

Foliar·Pak[®]

PRODUCT GUIDE



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 pharmaceutical-grade amino acids and high-purity minerals. During the manufacturing process, each product is reacted and then filtered through a fine-mesh filter. This ensures a high-quality finished product in each jug. 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. When soil tests—like our Soil Solver® diagnostic program—identify specific nutrient deficiencies, AminoPrecise products offer precise solutions.

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 Colonise technology is a highly specific blend of microorganisms, microbe food, and nutrient enhancers that are tailored to address specific issues in the soil. 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 formulations and check out the pictures of their results placed throughout the catalog.

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AMINO ACID
TECHNOLOGY

Foundation Forty

4-0-8 Amino Acid Concentrate

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.

GUARANTEED ANALYSIS

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

Derived from: soy protein hydrolysate, potassium acetate

pH: 10.2

Weight per Gallon: 12.4 lbs

Use Rates

Golf Course Greens and Tees:

Maintenance: 0.5 to 1.5 fl oz per 1,000 sq ft every 7 to 14 days.

Stress Recovery: 1.5 to 3.0 fl oz per 1,000 sq ft every 7 to 14 days until turf sufficiently recovers.

Golf Course Fairways and Sports Fields: 0.5 to 1.5 fl oz per 1,000 sq ft. Repeat every 14 to 28 days.

Lawn Care: 0.5 to 1.5 fl oz per 1,000 sq ft. Repeat every 30 to 45 days.

1-0-15

with L-Amino Acids

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

GUARANTEED ANALYSIS

Total Nitrogen (N) 1.0%
 0.5% Urea Nitrogen
 0.5% Other Water Soluble Nitrogen
 Soluble Potash (K₂O) 15.0%
 Iron (Fe) 0.10%
 0.10% Chelated Iron
 Manganese (Mn) 0.05%
 0.05% Chelated Manganese

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

pH: 9.1

Weight per Gallon: 10.5 lbs

Use Rates

Golf Course Greens: 1.0 to 9.0 fl oz per 1,000 sq ft. Transition and warm season turf may require higher rates. Repeat every 7 to 14 days.

Golf Course Tees, Fairways, and Sports Fields: 1.5 to 9.0 fl oz per 1,000 sq ft in 0.5 to 2.0 gal per 1,000 sq ft of spray solution. Repeat every 14 to 21 days.

Lawn Care: 1.0 to 5.0 gal per acre in 25 to 88 gal per acre of spray solution. Use lower rates if daily temperatures exceed 85° F or if turf is exhibiting symptoms of drought stress.

11-0-11

with L-Amino Acids

Foliar-Pak 11-0-11 provides reliable nutrition and controlled turfgrass growth under any environmental condition.

GUARANTEED ANALYSIS

Total Nitrogen (N) 11.0%
 0.5% Other Water Soluble Nitrogen
 7.5% Urea Nitrogen
 3.0% Slowly Available Water Soluble Nitrogen*
 Soluble Potash (K₂O) 11.0%

Derived from: soy protein hydrolysate, low biuret urea, urea triazone nitrogen, potassium thiosulfate
 *Slowly available nitrogen from urea-triazone nitrogen

pH: 7.3

Weight per Gallon: 10.4 lbs

Use Rates

Golf Course Greens: 3.0 to 12.0 fl oz per 1,000 sq ft. Repeat application every 7 to 14 days. Transition and warm season turf may require more frequent applications.

Golf Course Tees, Fairways and Sports Fields: 3.0 to 9.0 fl oz per 1,000 sq ft. Repeat application every 2 to 4 weeks.

Lawn Care: 2.0 to 5.0 gal per acre in 25 to 88 gal per acre of spray solution. Use lower rates if daily temperatures exceed 85° F or if turf is exhibiting symptoms of drought stress.

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

GUARANTEED ANALYSIS

Total Nitrogen (N) 14.0%
 0.5% Other Water Soluble Nitrogen
 7.0% Urea Nitrogen
 0.5% Nitrate Nitrogen
 6.0% Slowly Available Water Soluble Nitrogen*
 Available Phosphate (P₂O₅) 2.0%
 Soluble Potash (K₂O) 4.0%
 Iron (Fe) 0.25%
 0.25% Chelated Iron
 Manganese (Mn) 0.25%
 0.25% Chelated Manganese

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

Use Rates

Golf Course Greens: 3.0 to 12.0 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, Fairways and Sports Fields: 3.0 to 9.0 fl oz per 1,000 sq ft in enough water for sufficient foliar coverage. Repeat application every 2 to 4 weeks.

Lawn Care: 2.0 to 5.0 gal per acre. Use the lower rates if daytime temperatures exceed 85° F or if turf is exhibiting symptoms of drought stress.

pH: 9.1

Weight per Gallon: 10.0 lbs

14-2-4

with L-Amino Acids

Foliar-Pak 18-3-4 L-Amino Nitrogen increases nutrient absorption and maximizes plant nutrition through the use of low dose applications. **Only available in select markets.*

GUARANTEED ANALYSIS

Total Nitrogen (N) 18.0%
 6.0% Urea Nitrogen
 6.0% Nitrate Nitrogen
 5.5% Ammoniacal Nitrogen
 0.5% Other Water Soluble Nitrogen
 Available Phosphate (P₂O₅) 3.0%
 Soluble Potash (K₂O) 4.0%

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

pH: 6.7

Weight per Gallon: 10.7 lbs

Use Rates

Golf Course Greens: 3.0 to 12.0 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, Fairways, and Sports Fields: 3.0 to 6.0 fl oz per 1,000 sq ft in 0.5 to 2.0 gal per 1,000 sq ft of spray solution. Repeat application every 2 to 3 weeks.

Residential and Commercial Lawn Care: 1.0 to 2.0 gal per acre in 25 to 88 gal per acre of spray solution. Use lower rates if daily temperatures exceed 85° F or if turf is exhibiting symptoms of drought stress.

18-3-4*

with L-Amino Acids

Foliar-Pak 22-0-4 provides a consistent release of nitrogen to the plant, perfect for higher cut turf. This formulation provides a unique balance of macro and micronutrients resulting in an immediate and long-lasting color response. **Only available in select markets.*

GUARANTEED ANALYSIS

Total Nitrogen (N) 22.0%
 0.25% Other Water Soluble Nitrogen
 12.75% Urea Nitrogen
 3.0% Nitrate Nitrogen
 3.0% Ammoniacal Nitrogen
 3.0% Slowly Available Water Soluble Nitrogen*
 Soluble Potash (K₂O) 4.0%
 Iron (Fe) 0.25%
 0.25% Chelated Iron
 Manganese (Mn) 0.10%
 0.10% Chelated Manganese

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

Use Rates

Golf Course Greens: 3.0 to 12.0 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, Fairways and Sports Fields: 3.0 to 9.0 fl oz per 1,000 sq ft in enough water for sufficient foliar coverage. Repeat application every 2 to 4 weeks.

Lawn Care: 2 to 5 gal per acre. Use the lower rates if daytime temperatures exceed 85° F or if turf is exhibiting symptoms of drought stress.

pH: 7.5

Weight per Gallon: 10.5 lbs

22-0-4*

with L-Amino Acids



HISTORY ABOUNDS AT CHARTIERS COUNTRY CLUB.



Bob Davis,
COO/Director of
Golf Course Operations

*Chartiers Country Club
Pittsburgh, Pennsylvania*

Famous golf professionals, such as Bobby Cruickshank, have called it home, and legendary players like Ben Hogan, Sam Snead, Byron Nelson, and Arnold Palmer have walked its fairways and putted on its greens. With such a remarkable legacy to uphold, just thinking about making changes to the course is more than a little frightening. That's why, in 2017, when COO/Director of Golf Course Operations Bob Davis decided the best decision for his course was to develop a new

agronomic program, he did so with two weapons: Foliar-Pak and his Foliar-Pak distributor rep, Travis Livingston.

Davis decided to change his agronomic program after getting heavily involved with tissue testing. While reviewing his course's tissue test results, Davis realized that he could significantly reduce their inputs. He just needed to figure out what to do next.

Enter, Livingston.

Livingston sold a brand of products, Foliar-Pak, that touted, among other things, to be able to reduce inputs and still give excellent results. Davis was wary of trying a new product line at first, but Livingston earned his trust.

“Travis was always there if I needed him,” Davis said. “He answered all the product questions I had and even set up meetings with reps from Foliar-Pak to get firsthand knowledge. He was instrumental in our decision to go ahead with the program change.”

The product line Livingston suggested also helped make Davis less wary. Davis liked the results he was receiving with Foliar-Pak. His fairways maintained good turf health and visual color throughout the growing season without the peaks and valleys he saw with other products.

“We didn’t have the falloff at the end of our spray intervals that we have seen in the past with other products,” Davis said. “We had uniform color and turf health consistently throughout the growing season.”

He added that he believed Foliar-Pak Foundation Forty was the main reason he received the consistent results.

“For the near 11 years I have been working at Chartiers Country Club, our Achilles heel has been our fairways,” Davis said. “The area we are

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located in is regarded as having some of the worst native soils in western Pennsylvania, and when we do have an issue on our fairways, a lot of our trouble comes when we are hot and wet. I believe Foundation Forty has helped us get through those stretches of extreme heat stress during wet periods.”

Besides the consistent turf health and color, Davis also likes the Foliar-Pak line’s compatibility and low usage rates.

“I’m quick to recommend the Foliar-Pak product line to other superintendents,” Davis said. “The usage rates are low, and the compatibility is great. We have not had an issue yet with compatibility to other fungicides or other growth regulators or anything. So, I speak very highly of the products.”

Overall, Davis is pleased with his choice to listen to Livingston’s advice and change his agronomic program over to Foliar-Pak.

“When you spend years and years developing an agronomic program,” Davis said, “It’s hard to start over with new products.”

He continued, “But, Travis and Foliar-Pak earned the business. The results we received from Foliar-Pak and the hard work and informative guidance from Travis put our minds at ease when making such a significant change.”



Amperage

5-0-0 with L-Amino Acids

Foliar-Pak Amperage is newly formulated with amino acids to enhance uptake efficiency and provide further plant health benefits with a lower use rate.

