve noticed since using the Foliar-Pak line versus other foliar fertilizers is just the consistency; clipping yields, green speeds, turf health—it’s all very consistent all the time. We used to double cut every day, but I have not double cut yet this year as a result of using Foliar-Pak. We used to see a lot of cleat marks from golfers; we could have had 30 golfers out there and it would’ve looked like we had 150. Now we can have 150 and it looks like we had 30.

Brent Palich, Golf Course Superintendent
Mayfield Sand Ridge Club | Chardon, Ohio

Products used:

Foliar-Pak Foundation Forty
Foliar-Pak 1-0-15
Foliar-Pak Manganese
Foliar-Pak 30-0-0 (fairways)

Talon

2-0-0

GUARANTEED MINIMUM ANALYSIS

Total Nitrogen (N)	2.0%
Calcium (Ca) (Actual)	2.5%
Magnesium (Mg) (Actual)	0.5%
Sulphur (S) (Actual)	0.62%
Boron (B) (Actual)	0.02%
Copper (Cu) (Actual)	0.05%
Iron (Fe) (Actual)	1.0%
Manganese (Mn) (Actual)	0.4%
Zinc (Zn) (Actual)	0.05%

Derived from: calcium nitrate, magnesium nitrate, sodium borate, copper EDTA, iron EDTA, manganese EDTA, zinc EDTA

NON PLANT FOOD INGREDIENTS

Humic Acid	1.0%
Seaweed Extract	1.0%

Derived from: Ascophyllum nodosum, leonardite

PRODUCT INFORMATION:

Weight per Liter: 1.14 kg

pH: 3.2

PRODUCT DESCRIPTION/BENEFITS

Foliar-Pak Talon provides foliar delivery of key nutrients that promote improvement for overall plant health and stress tolerance.

- Foliar-Pak Talon enhances density, rooting, and recovery. Great for use on transitions and turf establishment.
- Foliar-Pak Talon targets cell division, chlorophyll formation, increased nutrient mobility and utilization, while improving metabolism of carbohydrates and nitrogen.
- At low use rates, this bio-based formulation can be used as a valuable source of readily available micronutrients and plant extracts.

GENERAL USE GUIDE

This product is tank mix compatible with most fertilizers and pesticides. However, due to variability in water sources and pesticide formulations a compatibility test is recommended. Shake well.

Recovery Programs

COOL SEASON TURF:

Spring green up and summer stress recovery: Apply 14.8 ml to 44.4 ml per 93 m² (0.5 to 1.5 US fl oz per 1,000 sq ft) every 10 to 14 days as necessary.