GUARANTEED ANALYSIS

Total Nitrogen (N)	5.0%
2.6% Urea Nitrogen	
2.4% Other Water Soluble Nitrogen	
Sulfur (S)	2.2%
2.2% Combined Sulfur (S)	
Iron (Fe)	2.0%
2.0% Water Soluble Iron (Fe)	
Manganese (Mn)	2.0%
2.0% Water Soluble Manganese (Mn)	
Zinc (Zn)	2.0%
2.0% Water Soluble Zinc (Zn)	

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

pH: 2.7

Weight per Gallon: 11.35 lbs

Use Rates

Golf Course Greens and Tees: 1.5 to 3.0 fl oz per 1,000 sq ft in a minimum of 0.5 gal of spray solution per 1,000 sq ft. For poor quality turf, nutrient deficiencies, or high stress environments, rates up to 6.0 fl oz per 1,000 sq ft can be applied. Repeat application every 7 to 14 days during periods of active turf growth or increased plant stress.

Golf Course Fairways: 1.5 to 3.0 fl oz per 1,000 sq ft in a minimum of 0.5 gal of spray solution per 1,000 sq ft. For poor quality turf, nutrient deficiencies, or high stress environments, rates up to 6.0 fl oz per 1,000 sq ft can be applied. Repeat application every 14 to 28 days during periods of active turf growth or increased plant stress.

Lawn Care: 0.75 to 1.5 fl oz per 1,000 sq ft in a minimum of 0.5 gal of spray solution per 1,000 sq ft. For poor quality turf, nutrient deficiencies, or high stress environments, rates up to 6.0 fl oz per 1,000 sq ft can be applied. Repeat application every 14 to 35 days during periods of active turf growth or increased plant stress.

Foliar-Pak Bio Sea S is an *Ascophyllum nodosum* liquid seaweed extract harvested from the coast of Norway. The cold process extraction method used in this unique product preserves the integrity of the natural ingredients, amino acids, organic acids, sugars and plant extracts.

GUARANTEED ANALYSIS

Total Nitrogen (N)	0.5%
0.5% Other Water Soluble Nitrogen	
Soluble Potash (K ₂ O)	2.0%

Derived from: soy protein hydrolysate, seaweed extract (*Ascophyllum nodosum*)

pH: 8.7

Weight per Gallon: 9.0 lbs

Use Rates

Golf Course Greens, Tees, and Fairways: 0.5 to 2.0 fl oz per 1,000 sq ft in enough water to provide sufficient foliar coverage. Repeat application every 7 to 14 days.

Sports Turf: 0.5 to 2.0 fl oz per 1,000 sq ft in enough water to provide sufficient foliar coverage. Repeat application every 14 to 21 days.

Bedding Plants and Hanging Baskets: 0.5 to 2.0 fl oz per gal, and drench 1 gal of finished solution per 20 sq ft of planted area. Do not treat general bed space. Treat each annual plant as if it covers 1 sq ft.

Trees and Shrubs: 0.5 to 2.0 fl oz per gal, and drench 1.0 gal of finished solution per 1" diameter of tree or shrub. In areas where turf is present, inject the solution into the soil.

Bio Sea S

0.5-0-2

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.

GUARANTEED ANALYSIS

Total Nitrogen (N) 7.0%
 7.0% Water Soluble Nitrogen
 Boron (B)..... 3.0%
 Derived from: soy protein hydrolysate,
 boric acid

pH: 8.9

Weight per Gallon: 9.8 lbs

Use Rates

Golf Course Greens, Tees, Fairways, Sports Turf, and Lawns: 0.75 to 2.0 fl oz per 1,000 sq ft in enough water to provide sufficient foliar coverage. Repeat applications every 7 to 21 days or as determined by tissue tests.

Bedding Plants and Hanging Baskets: 0.75 to 2.0 fl oz per gal of water, and drench 1.0 gal of finished solution per 20 sq ft of planted area. For optimum results, apply boron as prescribed by a soil test.

Shrubs and Trees: 0.75 to 2.0 fl oz per gallon of water, and drench 1 gallon of finished solution per 1" diameter of tree or shrub. For optimum results, apply boron as prescribed by a soil test.

Boron

7-0-0

Foliar-Pak Calcium is a concentrated calcium product that is complexed by amino acids and other natural plant metabolites.

GUARANTEED ANALYSIS

Total Nitrogen (N) 7.0%
 5.5% Nitrate Nitrogen
 1.5% Other Water Soluble Nitrogen
 Calcium (Ca)..... 7.0%
 Derived from: calcium nitrate, soy protein hydrolysate

pH: 6.0

Weight per Gallon: 10.6 lbs

Use Rates

Golf Course Greens: 1.5 to 6.0 fl oz per 1,000 sq ft in enough water to provide sufficient foliar coverage. Repeat application every 7 to 14 days. Warm season turf may require more frequent applications.

Golf Course Tees, Fairways, and Sports Fields: 1.5 to 6.0 fl oz per 1,000 sq ft in 0.5 to 2.0 gal spray solution per 1,000 sq ft. Repeat application every 14 to 28 days.

Lawn Care: 1.5 to 6.0 fl oz per 1,000 sq ft in 0.5 to 2.0 gal spray solution per 1,000 sq ft. Repeat application every 3 to 6 weeks.

Calcium

7-0-0 with L-Amino Acids

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.

GUARANTEED ANALYSIS

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

NON PLANT FOOD INGREDIENTS

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

pH: 8.5

Weight per Gallon: 10.2 lbs

Use Rates

Golf Course Greens, Tees, Fairways, and Sports Fields: 0.5 to 2.0 fl oz per 1,000 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.

CSi L

2-0-0 with 25% Si



**Ethan Johnson,
Golf Course Superintendent**

*Village Club of Sands Point
Sands Point, New York*

BY THE TIME

Ethan Johnson became the superintendent at the Village Club of Sands Point in 2018, the course was over a hundred years old. It boasted a beautiful view of New York City from the 5th and 6th holes and housed a stunning Guggenheim mansion, but the course itself was in rough shape. There were a lot of areas showing wear and tear.

Tasked to take the course conditions to a new level, Johnson tried out a variety of products to see what would work best for him and his course. He settled on

Foliar-Pak and Foundation Forty in particular.

“I tried everything,” Johnson said. “I wanted to see what truly worked for me and what worked on this property. By the end of my first season, I was sold on Foliar-Pak and Foundation Forty.”

What was the chief reason Johnson was sold on Foliar-Pak and Foundation Forty? The roots.

The soil on Johnson’s course is solid clay, which makes it difficult for turfgrass roots to penetrate the soil. While this is difficult at any time of the year with this type of soil, it’s especially hard in July and August. After using Foliar-Pak and Foundation Forty, Johnson found his roots were healthier than ever.

“We went out on our solid clay fairways in July and August towards the end of a hot, dry summer and started profiling some of these fairways,” Johnson said. “We found six to eight-inch fuzzy white roots at

the bottom of the profiler.”

He continued, “That’s pretty indicative of what we’d see in the spring when Mother Nature is at her finest, and the grass is really growing. To see that in July and August after all the wear and tear was shocking, to say the least.”

Roots were not the only reason Johnson was sold on Foliar-Pak and Foundation Forty.

“The overall response my plants get with Foundation Forty, the improvement in color and turf health,” Johnson said, “are so good that a spray does not go out without Foundation Forty in it. It’s in our tank every time we spray.”

After receiving excellent results with Foliar-Pak and Foundation Forty, Johnson’s convinced he’s found the program that works for him and his course.

“We’ve had a huge success turning around the turf conditions here,” Johnson said. “We couldn’t have done

“ WE WENT OUT WITH CSI L AT THE TWO-OUNCE RATE, SPRAYING A COUPLE OF REALLY HIGH TRAFFIC FAIRWAYS. OVERNIGHT, YOU COULD TELL THE DIFFERENCE. YOU COULD SEE THE TURF WAS ACTUALLY STANDING UP, AND IT JUST LOOKED HAPPY AND HEALTHY.”

it without Foliar-Pak and Foundation Forty.”

He continued, “I think we found a good program here, and I can’t wait for what the future brings.”

Johnson could never have imagined the changes the future would bring to golf and the course he worked hard to get back in shape. 2020 brought a pandemic, which perpetuated changes to golf that it had never experienced before. One of the most impactful changes was a striking increase in the number of golf rounds played. Johnson’s course was no exception.

“During the summer of 2020, we ended up doing twice the amount of rounds we did in 2019,” Johnson said. “The course was so busy with cart traffic at one point that we ended up having to rope off entrances and exits in an effort to reroute traffic from certain holes.”

The increased rounds did not

come without pitfalls. As the 2020 season progressed into July, one of the most highly stressful months for turf, the increased rounds of play and cart traffic were wearing on his fairways.

“After around 6,000 rounds of golf played in just one month of the 2020 season,” Johnson said. “By July, the turf on our fairways was laid over and looked sad and tired.”

After discussing Johnson’s traffic wear issues, his Foliar-Pak rep and Foliar-Pak distributor rep thought they had the perfect solution for his fairways, CSI L. Johnson decided to give it a shot.

“We went out with CSI L at the two-ounce rate, spraying a couple of really high traffic fairways,” Johnson said. “Overnight, you could tell the difference. You could see the turf was actually standing up, and it just looked happy and healthy.”

He continued, “Two weeks later, we ended up

spraying another two-ounce application, and we got the same results. I was sold.”

By the end of the summer, Johnson noticed a significant difference between the fairways he treated with CSI L and those he did not.

“We didn’t treat all of our fairways with CSI L, just the worst ones,” Johnson said. “When comparing the fairways treated every two weeks with the two-ounces of CSI L versus the untreated, the difference was obvious.”

He added, “On the treated fairways, you couldn’t find the cart traffic; you really had to look for it. The untreated fairways, on the other hand, looked more like runway strips.”

For Johnson, CSI L was a game-changer.

“CSI L saved our fairways and made a huge difference in a difficult season,” Johnson said. “I recommend using it. The results will be worth it.”

Gold Standard 45

10-0-0

Foliar-Pak Gold Standard is a 45% phosphite product completely complexed with amino acids. By leveraging the strengths of amino acids, we created a molecule that is more water soluble than any of the current phosphites on the market, allowing for a highly concentrated, low-use rate product.

GUARANTEED ANALYSIS

Total Nitrogen (N) 10.0%
10.0% Water Soluble Nitrogen

Derived from: L-argininium phosphite

pH: 4.0

Weight per Gallon: 11.2 lbs

Use Rates

Golf Course Greens, Tees, Fairways, Sports Turf, and Lawn Care: 0.5 to 2.0 fl oz per 1,000 sq ft in enough water to provide sufficient foliar coverage. Repeat every 7 to 21 days or as needed.