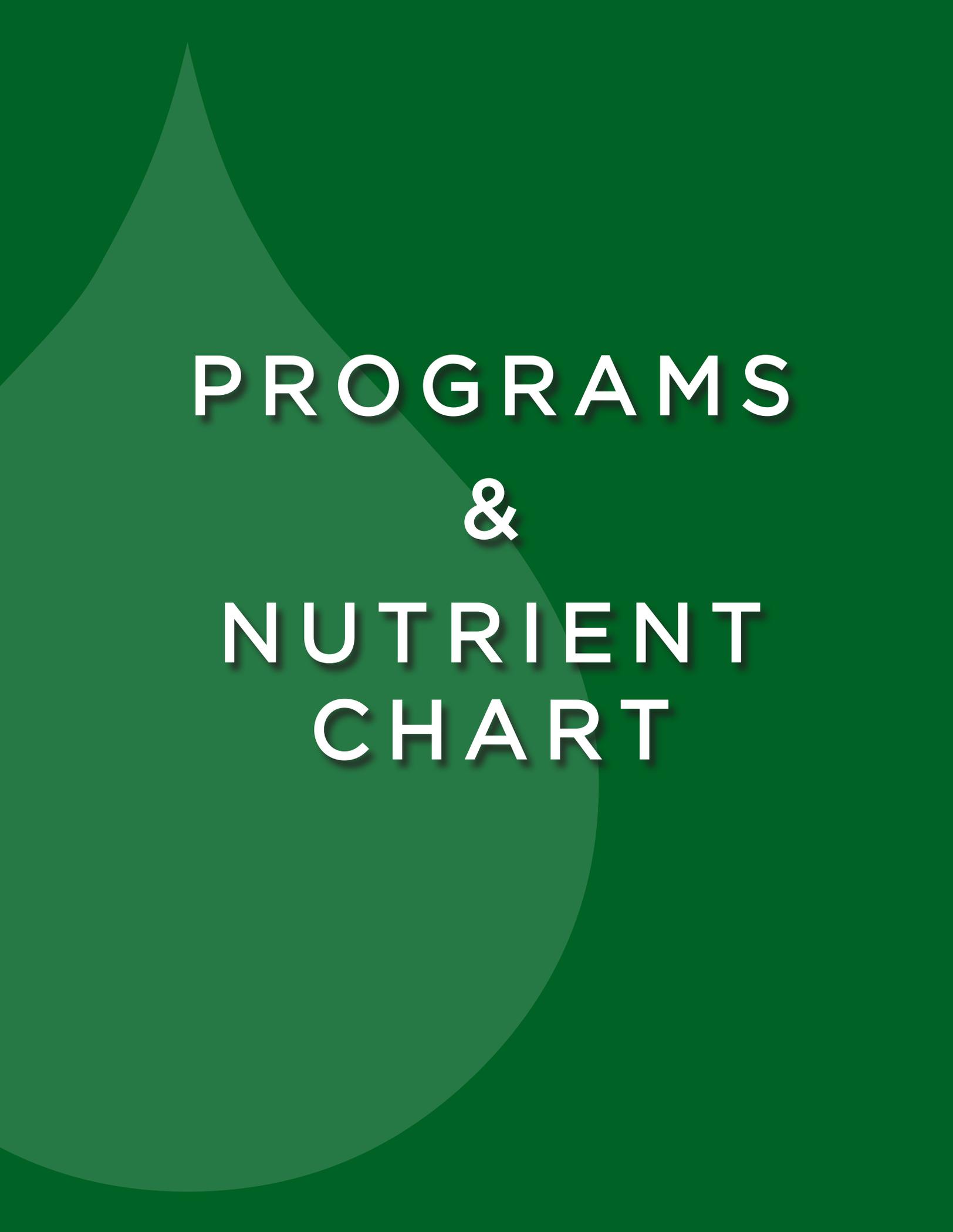
Aeration recovery/ New seed/ New sod: Apply 30 ml to 60 ml per 93 m² (1.0 to 2.0 US fl oz per 1,000 sq ft) every 7 to 10 days as necessary.

Nutrition Maintenance Programs

COOL SEASON TURF:

Apply initial application of 14.8 ml per 93 m² (0.5 US fl oz per 1,000 sq ft). Increase as necessary in 7.4 ml (0.25 US fl oz) increments. Repeat application every 10 to 14 days.





**PROGRAMS
&
NUTRIENT
CHART**



“ The Foliar-Pak Aeration Program is scary! The first time we did it I remember calling and saying, “we need to go aerify again,” because it was already healed in. Typically, it’s a good seven days before we would mow after aerification. With the Foliar-Pak Aeration Recovery Program, we were mowing after two days. It was unbelievable.

Brent Palich, Golf Course Superintendent

Mayfield Sand Ridge Club | Chardon, Ohio

Foliar-Pak Aeration Recovery Program:

Spray 3 days prior to aeration and again 7 days after aeration:

Foliar-Pak 14-2-4 at 3-6 oz/1000

Foliar-Pak Foundation Forty at 1 oz/1000

Foliar-Pak Armament Bio at 3 oz/1000

Foliar-Pak Talon at 1-2 oz/1000

PROGRAMS

Cool Season

SPRING PERFORMANCE

<i>Product</i>	<i>Rate / 1000 sq. ft.</i>
14-2-4	3 - 6 oz
Amperage	3 oz
Foundation Forty	1 oz
<i>Optional:</i>	
Armament P	3 oz

SUMMER STRESS

<i>Product</i>	<i>Rate / 1000 sq. ft.</i>
14-2-4	3 - 6 oz
Armament Bio	3 oz
Foundation Forty	1 oz
1-0-15	3 - 6 oz
<i>Optional:</i>	
CSi L	1 - 2 oz