Ornamentals: Use 64.0 to 128.0 fl oz per 100.0 gal of water.

Bedding Plants and Hanging Baskets:—1.0 gal of finished solution per 20 sq ft of planted area (do not treat the general bed space). For optimum results, fertilize every 2 weeks.

Trees and Shrubs—1 gal of finished solution per 1" diameter of tree or shrub.

Iron*

5-0-0

Foliar-Pak Iron provides rapid green up and extended color response by delivering iron and manganese protected by plant metabolites. **Only available in select markets.*

GUARANTEED ANALYSIS

Total Nitrogen (N) 5.0%
4.0% Urea Nitrogen

1.0% Other Water Soluble Nitrogen
Sulfur (S) 2.5%
2.5% Combined Sulfur (S)

Iron (Fe) 4.0%
4.0% Water Soluble Iron (Fe)

Manganese (Mn) 1.0%
1.0% Water Soluble Manganese (Mn)

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

pH: 4.2

Weight per Gallon: 10.4 lbs

Use Rates

Golf Course Greens, Tees, Fairways, Sports Turf, and Lawn Care: 1.0 to 3.0 fl oz per 1,000 sq ft in enough water to provide sufficient foliar coverage. Repeat application every 7 to 21 days. During rapid turf growth, higher application rates may be required to maintain the desired turf colour.

Ornamentals:

Deep Root Injection:—2.0 fl oz per 1" of trunk diameter.

Foliar Spray—15.0 fl oz in 100 gal water.

Soil Applications—0.5 fl oz per gal water. Apply 2.0 gal of this solution per square yard of garden.

Transplants—1.5 fl oz per gal water. Apply 1.0 gal of this solution per 1" of trunk diameter.

Magnesium

3-0-0 with L-Amino Acids

Foliar-Pak Magnesium uses specific amino acids to fully chelate the magnesium ion, which allows for maximum foliar entry into the plant.

GUARANTEED ANALYSIS

Total Nitrogen (N) 3.0%
3.0% Water Soluble Nitrogen

Magnesium (Mg) 3.0%

Derived from: soy protein hydrolysate, magnesium hydroxide

pH: 6.0

Weight per Gallon: 10.3 lbs

Use Rates

Golf Course Greens, Tees, Fairways, Sports Turf, and Lawn Care: 0.5 to 3.0 fl oz per 1,000 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 and Hanging Baskets: 0.5 to 3.0 fl oz per gal, and drench 1.0 gal of finished solution per 20 sq ft of planted area. Treat each annual plant as if it covers 1 sq ft. For optimum results, apply magnesium as prescribed by a soil test.

Trees and Shrubs: 0.5 to 3.0 fl oz per gal, and drench 1.0 gal of finished solution per 1" 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.

Foliar-Pak Manganese uses three natural and modified plant metabolites specifically designed to protect manganese and magnesium.

GUARANTEED ANALYSIS

Total Nitrogen (N)	2.0%
1.0% Nitrate Nitrogen	
1.0% Other Water Soluble Nitrogen	
Magnesium (Mg)	1.0%
1.0% Water Soluble Magnesium (Mg)	
Manganese (Mn)	3.0%
3.0% Water Soluble Manganese (Mn)	

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

pH: 5.3

Weight per Gallon: 10.0 lbs

Use Rates

Golf Course Greens and Tees: 0.5 to 2.0 fl oz per 1,000 sq ft in enough water to provide sufficient foliar coverage. Repeat application every 7 to 14 days. Warm season turf may require more frequent applications to achieve desired results.

Golf Course Fairways, Sports Turf, and Lawn Care: 1.0 to 3.0 fl oz per 1,000 sq ft in enough water to provide sufficient foliar coverage. Repeat application every 14 to 28 days during the growing season.

Manganese

2-0-0 with L-Amino Acids

Foliar-Pak Microsync is a well-balanced micronutrient package built with amino acids to enhance health, color, and stress tolerance in any turfgrass species.

GUARANTEED ANALYSIS

Total Nitrogen (N)	1.0%
1.0% Water Soluble Nitrogen	
Boron (B)	0.02%
Copper (Cu)	0.05%
0.05% Chelated Copper	
Iron (Fe)	1.2%
1.2% Chelated Iron	
Manganese (Mn)	1.0%
1.0% Chelated Manganese	
Zinc (Zn)	0.5%
0.5% Chelated Zinc	

Derived from: soy protein hydrolysate, sodium borate, copper EDTA, iron DTPA, manganese EDTA, zinc EDTA

pH: 6.9

Weight per Gallon: 9.4 lbs

Use Rates

Golf Course Tees, Fairways, Sports Turf, Lawn Care: 1.0 to 3.0 fl oz per 1,000 sq ft in a minimum of 0.3 gal spray solution per 1,000 sq ft. Repeat application as needed.

Ornamentals:
Foliar Spray—Mix 24 to 36 fl oz in 100 gal of water. Spray to the point of runoff.

Soil Applications:
Trees and Shrubs— Add 2.0 to 3.0 fl oz per caliper inch into 2 gal of water and drench into root zone.

Flowers and Small Plants— Add 0.5 to 1.0 fl oz per gal of water. Thoroughly drench soil around area.

Microsync

1-0-0

Minors

1-0-0 with L-Amino Acids

Foliar-Pak Minors is a unique formulation using natural and modified plant metabolites specific for protecting each element.

GUARANTEED ANALYSIS

Total Nitrogen (N)	1.0%
1.0% Water Soluble Nitrogen	
Magnesium (Mg)	0.5%
0.50% Water Soluble Magnesium (Mg)	
Sulfur (S)	2.5%
2.5% Combined Sulfur (S)	
Boron (B)	0.05%
Copper (Cu)	0.1%
0.1% Water Soluble Copper (Cu)	
Iron (Fe)	1.5%
1.5% Water Soluble Iron (Fe)	
Manganese (Mn)	1.0%
1.0% Water Soluble Manganese (Mn)	
Molybdenum (Mo)	0.001%
Zinc (Zn)	0.4%
0.4% Water Soluble Zinc (Zn)	

Derived from: soy protein hydrolysate, magnesium sulfate, sodium borate, copper sulfate, ferrous sulfate, manganese sulfate, sodium molybdate, zinc sulfate

NON PLANT FOOD INGREDIENTS

Seaweed Extract	1.5%
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Derived from: *Ascophyllum nodosum*

Use Rates

Golf Course Greens, Tees, and Fairways:

1.0 to 3.0 fl oz per 1,000 sq ft. Repeat application every 7 to 21 days depending on growth and color. For new establishment apply more often. For recovery increase rate to 3.0 to 5.0 fl oz per 1,000 sq ft.

Sports Turf and Lawn Care: 1.0 to 3.0 fl oz per 1,000 sq ft. Repeat application every 4 to 6 weeks.

Ornamentals:

Foliar Spray—Mix 24.0 to 36.0 fl oz in 100.0 gal of water. Spray to the point of runoff.

Soil Applications:

Trees and Shrubs— 2.0 to 3.0 fl oz per caliper inch into 2 gal of water and drench into root zone.

Flowers and Small Plants— 0.5 to 1.0 fl oz per gal of water. Thoroughly drench soil around area.

pH: 4.9

Weight per Gallon: 9.8 lbs

Zinc

6-0-0

Foliar-Pak Zinc uses specific amino acids to fully chelate the zinc ion, which allows for maximum foliar entry into the plant.

GUARANTEED ANALYSIS

Total Nitrogen (N)	6.0%
6.0% Water Soluble Nitrogen	
Zinc (Zn)	7.0%

Derived from: soy protein hydrolysate, zinc oxide

pH: 8.1

Weight per Gallon: 10.3 lbs

Use Rates

Golf Course Greens, Tees, Fairways, Sports Turf, and Lawn Care: 0.5 to 3.0 fl oz per 1,000 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 and Hanging Baskets:

0.5 to 3.0 fl oz per gal, and drench 1.0 gal of finished solution per 20 sq ft of planted area. Treat each annual plant as if it covers 1 sq ft. For optimum results, apply zinc as prescribed by a soil test.

Trees and Shrubs: 0.5 to 3.0 fl oz per gal, and drench 1.0 gal of finished solution per 1" diameter of tree or shrub. In areas where turf is present, inject the solution into the soil. For optimum results, apply zinc as prescribed by a soil test.



ARMAMENT
TECHNOLOGY

WHEN JAKE MENDOZA,

Director of Agronomy at the Detroit Golf Club, was looking to ramp up the reduction of organic matter and thatch on the fairways of the home course of the Rocket Mortgage Classic, he looked to a technology he already trusted, Foliar-Pak Armament technology.



Jake Mendoza, Director of Agronomy

*Detroit Golf Club
Detroit, Michigan*

Armament technology is a biodegradable nutrient enhancer that prevents nutrient-to-nutrient interactions and chemical changes in the spray tank and the soil. Mendoza had used a go-to fertilizer treated with Armament for a few years and trusted it because it produced the results he wanted. The Armament-treated fertilizer reduced the thatch and organic matter on his fairways. Mendoza, however, wanted to take the results further.

To do this, he brought in another product with Armament technology in it, Foliar-Pak's Armament Concentrate.

"We had already been using a fertilizer treated with Armament technology," Mendoza said. "So, we thought by adding more Armament in a bi-weekly application [a quarter ounce every 14 days] we could increase the break down of that thatch and organic matter even more."

Mendoza was not wrong. He saw a dramatic increase and improvement in rooting, along with an improvement in turf density and fairway color.

"We definitely saw a dramatic increase in rooting," Mendoza said. "But not just in depth. We also saw an improvement in density and quality of the roots."





He continued, “We saw a more consistent color throughout the fairways and an improvement in turf density, too, all without a large flush of growth. And we were not falling behind with mowing. The turfgrass plants were just healthier without looking over-fertilized or like we were trying to push things too hard.”

The results from Armament Concentrate did not stop there. In addition to the improvement in roots, color response, and turf density and quality, Mendoza was also able to reduce his fertilizer inputs on his fairways.