FALL FOLIAR

<i>Product</i>	<i>Rate / 1000 sq. ft.</i>
Foundation Forty	1 oz
1-0-15	3 - 6 oz
Amperage	3 oz
CSi L	1 - 2 oz
<i>Optional:</i>	
Armament P	3 oz

ATHLETIC FIELD

every 14 - 21 days

<i>Product</i>	<i>Rate / 1000 sq. ft.</i>
Grow-In	9 - 12 oz
Armament Concentrate	12 - 24 oz / Acre
<i>Optional:</i>	
Foundation Forty	1 oz / m

AERATION RECOVERY

<i>Product</i>	<i>Rate / 1000 sq. ft.</i>
14-2-4	3 - 6 oz
Foundation Forty	1 oz
Armament Bio	3 oz
Talon	1 - 2 oz

THE "OH \$H*T" SPRAY

When the condition of your turf has you shouting four letter words, use this spray:

<i>Product</i>	<i>Rate / 1000 sq. ft.</i>
Armament Bio	3 oz
Foundation Forty	1 oz
Talon	1 oz

Product	pH	lbs/gal	Pounds of Nutrient per Gallon Applied													Nutrient Activators	
			N	P ₂ O ₃	K ₂ O	Ca	B	Cu	S	Fe	Mg	Mn	Mo	Si	Zn		
Foundation Forty	10.2	12.4	0.5	0.99													L
1-0-15	9.1	10.5	0.11		1.58					0.01		0.005					L
14-2-4	9.1	10.0	1.4	0.2	0.4					0.025		0.025					L
18-3-4	6.7	10.7	1.93	0.32	0.43												L
Amperage	2.7	11.35	0.57						0.25	0.23		0.23				0.23	L, P
Boron	8.9	9.8	0.67				0.29										L
CSi L	8.5	10.2	0.2												2.55		L
Iron	4.2	10.4	0.52						0.26	0.42		0.1					L
Magnesium	6	10.3	0.31								0.31						L
Manganese	5.3	10.0	0.2								0.1	0.3					L
Armament Concentrate	7.2	10.6	0.95														A
Armament K	8.6	11.0		2.64													A
Armament P	5.3	10.0	0.3	1.2	0.2												A
Armament Bio	7.2	9.8	0.2														L, A, S, H, P
30-0-0	9.2	10.5	3.15														
Bio 12-6-6	7.5	10.0	1.26	0.63	0.63		0.002	0.005		0.01		0.005				0.005	S, H, L
Carbosential Fe	4.7	10.1								0.51							L, P
Talon	4.4	10.05	0.2				0.25	0.002	0.005	0.01	0.05	0.04				0.005	S, H

Nutrient Activators

L = L-Amino Acids

There are numerous products on the market that claim to contain amino acids, but it can be difficult to determine whether they are available and in sufficient amounts to make a positive impact on plant health and nutrient uptake. Only L-amino acids are available for plants to use. The Foliar-Pak amino package has been reformulated for increased nitrogen fixation, chlorophyll production, energy production, and the production of anti-stress compounds.

A = Armament Technology

Armament protects nutrients from adverse interactions in the soil, which render them unavailable, while increasing nutrient uptake and use efficiency by as much as 30%.

S = Sea Plant Extract, H = Humate Substances

Humic acids and seaweed extract supply various carbon structures, which take on a multitude of roles in the plant and soil. Humic acids, as well as the organic acids and sugar alcohols from seaweed, directly impact plant nutrition by complexing with various nutrients, thus improving foliar and root availability of those nutrients. In an indirect manner, humics and seaweed work to improve plant functions such as chlorophyll development, water utilization and plant defense mechanisms. These improvements result in a healthier plant with better root structure that is able to absorb foliar and soil nutrients more efficiently. In the soil seaweed escalates biological activity, which results in nutrient mineralization and an environment more suitable for root functioning.