“Before we started using Armament Concentrate on our fairways, we saw a decrease in turf quality before we hit our 14-day spray window,” Mendoza said. “With the product in the tank, we found we could easily make the full 14-day spray window without seeing a change in turf color or quality. Armament Concentrate is absolutely

improving the efficiency of the other fertilizer products in our tank.”

According to Mendoza, besides its performance, one of Armament Concentrate’s best attributes is the low use rate.

“ EVERY TIME THE TANK GOES OUT ON THE SOUTH COURSE, THERE IS NO QUESTION THAT **ARMAMENT CONCENTRATE** IS GOING IN THERE. IT’S THAT GOOD.”

“The quarter-ounce rate makes mixing very easy,” Mendoza said. “You’re not using multiple jugs to get the product in the tank. It’s a quick, one-jug measurement.”

He pointed out, “For some products, you have to apply a

significant amount of product, and when you’re mixing it, it gets pretty tedious. At Armament Concentrate’s quarter-ounce rate, it’s a nice, easy addition to every spray.”

Mendoza plans to expand his use of the Foliar-Pak line to the 18 greens of the Detroit Golf Club’s South Course, and it’s all because of Armament Concentrate.

“When we started looking at how we could improve our spray program on the South Course,” Mendoza said. “We looked at every product we previously used, and Armament Concentrate’s results just stood out. So, we thought it would be a great benefit to us to expand and look at other products in that line.”

He added, “Every time the tank goes out on the South Course, there is no question that Armament Concentrate is going in there. It’s that good.”

Armament Concentrate®

0-0-9 protected by Armament®

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.

GUARANTEED ANALYSIS

Soluble Potash (K₂O) 9.0%
Derived from: potassium acetate

NON PLANT FOOD INGREDIENTS

Polymer 38.0%

pH: 7.2

Weight per Gallon at 68° F: 10.6 lbs

Use Rates

Golf Course Greens, Tees, Fairways, Sports Turf, and Lawn Care: For optimal results, apply 10.0 to 20.0 fl oz per acre (0.25 to 0.5 fl oz per 1,000 sq ft) monthly for cool season turf; or 15.0 to 30.0 fl oz per acre (0.35 to 0.7 fl oz per 1,000 sq ft) for warm season turf. 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.

Ornamentals: 16.0 to 32.0 fl oz in 100.0 gal of water. Spray to the point of runoff or drench into soil.

Armament K

0-0-24 protected by Armament®

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.

GUARANTEED ANALYSIS

Soluble Potash (K₂O) 24.0%
Derived from: potassium acetate

pH: 8.6

Weight per Gallon at 68° F: 11.0 lbs

Use Rates

Golf Course Greens, Tees, Fairways, and Sports Turf: 3.0 to 9.0 fl oz per 1,000 sq ft in 0.5 to 2.0 gal spray solution per 1,000 sq ft. Repeat application every 3 to 6 weeks during the growing season. 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.

Lawn Care: 1.0 to 2.0 gal per acre in 25.0 to 88.0 gal per acre of spray solution. Repeat application every 6 to 8 weeks.

Armament P

3-12-2 protected by Armament®

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.

GUARANTEED ANALYSIS

Total Nitrogen (N) 3.0%
2.5% Ammoniacal Nitrogen
0.5% Nitrate Nitrogen
Available Phosphate (P₂O₅) 12.0%
Soluble Potash (K₂O) 2.0%

Derived from: monoammonium phosphate, potassium nitrate

pH: 5.3

Weight per Gallon: 10.0 lbs

Use Rates

Golf Course Greens, Tees, Fairways, and Sports Turf: 3.0 to 9.0 fl oz per 1,000 sq ft in 0.5 to 2.0 gal spray solution per 1,000 sq ft. Repeat application every 3 to 6 weeks during the growing season. 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.

Lawn Care: 1.0 to 2.0 gal per acre in 25.0 to 88.0 gal per acre of spray solution. Repeat application every 6 to 8 weeks.

Foliar-Pak Armament MKS protects nutrients from adverse interactions in the soil while increasing the uptake and efficiency of potassium, magnesium, and sulfur. **Only available in select markets.*

GUARANTEED ANALYSIS

Soluble Potash (K ₂ O)	5.0%
Magnesium (Mg)	2.5%
2.5% Water Soluble Magnesium (Mg)	
Sulfur (S)	4.5%
4.5% Combined Sulfur (S)	
Derived from: potassium magnesium sulfate	

pH: 9.3

Weight per Gallon: 9.8 lbs

Use Rates

FOR USE ON ANY TURFGRASS SPECIES OR SURFACE.

General Application Instructions: 5.0 to 10.0 gal per acre in sufficient water for uniform distribution. Apply with sprayer or through irrigation. Armament MKS is absorbed primarily by the roots, so irrigate immediately after application with sufficient water to wash product off the leaf and into the upper soil profile. Additional irrigation water (or rain) should be applied within 24 hours to move the product deeper into the soil root zone.

For Normal Nutrient Requirement: 5.0 to 7.0 gal per acre monthly or more based on plant demand and soil conditions.

For Moderate To High Demand: 7.0 to 10.0 gal per acre monthly or more often based on plant demand. Monitor nutrient levels through paste extract soil tests or tissue tests and apply as needed.

Armament MKS*

0-0-5 protected by Armament

Foliar-Pak Chloroburst L is a highly concentrated liquid supplement that supplies specially chelated iron, manganese, and zinc in a form that is available to ornamentals and turf even in high soil pH.

GUARANTEED ANALYSIS

Iron (Fe)	1.0%
1.0% Chelated Iron	
Manganese (Mn)	1.0%
1.0% Chelated Manganese	
Zinc (Zn)	0.5%
0.5% Chelated Zinc	
Derived from: iron EDDHA, manganese EDTA, zinc EDTA	

pH: 7.3

Weight per Gallon: 9.6 lbs

Use Rates

Root Injection: 10.0 oz of Chloroburst L per 1" diameter at breast height (DBH) of tree or shrub.

Trees—25.0 to 50.0 gal of liquid suspension per 1,000 sq ft of soil to be treated. Apply 1.0 to 2.0 qt of suspension per injection of spacing of 3 ft between injections in a grid under the entire tree canopy. Inject at a depth beginning at 4" below the surface through a depth of 12" maximum.

Soil Drench:

Perennials, Annuals, and Shrubs—10.0 fl oz per gal and follow rates listed above. Apply directly to soil and water in to ensure the product gets to the root zone of the plant. One application per year should be sufficient to reverse chlorosis and maintain green foliage.

General Application—64.0 to 128.0 fl oz per 100 gal for applications where an Fe, Mn, Zn supplement is desired, but the trees and plants are not showing a deficiency.

Chloroburst L

Liquid Iron, Manganese, and Zinc



BEFORE

IT APPEARED TO BE A HOPELESS SITUATION.



John Corrigan,
Turf and Plant Health Care
Infinity Lawn and Landscaping
Frankfort, Illinois

The sod for a homeowner's backyard sat in 90-degree heat for three days due to a delivery mistake and a bad irrigation box. At first, the only solution was to go through the costly effort of replacing the brown and dying sod. Then, the homeowner turned to John Corrigan of Infinity Lawn and Landscaping.

John Corrigan is in charge of turf and plant health care at Infinity, owned by Scott and Todd Elam. In the beginning, the company specialized in hardscapes and landscapes but wanted to transition into offering customers a four or five-step fertilizer application program.

Corrigan was brought on board to initiate this division, and he was introduced to Greg Pavlovic of Advanced Turf Solutions when he was looking for a ride-on sprayer-spreader.

"Greg and I became instant buds. He helped me select the machine and taught me how to calibrate it," said Corrigan.

"I told Greg my goal of wanting to feed the soil instead of just looking for a green lawn. He's been extremely helpful in giving me product suggestions to achieve healthier lawns for my customers."

To fix the dormant sod, Corrigan turned to



AFTER

“GROW-IN TOOK THE LAWN FROM THE EMBARRASSMENT TO THE ENVY OF THE NEIGHBORHOOD”

Pavlovic for any possible recommendations. He immediately suggested Foliar-Pak's Grow-In.

Corrigan applied Grow-In and water the first week and followed up with applications of Grow-In and Advanced Turf Solutions 16-28-12 in the second week.

“At first, it was comical to the neighbors,” he said. “They just saw me walking the backyard every day with a 300-ft hose and spraying a brown lawn. I walked north and south to

apply the Grow-In, and then in the same application, walked east and west. I doubled the application every time.”

In a short two weeks' time, the sod went through an incredible transformation and became healthy and green, and Corrigan gained a delighted customer for years to come.

“The homeowner told me that all his neighbors thought it was a joke to water that sod, but now everyone thinks he has the greenest lawn,” said Corrigan.

“Grow-In took the lawn from the embarrassment to the envy of the neighborhood. The results opened my mind, and I'm excited to have a home for Grow-In in programs for my customers.”

Grow-In

8-4-5 with Armament®,
AminoPrecise®, and Colonise®

Foliar-Pak Grow-In is an all-in-one product that provides a complete turfgrass establishment program with the convenience of one single product.

GUARANTEED ANALYSIS

Total Nitrogen (N)	8.0%
6.2% Urea Nitrogen	
1.0% Other Water Soluble Nitrogen	
0.8% Slowly Available Water Soluble Nitrogen*	
Available Phosphate (P ₂ O ₅)	4.0%
Soluble Potash (K ₂ O).....	5.0%
Boron (B).....	0.02%
Copper (Cu)	0.05%
0.05% Chelated Copper	
Iron (Fe).....	0.25%
0.25% Chelated Iron	
Manganese (Mn)	0.15%
0.15% Chelated Manganese	
Zinc (Zn)	0.07%
0.07% Chelated Zinc	

Derived from: urea, soy protein hydrolysate, urea-triazone, potassium phosphate, sodium borate, copper EDTA, iron DTPA, manganese EDTA, zinc EDTA
*Slowly available nitrogen from urea-triazone nitrogen

Use Rates

Golf Course Greens, Tees, Fairways, Sports Turf, and Lawn Care:

Turfgrass Grow-In: 9.0 to 12.0 fl oz per 1,000 sq ft in enough water to provide sufficient foliar coverage. Apply every 7 to 14 days.

Higher rates can be used when soil nutrients are limited by reduced granular application. Can be tank mixed with other nutrients, control products or growth regulators.

Maintenance—6.0 to 15.0 fl oz per 1,000 sq ft. Programs supplying limited granular inputs require higher rates. Apply every 14 to 28 days.

Hydro-Mulch Seeding: 9.0 to 12.0 fl oz into seeding tank with appropriate volume of water to treat 1,000 sq ft.

pH: 8.2

Weight per Gallon at 68° F: 10.0 lbs

NON PLANT FOOD INGREDIENTS

Humic Acid	0.05%
(derived from leonardite)	
Seaweed Extract	0.05%
(derived from <i>Ascophyllum nodosum</i> (microbe food))	
Polyoxypropylene-Polyoxyethylene block copolymer	3.2%

BACTERIA: Bacillus licheniformis: 1,000,000 cfu/ml; Bacillus pasteurii: 1,000,000 cfu/ml; Bacillus subtilis: 1,000,000 cfu/ml; Paenibacillus azotofixans: 1,000,000 cfu/ml

Play-On

7-0-7 with Armament®,
AminoPrecise®, and Colonise®

Foliar-Pak Play-On is an all-in-one product that provides a complete turfgrass maintenance program with the convenience of one single product.

GUARANTEED ANALYSIS

Total Nitrogen (N)	7.0%
2.0% Urea Nitrogen	
2.5% Other Water Soluble Nitrogen	
2.5% Slowly Available Water Soluble Nitrogen*	
Soluble Potash (K ₂ O).....	7.0%
Magnesium (Mg)	0.5%
Boron (B)	0.05%
Copper (Cu)	0.1%
0.1% Chelated Copper	
Iron (Fe).....	0.35%
0.35% Chelated Iron	
Manganese (Mn)	0.30%
0.30% Chelated Manganese	
Zinc (Zn)	0.15%
0.15% Chelated Zinc	

Derived from: urea, soy protein hydrolysate, urea-triazone, potassium acetate, magnesium hydroxide, boric acid, copper EDTA, iron EDTA, manganese EDTA, zinc EDTA
*Slowly available nitrogen from urea-triazone nitrogen

Use Rates

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

5.0 to 15.0 fl oz per 1,000 sq ft in enough water to provide sufficient foliar coverage. Apply every 7 to 21 days, or as needed. Can be tank mixed with other nutrients, control products or growth regulators.

Ornamentals: Use 2.0 gal Foliar-Pak Play-On per 100.0 gallons of water.

Bedding Plants and Hanging Baskets—1.0 gal of finished solution per 20 sq ft of planted area (do not treat the general bed space). For optimum results, fertilize every 2 weeks.

Trees and Shrubs—1.0 gal of finished solution per 1" diameter of tree or shrub. In areas where turf is present, inject the solution into the soil.

pH: 7.6

Weight per Gallon at 68° F: 10.4 lbs

NON PLANT FOOD INGREDIENTS

Polymer	3.0%
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COLONISE
TECHNOLOGY



Casey Cunningham,
Golf Course Superintendent
The Club at Old Hawthorne
Columbia, Missouri

THE CLUB AT OLD HAWTHORNE,

located in the rolling hills of Columbia, Missouri, and home to the Mizzou men's and women's golf teams, is a relatively young course, having opened for play in 2007. It is comprised of 7,221 yards of wide fairways, undulating greens, and large tees, which make for challenging and fun rounds of golf. What sets it apart from other young courses is how the course is cared for. The grounds staff are charged with ensuring the highest standards are maintained so that every round at The Club at Old Hawthorne is like a final round on "the tour."

Casey Cunningham has had

the honor of maintaining the course since 2014 as the golf course superintendent and reaches for Foliar-Pak to keep his course in tour shape all season long.

"I would say our biggest challenge has always been a loss of color," Cunningham said. "The nitrogen products we used before Foliar-Pak would lose the color and lean out quick."

He continued, "When we want the greens growing, we need nitrogen. 14-2-4 combined with Foundation Forty, that combo there, will last 14-20 days versus the 7-8 days with the products I previously used. 14-2-4, by itself, seems

to supply nitrogen constantly. There is no big surge and then a need to apply a few days later either.”

In addition to the growth and color advantage, Cunningham has been able to make fewer granular nitrogen applications.

“We used to make four granular nitrogen applications at a half a pound per year,” Cunningham said. “We are down to just doing one pound of granular nitrogen a year now. Total. It’s just supplemented with the Foliar-Pak.”

Cunningham uses Foliar-Pak Minors, Micros Plus, and Colonise Bio in addition to 14-2-4 and Foundation Forty. He believes their different technologies help give him great results and healthy plants.

“I’d have to say the great results and healthy turf we receive are from a combination of the amino acid technology and the Armament technology in the products we use,”

he explained. “They help release the bound and tied up nutrients in the ground from our hard water and salt buildup. Being in the Midwest, we pump water out of wells, so we have a little bit higher salt content.”

In the past, Cunningham would have to use several

“WHEN YOU GET
DOWN TO IT,
FOLIAR-PAK
IS JUST EASIER
TO USE.”

different products to get the results he receives with just a handful of Foliar-Pak products, and he recommends the ease of use.

“When you get down to it, Foliar-Pak is just easier to use,”

Cunningham said. “I used to adhere to the old school method of adding 15 different products to my tank for spraying, now I add just a few products to my tank and get better results. I’m going to go that easier route.”

Cunningham is adamant that products are not the only reasons his course is thriving. His relationship with his distributor rep is also a significant factor.

“Being able to trust your rep is very important,” Cunningham said. “My rep, Mike Schemel from Advanced Turf Solutions, will ride around with me, take soil samples, and see what’s going on at our course, or I will call him up and tell him what’s going on, and he will make solid recommendations. I go off to his recommendations a lot, especially with Foliar-Pak.”

He added, “It’s all about a good product, plus a good rep. I think we have both.”



Colonise® Bio

2-0-0 with Armament®,
AminoPrecise®, and Colonise®

Foliar-Pak Colonise Bio is a highly specific blend of eight microorganisms, microbe food and nutrient enhancers.

GUARANTEED ANALYSIS

Total Nitrogen (N) 2.0%
2.0% Water Soluble Nitrogen

Derived from: soy protein hydrolysate

NON PLANT FOOD INGREDIENTS

Polymer 13.0%

(1) BACTERIA: Paenibacillus polymyxa: 1,000,000 cfu/mL; Pseudomonas fluorescens: 1,000,000 cfu/mL; Pseudomonas putida: 1,000,000 cfu/mL; Bacillus subtilis: 1,000,000 cfu/mL; Bacillus licheniformis: 1,000,000 cfu/mL; Bacillus pumilus: 1,000,000 cfu/mL

(2) 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

(3) 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

Use Rates

Golf Course Greens, Tees, and Sports Turf:

3.0 fl oz per 1,000 sq ft in enough water to provide sufficient foliar coverage. Reapply monthly at 3.0 fl oz per 1,000 sq ft during the growing season.

Golf Course Fairways: 3.0 fl oz per 1,000 sq ft monthly during the growing season.

pH: 6.2

Weight per Gallon: 8.8 lbs

Colonise® Bio LTO

4-0-2 with Armament®,
AminoPrecise®, and Colonise®

Foliar-Pak Colonise Bio LTO provides a highly specific blend of microorganisms, microbe food and nutrient enhancers. This helps to promote color response, plant resilience and nutrient uptake.

GUARANTEED ANALYSIS

Total Nitrogen (N) 4.0%
4.0% Water Soluble Nitrogen
Soluble Potash (K₂O) 2.0%

Derived from: soy protein hydrolysate, seaweed extract (*Ascophyllum nodosum*)

NON PLANT FOOD INGREDIENTS

Polymer 13.0%
Black Strap Molasses 7.0%
(Microbe Food)

Polyols 3.0%
Humic Acid 0.5%
(Derived from Leonardite)

Vitamin B-1 0.4%
(Thiamine Hydrochloride)

Total Other Inert Ingredients 76.1%

BACTERIA: Bacillus licheniformis: 1,100,000 cfu/ml; Bacillus pasteurii: 1,100,000 cfu/ml; Bacillus subtilis: 1,100,000 cfu/ml; Paenibacillus azotofixans: 1,100,000 cfu/ml

Use Rates

Lawn Care: Apply in at least 1/3 gal of water per 1,000 sq ft.

Inoculation—3.0 fl oz per 1,000 sq ft.

Maintenance—2.0 fl oz per 1,000 sq ft once a month during the growing season.

Ornamentals:

Soil Drench and Foliar Application—64.0 fl oz to 128.0 fl oz per 100 gal water. Apply directly to soil and/or spray on plants every 2 to 4 weeks.

pH: 7.2

Weight per Gallon: 9.8 lbs



**SPECIALTY
NUTRIENTS**

NEW

Foliar-Pak Base Calcium is a highly concentrated calcium based on a proprietary dispersion and suspension process that includes polymers and sugars.

GUARANTEED ANALYSIS

Calcium (Ca) 20.0%
Derived from: calcium carbonate

NON PLANT FOOD INGREDIENTS

Polyols 29.0%
(Microbe Food)

pH: 8.9
Weight per Gallon: 14.0 lbs

Use Rates

Foliar-Pak Base Calcium is a soil-applied product designed to fill the void between foliar calcium applications, and soil-applied granular applications. Providing more calcium than a foliar application, while being much smaller in particle size compared to a granular application, allows Foliar-Pak Base Calcium to begin working in the soil during in-season applications. 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.

Golf Course Greens, Tees, Fairways and Sports Turf Maintenance Rate: 1.5 to 6.0 fl oz per 1,000 sq ft in enough water to sufficiently water into the soil profile. Reapply weekly or biweekly during the growing season as needed.

Golf Course Greens, Tees, Fairways and Sports Turf Amendment Rate: 6.0 to 12.0 fl oz per 1,000 sq ft in enough water to sufficiently water into the soil profile. Reapply as needed per soil tests.

Base Calcium

NEW

Foliar-Pak Base Magnesium is a highly concentrated magnesium based on a proprietary dispersion and suspension process that includes polymers and sugars.

GUARANTEED ANALYSIS

Magnesium (Mg) 20.0%
20.0% Water Soluble Magnesium (Mg)
Derived from: magnesium hydroxide

NON PLANT FOOD INGREDIENTS

Polyols 35.0%
(Microbe Food)

pH: 10.4
Weight per Gallon: 13.3 lbs

Use Rates

Foliar-Pak Base Magnesium is a soil-applied product designed to fill the void between foliar magnesium applications, and soil-applied granular applications. Providing more magnesium than a foliar application, while being much smaller in particle size compared to a granular application, allows Foliar-Pak Base Magnesium to begin working in the soil during in-season applications. 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.