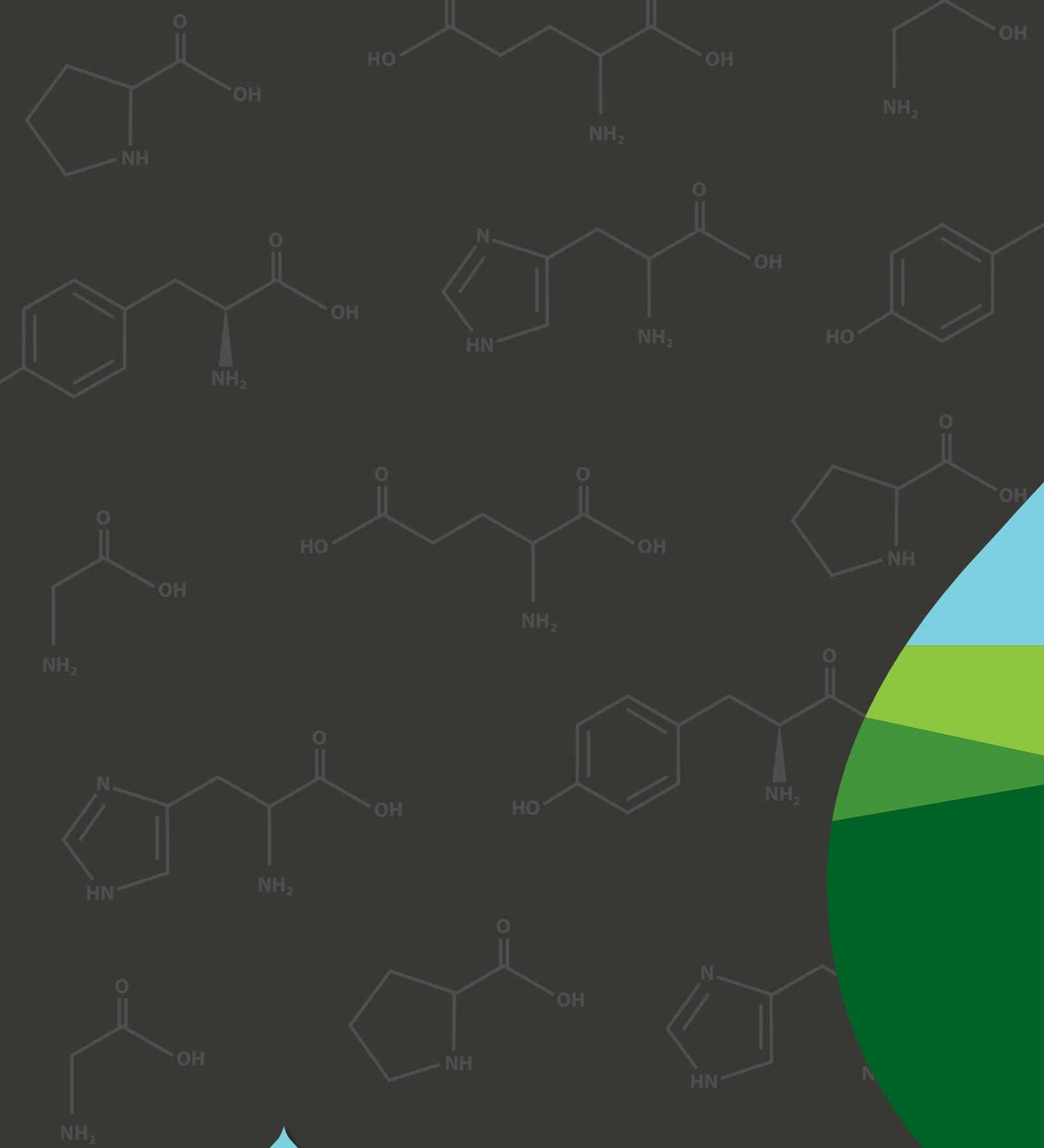
P = Polysaccharides

Built from a malt extract that is loaded with vitamins, minerals, and a complex series of different molecular-weight sugars, Foliar-Pak's polysaccharides create terrific complexes with positively charged minerals such as iron, manganese, and zinc. Being comprised of a variety of different classes of sugar compounds, the polysaccharides provide a range of protection to minerals - with the low-molecular weight sugars breaking down quickly and the high-molecular weight, complex sugars providing long-term protection to minerals and sustenance for microbial life.

BP = Block Polymer

Block polymers work as a spreading surfactant to increase foliar coverage. This increases opportunity for uptake through stomates and transcuticular pores. In the soil the block polymer improves water distribution and aeration, creating a positive environment for root functioning and microbial life.

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Foliar-Pak[®]
by **EnP**

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