Golf Course Greens, Tees, And Fairways Maintenance Rate: 1.5 to 6.0 oz per 1,000 sq ft in enough water to sufficiently water into the soil profile. Reapply weekly or biweekly during the growing season as needed.

Golf Course Greens, Tees, and Fairways Amendment Rate: 6.0 to 9.0 fl oz per 1,000 sq ft in enough water to sufficiently water into the soil profile. Reapply as needed per soil tests.

Base Magnesium

Foliar-Pak Bio 12-6-6 is a concentrated liquid supplement to promote improved rooting and turf growth.

GUARANTEED ANALYSIS

Total Nitrogen (N)	12.0%
9.0% Other Water Soluble Nitrogen	
3.0% Water Insoluble Nitrogen	
Available Phosphate (P ₂ O ₅)	6.0%
Soluble Potash (K ₂ O)	6.0%
Boron (B)	0.02%
Copper (Cu)	0.05%
0.05% Water Soluble Copper (Cu)	
Iron (Fe)	0.10%
0.10% Water Soluble Iron (Fe)	
Manganese (Mn)	0.05%
0.05% Water Soluble Manganese (Mn)	
Zinc (Zn)	0.05%
0.05% Water Soluble Zinc (Zn)	

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

NON PLANT FOOD INGREDIENTS

Seaweed Extract	4.0%
(Derived from <i>Ascophyllum nodosum</i> (microbe food))	
Humic Acid	2.0%
(Derived from Leonardite)	

Use Rates

Root Injection: 2.5 to 5.0 gal of 12-6-6 per 100 gal of water.

Trees—25 to 50 gal of liquid suspension per 1,000 sq ft of soil to be treated. Apply 1.0 to 2.0 qt of suspension per injection of spacing of 3 ft between injections in a grid under the entire tree canopy. Inject at a depth beginning at 4 in below the surface through a depth of 12 in maximum.

Soil Drench:

Perennials, Annuals, and Shrubs—1.0 to 2.0 fl oz per 1 gal of water. Apply directly to soil every 2 to 4 weeks. Never over fertilize.

Foliar Application:

Flowers, Perennials, and Annuals—2.0 to 4.0 fl oz per 1 gal of water. Apply directly to leaves every 3 weeks prior to bloom and then every 2 to 4 weeks.

Turfgrass—6.0 to 9.0 fl oz per 1,000 sq ft. May be used as a foliar or soil applied product. Apply every 2 to 4 weeks or as needed in order to provide desired color and health.

pH: 7.5

Weight per Gallon: 10.0 lbs

Bio 12-6-6

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

GUARANTEED ANALYSIS

Total Nitrogen (N)	30.0%
12.0% Urea Nitrogen	
18.0% Slowly Available Soluble Nitrogen*	

Derived from: urea-triazone, methylene urea, urea

*Slowly available nitrogen from methylene ureas and triazone

pH: 6.0

Weight per Gallon: 10.6 lbs

Use Rates

Golf Course Greens and Tees: 3.0 to 6.0 fl oz per 1,000 sq ft in enough water to provide sufficient foliar coverage. Repeat application every 7 to 21 days or as needed.

Golf Course Fairways, Roughs, Sports Turf, and Lawn Care: 1.0 to 8.0 gal per acre (3.0 to 24.0 oz per 1,000 sq ft) in enough water to provide sufficient foliar coverage. Repeat application every 14 to 28 days or as needed.

Ornamentals: Deep root feeding applications may be made at 20.0 to 83.0 oz (0.5 to 2.0 lb of N) per 1,000 sq ft. Inject fertilizer solution 8" to 12" deep on a grid pattern 2 to 3 feet apart in the area beneath the canopy and one third more area outside the canopy.

30-0-0

60% Slowly Available Nitrogen

Foliar-Pak Carbosential® Fe Turbo yields outstanding residual color, increased nutrient uptake, and improved overall plant growth.

GUARANTEED ANALYSIS

Total Nitrogen (N)	0.30%
0.30% Other Water Soluble Nitrogen	
Iron (Fe)	5.0%
5.0% Water Soluble Iron (Fe)	

Derived from: soy protein hydrolysate, iron polysaccharide

pH: 4.7

Weight per Gallon: 9.7 lbs

Use Rates

Golf Course Greens, Tees, Fairways, and Sports Turf: 0.23 to 0.32 fl oz per 1,000 sq ft (10.0 to 14.0 oz per acre) in enough water to provide sufficient foliar coverage. Repeat applications every 10 to 14 days.

Lawn Care: 0.33 to 0.5 fl oz per 1,000 sq ft (16.0 to 24.0 oz per acre) in enough water to provide sufficient foliar coverage. Repeat applications every 4 to 6 weeks.

Carbosential® Fe Turbo

0.30-0-0 with L-Amino Acids

FOR SOUTH HILLS COUNTRY CLUB,

2020 was supposed to be a year of celebration. Constructed in 1920, the country club planned to host a centennial celebration, but due to pandemic restrictions, the festivities have been postponed to 2021.



Bryan Flaherty, Golf Course Superintendent

*South Hills Country Club
Pittsburgh, Pennsylvania*

Despite the uncertainty, one thing is for sure. The hundred-year-old golf course is still celebration-ready in part to the fantastic results from Foliar-Pak products.

Bryan Flaherty is a Pittsburgh native and worked at three other courses in the region before becoming superintendent of South Hills in 2019. He began experimenting with Foliar-Pak when he was the superintendent at Chartiers Country Club and implemented the products full-time after joining South Hills.

“It’s an older course with a lot of hills just like any other western Pennsylvania course, and it has a dated irrigation system, which we are trying to update,” said Flaherty.

“The course has a lot of nitrogen and available nutrients in the soil. I wanted to use Foliar-Pak to build a budget-friendly plan for South Hills that would manage the release of those without regulating growth up top.”

For the fairways, Flaherty choice products are Foundation Forty, Carbosential Fe Turbo, Gold Standard 45, and Minors.

“On the fairways, in particular, there’s an amazing color response,” said Flaherty. “We have a double row irrigation system, but in some places, it’s a single row. During times of drought and stress, I’ve noticed an increased stress tolerance and the color staying on the fairways.”



“**FOLIAR-PAK** PRODUCTS ARE EASY TO FIT INTO ANY FERTILITY BUDGET, AND I LOVE THE FACT I SEE THAT IT WORKS.”

“The plant density and rooting have also increased. Plus, you can use low rates of the products, which makes them easy to use,” he said.

“I really like the low use rates of Carbosential Fe Turbo. I have never used an iron product that lasts longer and gets that kind of vivid color.”

On the greens, he uses a combination of Foundation Forty, Armament Concentrate, Manganese, Boron, Calcium, Amperage, and CSi L.

“On my greens, I’ve noticed an even clipping yield,” he said. “I don’t see the peaks and

valleys that I’ve seen with other fertility products.”

Besides the fairways and greens, the tees have also received the Foliar-Pak treatment.

“If you have an active driving range and small par-3 tees, Grow-In mixed with Amperage gets the seedlings popping, and it’s perfect for recovering the range and par-3 tees,” said Flaherty.

“Foliar-Pak products are easy to fit into any fertility budget, and I love the fact that I see that it works,” he said. “Not only can I see the results from

the surface, but I can dig in with my knife and look at the root density.”

With first-rate results from Foliar-Pak, South Hills’ fairways, greens, and tees will not only be stress-tolerant and in peak condition for play but will have stunning color for the centennial celebration this summer.



Micros Plus

2-0-0

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

GUARANTEED ANALYSIS

Total Nitrogen (N)	2.0%
3.0% Nitrate Nitrogen	
Calcium (Ca)	2.5%
Magnesium (Mg)	0.5%
0.5% Water Soluble Magnesium (Mg)	
Boron (B)	0.02%
Copper (Cu)	0.05%
0.05% Chelated Copper	
Iron (Fe)	1.0%
1.0% Chelated Iron	
Manganese (Mn)	0.4%
0.4% Chelated Manganese	
Zinc (Zn)	0.05%
0.05% Chelated Zinc	

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

NON PLANT FOOD INGREDIENTS

Humic Acid	1.0%
(Derived from Leonardite)	
Seaweed Extract	1.0%
(Derived from <i>Ascophyllum nodosum</i> (microbe food))	

Use Rates

Cool Season Turf Recovery Programs:

Spring Green-Up/Summer Stress

Recovery—0.5 to 1.0 fl oz per 1,000 sq ft every 10 to 14 days as necessary.

Aeration Recovery/New Seed or Sod—1.0 to 2.0 fl oz per 1,000 sq ft every 7 to 10 days as necessary.

Warm Season Turf Recovery: 1.0 to 3.0 fl oz per 1,000 sq ft every 7 to 14 days.

Nutrition Maintenance Programs:

Cool Season Turf—Apply initial application of 0.5 fl oz per 1,000 sq ft. Increase as necessary in 0.25 fl oz increments. Repeat application every 10 to 14 days.

Warm Season Turf—1.5 to 3.0 fl oz per 1,000 sq ft every 10 to 14 days.

Ornamentals:

Flowers and Vegetables—1.0 tbs per gal of water. Drench plants.

Trees and Shrubs—Apply with root feeder in combination with regular fertilizer at a rate of 24.0 to 40.0 fl oz per 100 gal of water.

pH: 4.7

Weight per Gallon: 9.7 lbs

Promote

4-0-1

Foliar-Pak Promote is a powerful combination of humic acid and sea plant extracts.

GUARANTEED ANALYSIS

Total Nitrogen (N)	4.0%
3.25% Urea Nitrogen	
0.75% Nitrate Nitrogen	
Soluble Potash (K ₂ O).....	1.0%
Iron (Fe)	0.5%
0.5% Chelated Iron	
Manganese (Mn)	0.4%
0.4% Chelated Manganese	

Derived from: urea, potassium nitrate, iron EDTA, manganese EDTA

NON PLANT FOOD INGREDIENTS

Humic Acid	4.0%
(Derived from Leonardite)	
Polyoxypropylene-Polyoxyethylene block copolymer	20.0%
Seaweed Extract	4.0%
(Derived from <i>Ascophyllum nodosum</i> (microbe food))	

pH: 6.5

Weight per Gallon: 9.0 lbs

Use Rates

Golf Course:

Greens and Tees—2.0 to 4.0 fl oz per 1,000 sq ft. Repeat application every 7 to 14 days.

Fairways—Apply 3.0 to 6.0 fl oz per 1,000 sq ft. Repeat application every 2 to 4 weeks.

High Stress Areas—6.0 to 12.0 fl oz per 1,000 sq ft. Repeat application every 2 to 4 weeks, or as conditions warrant.

Professional Lawn Care:

Newly Seeded or Sodded Lawns—6.0 fl oz per 1,000 sq ft. Repeat application after germination to encourage deeper root formation.

Established Lawns—3.0 to 6.0 fl oz per 1,000 sq ft. Repeat application at 3.0 fl oz per 1,000 sq ft monthly during growing season.

Hydro Seeding—6.0 fl oz per 1,000 sq ft or 2.0 gal per acre at seeding.

Ornamentals:

Annuals and Perennials—Spray soil and plants with a solution of 1.0 to 2.0 tsp per gal of water. Water plants thoroughly after application.

Planting Trees and Shrubs—1.0 or 2.0 qt per 100.0 gal of water. Apply as a soil drench 2.0 to 5.0 gal per plant.

Feeding Trees and Shrubs—1.0 to 2.0 qt per 100.0 gal of water. Inject over 3,000 sq ft area.

Soil Drench and Transplants— 2.5 to 5.0 fl oz per gal of water. Thoroughly drench area.



WETTING AGENTS

Hydro-Pak[®] BioWet

Soil Wetting Agent

Hydro-Pak BioWet is a proprietary formulation that contains designed-for-environment sulfonic and carboxylic acids that reduce soil surface tension and improve water infiltration allowing water and nutrients to reach the root zone.

PRIMARY FUNCTIONING AGENTS

Alkyl block co-polymers	25.0%
Alkyl sulfonic acids	20.0%
Carboxylic acids	20.0%
Cocodiethanolamide	15.0%
D-glucitol	5.0%
Total Other Inert Ingredients.....	15.0%

pH: 5.2

Weight per Gallon: 8.87 lbs

Use Rates

Golf Course, Sports Turf, and Lawn Care:

4.0 to 6.0 fl oz per 1,000 sq ft in at least 1 gal of water. Irrigation soon after application may be advised to move product into the root zone. Reapplication every 30 days may be warranted in situations where hydrophobic conditions and soluble salt levels increase in the soil.

Flushing of Salts and Bicarbonate

Formation: 6.0 fl oz per 1,000 sq ft in at least 1 gal of water, and follow with a heavy irrigation cycle to move water through the soil profile past the root zone.

Hydro-Pak Command contains an organic acid that helps deal with bicarbonate issues that can create poor water infiltration.

Hydro-Pak[®] Command

Organic Acid Penetrant

PRIMARY FUNCTIONING AGENTS

Proprietary Blend of Polymeric	
Surfactants	55.0%
Carboxylic Acids	15.0%
Inert Ingredients	30.0%

pH: 7.1

Weight per Gallon: 8.5 lbs

Use Rates

Turf Maintenance: 16.0 to 32.0 fl oz of

Command per acre. Rates may be adjusted up or down until desired performance is achieved. Irrigation soon after application may be advised to move product into the root zone.

Flushing of Salts and Bicarbonate

Formation: 2.0 to 4.0 qt of Command per acre in 20.0 to 80.0 gal of water. Follow with heavy irrigation cycle to move water through the soil profile past root zone.

Injection Rates: Inject 22.0 fl oz of Command per acre every 2 to 3 weeks. On very challenging soils, rates up to 40.0 oz per acre can be used.

Hydro-Pak Matador is a safe, non-ionic wetting agent based on innovative block polymer technology designed to establish and maintain a consistent moisture level in the root zone.

PRIMARY FUNCTIONING AGENTS

Blend of Alkyl Block	
Co-Polymers.....	100%

pH: 7.5

Weight per Gallon: 8.5 lbs

Use Rates

Golf Course Greens, Tees and Fairways:

Curative Rates—6.0 fl oz in 1.0 to 2.0 gal of water per 1,000 sq ft. Water in with sufficient irrigation to move product well into the root zone. Follow up applications should be made on 4 week intervals.

Maintenance Rates—2.0 fl oz per 1,000 sq ft every 2 weeks or apply 4.0 fl oz per 1,000 sq ft every 4 weeks. Rates or intervals may be adjusted depending on soil and environmental conditions.

Sports Turf, Lawn Care, and Sod

Installation: 2.0 to 4.0 qts per acre. Repeat every 4 to 8 weeks during the growing season. Rates and spray intervals will vary according to soil and environmental conditions.

Sod Pre-Cutting: 1.0 to 2.0 gal per acre using 50.0 to 100.0 gal of water per acre 2 to 3 weeks before cutting. Water in application with at least 1" of water.

Spreader/Activator: 2.0 to 4.0 fl oz per 100.0 gal of spray mixture. In difficult wetting situations such as hard water, the addition of a pH reducing agent is recommended.

Hydro-Pak[®] Matador

Matrix Active Soil Surfactant

Hydro-Pak Stress Reliever Tabs (SRT) contain a proprietary blend of polymeric surfactants to improve infiltration and rewetting of localized dry spots. **Only available in select markets.*

PRIMARY FUNCTIONING AGENTS

Blend of Polymeric Surfactants	50.0%
Binders and De-Foamers	40.0%

NON PLANT FOOD INGREDIENTS

Humic Acid	4.0%
Endo and Ecto Mycorrhizae	4.0%

Packaging: 160 grams per tablet;
12 tablets per case

Use Rates

Use one tablet in hose end applicator for direct surface application. May be used as part of a comprehensive water management program. Apply to correct localized dry spots, or use to syringe greens and tees during extreme weather conditions.

SRT will not burn turfgrass and does not need to be watered in. One treatment will last 3 to 4 weeks depending on local soil and weather conditions. Applications made on a more frequent schedule will not adversely effect soil conditions and turfgrass.

Store in original container. Exposure to high heat and humidity for prolonged period of time may cause tablets to melt. Wear appropriate personal protective gear when applying product. For people with sensitive skin, prolonged contact may cause skin irritation. Dispose of containers and unused product in accordance with local, state, and federal regulations.

Hydro-Pak[®] SRT Plus Tabs*

Soil Wetting Agent



JT Thompson,
Golf Course Superintendent
York Golf Club
Columbus, Ohio

JT THOMPSON, superintendent of York Golf Club in Columbus, OH, began using Foliar-Pak when he decided to focus on his putting surfaces. He had fifteen poa greens, which were still the original 1924 push-up greens, and three newer, California-style bentgrass greens. All his greens looked acceptable and rolled adequately, but Thompson wanted more than acceptable and adequate with his newly formed commitment to them.

So, Thompson reached out to two people who had helped him navigate through the golf

industry as a youngster and who he trusted to help him without a doubt, his Foliar-Pak distributor rep Steve Honeycutt and his Foliar-Pak rep Curt Geron. They recommended a Foliar-Pak lineup of CSi L, Minors, 11-0-11, Armament K, Armament P, and Foundation Forty.

Thompson said the change on the greens after using the products was significant and quick.

“We received quick, phenomenal results on our putting surfaces,” Thompson said. “The difference before

and after was like night and day. What a surface those products provided.”

After resolving his greens’ nutrition difficulties, Thompson focused on another obstacle troubling his greens: the course’s irrigation water. The irrigation water was severely high in bicarbonates and having a hard time getting down into the soil profile.

“We would have to water every night just to keep the soil conditioned enough to receive water evenly throughout the green,” Thompson said, “but, with our poor water quality, we were making the problem worse by watering them every night.”

He continued, “We would get to a point in the season where if we continued to irrigate, you could not move the irrigation through the profile at all. It would go down maybe an inch, inch and a half. That was it.”

To fix this problem, Thompson decided a flushing agent would be his best bet. Luckily, his helpful partners at Foliar-Pak had a product called BioWet that could tackle this challenge. BioWet is a multi-functional, biodegradable wetting agent that improves the moisture balance in the root zone through a combination of biodegradable penetration and hydration agents.

Thompson started using BioWet in late April/early May at two ounces every couple of weeks. According to him, BioWet worked and solved his irrigation water issue.

“BioWet solved our irrigation problem,” Thompson said. “We found that we could let the greens dry down just a little bit and still have total confidence that a small amount of irrigation after would totally rewet the soil and get down into the profile with ease.”

With all his hurdles overcome on his greens, Thompson can now be more efficient with his labor and how he manages the course.

“When we started applying Foliar-Pak products,” Thompson said, “we stopped having to worry as much about our greens’ performance. They performed perfectly.”

He continued, “This freed my staff and me to fine-tune other details on the course. The benefits of applying a few Foliar-Pak products and then not having to worry about my greens is immeasurable. Foliar-Pak is a wonderful product line.”

“BIOWET SOLVED OUR IRRIGATION PROBLEM. WE FOUND THAT WE COULD LET THE GREENS DRY DOWN JUST A LITTLE BIT AND STILL HAVE TOTAL CONFIDENCE THAT A SMALL AMOUNT OF IRRIGATION AFTER WOULD TOTALLY REWET THE SOIL AND GET DOWN INTO THE PROFILE WITH EASE.”





MORE THAN NUTRIENTS WE PROVIDE SOLUTIONS.

Soil dynamics can change rapidly.

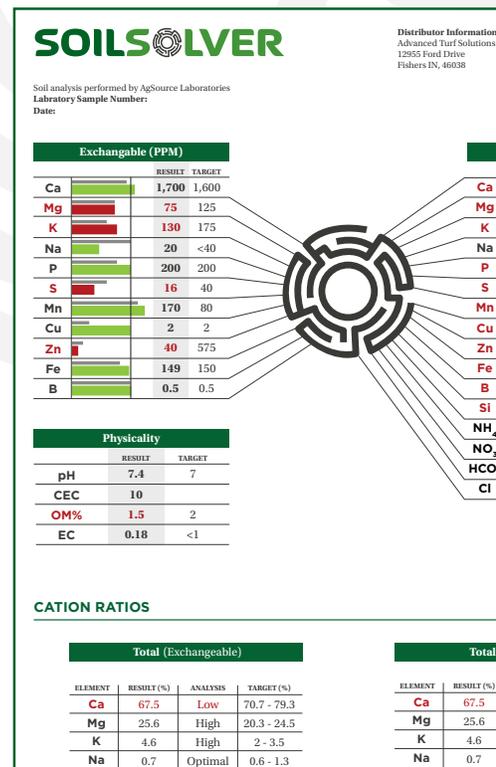
The best way to manage turf needs at any time is with a soil test. Diagnose nutrient deficiencies, optimize nutrient applications, and develop the right solution for your turf's specific needs through comprehensive soil testing.

SOILSOLVER

Soil Solver shows both the total nutrients and the nutrients immediately available to the plant in the soil. Experts provide professional solutions for soil applications to address long-term deficiencies and foliar applications to provide relief from immediate deficiencies.

Identifying pH, CEC, EC, and OM as well as the total and available nutrients in the soil provides an opportunity to make customized solutions and maximize plant performance.

Contact your Foliar-Pak distributor to request a Soil Solver comprehensive soil test.





PROGRAMS



COOL SEASON PROGRAMS

AERATION RECOVERY

Cool Season

Product	Rate / 1,000 sq ft
14-2-4	3.0—6.0 oz
Foundation Forty	1.0 oz
Colonise® Bio	3.0 oz
Micros Plus	1.0—2.0 oz

BENTGRASS/POA

Northern

Product	Rate / 1,000 sq ft
11-0-11	3.0—6.0 oz
Promote	3.0 oz
Minors	1.5 oz
Foundation Forty	0.5—1.0 oz
<i>Optional: Colonise® Bio</i>	<i>1.5—3.0 oz</i>

FALL FOLIAR

Product	Rate / 1,000 sq ft
Foundation Forty	1.0 oz
1-0-15	3.0—6.0 oz
Amperage	3.0 oz
Calcium	2.0—3.0 oz

SPRING PERFORMANCE

Product	Rate / 1,000 sq ft
14-2-4	3.0 oz
Amperage	3.0 oz
Foundation Forty	1.0 oz
Promote	3.0 oz

ATHLETIC FIELD

Cool Season

Product	Rate / 1,000 sq ft
14-2-4	3.0—6.0 oz
Micros Plus	1.0—3.0 oz
1-0-15	3.0—6.0 oz
Armament® Concentrate	10.0—24.0 oz / acre

BENTGRASS

Southern

Product	Rate / 1,000 sq ft
Bio 12-6-6	3.0—6.0 oz
Minors	1.0—3.0 oz
1-0-15	3.0 oz
Calcium	1.0—3.0 oz
Foundation Forty	0.5—1.0 oz
<i>Optional: Colonise® Bio</i>	<i>1.5—3.0 oz</i>

FALL ROOTING

Product	Rate / 1,000 sq ft
Armament® P	3.0 oz
Armament® K	3.0 oz
Colonise® Bio	3.0 oz
Base Calcium	3.0—6.0 oz

NOT SURE WHICH PROGRAM TO USE?

A comprehensive soil test will help diagnose nutrient deficiencies so you can develop the right course of action for your turf's specific needs. **Soil Solver** shows both the total nutrients and the nutrients immediately available to your turf, so you can customize your own product mix to reduce unnecessary inputs and improve application efficiency.

Contact your Foliar-Pak distributor to request a Soil Solver comprehensive soil test.

More at foliarpak.com



WARM SEASON PROGRAMS

AERATION RECOVERY

Warm Season

<i>Product</i>	<i>Rate / 1,000 sq ft</i>
14-2-4	3.0—6.0 oz
Micros Plus	3.0 oz
Armament® P	3.0 oz
Colonise® Bio	3.0 oz
<i>Optional: Armament® K</i>	<i>3.0 oz</i>

BERMUDA GREENS WINTER HEALTH

Foliar

<i>Product</i>	<i>Rate / 1,000 sq ft</i>
Amperage	3.0 oz
Foundation Forty	1.5 oz
Gold Standard 45	1.5 oz
<i>Optional: CSi L</i>	<i>1.5 oz</i>

FALL ULTRADWARF

Foliar

<i>Product</i>	<i>Rate / 1,000 sq ft</i>
Amperage	3.0 oz
1-0-15	3.0 oz
Promote	3.0 oz
Foundation Forty	1.0 oz
<i>Optional: Calcium</i>	<i>1.0—3.0 oz</i>

OVERSEED

Establishment

<i>Product</i>	<i>Rate / 1,000 sq ft</i>
Bio 12-6-6	3.0 oz
Micros Plus	1.5 oz
Bio Sea S	3.0 oz
Calcium	2.0—3.0 oz

ATHLETIC FIELD

Warm Season

<i>Product</i>	<i>Rate / 1,000 sq ft</i>
30-0-0	6.0 oz
Micros Plus	2.0—3.0 oz
1-0-15	3.0 oz
Calcium	2.0—3.0 oz
<i>Optional: 18-3-4</i>	<i>3.0—6.0 oz</i>

BERMUDA GREENS WINTER HEALTH

Soil Spray

<i>Product</i>	<i>Rate / 1,000 sq ft</i>
Armament® K	3.0 oz
Armament® P	3.0 oz
Colonise® Bio	3.0 oz
<i>Optional: CSi L</i>	<i>1.5 oz</i>

FALL ULTRADWARF

Soil

<i>Product</i>	<i>Rate / 1,000 sq ft</i>
Bio Sea S	3.0 oz
Armament® P	3.0 oz
Armament® K	3.0 oz
Gold Standard 45	1.5 oz

OVERSEED

Winter Maintenance

<i>Product</i>	<i>Rate / 1,000 sq ft</i>
Armament® P	3.0 oz
Amperage	3.0 oz
1-0-15	3.0 oz
Foundation Forty	1.0 oz

WARM SEASON PROGRAMS (CONT.)

SPRING TRANSITION

<i>Product</i>	<i>Rate / 1,000 sq ft</i>
Amperage	3.0—6.0 oz
Micros Plus	3.0 oz
Calcium	1.5 oz
Foundation Forty	1.0 oz

SUMMER ULTRADWARF

<i>Product</i>	<i>Rate / 1,000 sq ft</i>
14-2-4	3.0—6.0 oz
Micros Plus	2.0—3.0 oz
1-0-15	3.0 oz
Calcium	2.0—3.0 oz
<i>Optional: 18-3-4</i>	<i>3.0—6.0 oz</i>

SPECIALTY PROGRAMS

CUSTOM LAWN

<i>Product</i>	<i>Rate / 1,000 sq ft</i>
Stabilized Urea	0.5—0.75 lb N
Microsync	1.0—3.0 oz
Armament® Concentrate	10.0—16.0 oz / acre

ESTABLISHMENT

<i>Product</i>	<i>Rate / 1,000 sq ft</i>
11-0-11	3.0 oz
Promote	3.0 oz
Armament® P	3.0 oz
Amperage	3.0 oz
Micros Plus	1.5 oz

PATCH DISEASE SPRAY

<i>Product</i>	<i>Rate / 1,000 sq ft</i>
Manganese	3.0 oz
Armament® MKS	9.0—15.0 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 / 1,000 sq ft</i>
Bio Sea S	2.0 oz
Foundation Forty	1.0 oz
Micros Plus	1.0 oz
Promote	3.0 oz



SPECIALTY PROGRAMS

(CONT.)

TRIPLE FLUSH

<i>Product</i>	<i>Rate / 1,000 sq ft</i>
Hydro-Pak® Command	3.0 oz
Armament® Concentrate	3.0 oz
Base Calcium	3.0—6.0 oz

TRIPLE REPLENISH

<i>Product</i>	<i>Rate / 1,000 sq ft</i>
Armament® K	3.0 oz
Base Calcium	3.0 oz
Base Magnesium	3.0 oz

ULTIMATE ORNAMENTAL PROGRAM

<i>Product</i>	<i>Rate / 100 gal</i>
Bio 12-6-6	1.0 gal
Chloroburst L	0.5—1.0 gal
Colonise® Bio LTO	1.0 gal
<i>Optional: Promote</i>	<i>3.0 oz</i>

NOT SURE WHICH PROGRAM TO USE?

A comprehensive soil test will help diagnose nutrient deficiencies so you can develop the right course of action for your turf's specific needs. **Soil Solver** shows both the total nutrients and the nutrients immediately available to your turf, so you can customize your own product mix to reduce unnecessary inputs and improve application efficiency.

Contact your Foliar-Pak distributor to request a Soil Solver comprehensive soil test.

More at foliarpak.com

Product	pH	lbs/gal	Pounds of Nutrient per Gallon Applied													Nutrient Activators	
			N	P ₂ O ₅	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
11-0-11	7.3	10.4	1.14		1.14												L
18-3-4	6.7	10.7	1.93	0.32	0.43												L
22-0-4	7.5	10.5	2.31		0.42					0.03		0.01					L
Amperage	2.7	11.35	0.57						0.25	0.23		0.23				0.23	L, P
Bio Sea S	8.7	9	0.01		0.18												L, S
Boron	8.9	9.8	0.67				0.29										L
CSi L	8.5	10.2	0.2											2.55			L
Calcium	6	10.6	0.74			0.74											L
Gold Standard 45	4	11.2	1.12														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
Microsync	6.9	9.4	0.09				0.002	0.005		0.11		0.09				0.05	L
Minors	4.9	9.8	0.1				0.05	0.01	0.24	0.15	0.05	0.1	0.00005			0.04	L, S
Zinc	8.1	10.3	0.61													0.72	L
Armament Concentrate	7.2	10.6			0.95												A
Armament K	8.6	11.0			2.64												A
Armament MKS	9.3	9.8			0.49				0.44		0.25						A
Armament P	5.3	10.0	0.3	1.2	0.2												A
Chloroburst L	7.3	9.6								0.1		0.1				0.05	L
Colonise Bio	7.2	9.8	0.2														L, A
Colonise Bio LTO	7.2	9.8	0.39		0.2												L, A, S, H, P
Grow-In	8.2	10.0	0.8	0.4	0.5		0.002	0.005		0.025		0.015				0.007	L, A, P, S, H, BP
Play-On	8.5	9.9	0.69		0.69				0.2	0.03		0.03				0.01	L, A
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							P
Micros Plus	4.7	9.7	0.19			0.24	0.002	0.005		0.1	0.05	0.04				0.005	S, H
Promote	6.5	9.0	0.36		0.09					0.045		0.036					H, S, BP

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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