



ProPlus[®]

Prescriptive Solutions

The Most Advanced Soil Amendments, Tackifiers and
Fiber Mulch Additives for Establishing and Sustaining Vegetation



BIOTIC SOIL MEDIA™ • SOIL AMENDMENTS • FIBER MULCH ADDITIVES

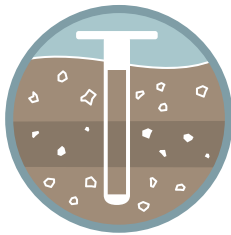


THE 5 FUNDAMENTALS

A holistic approach to erosion control and vegetative strategies

No two projects are the same. These five fundamentals take the guesswork out of the crucial decisions that need to be made and will ultimately benefit both you—and—your customers. Of the five, **the first is key**. Once the soil has been tested and the results analyzed, recommendations can

be made to improve it with the right combination of **ProPlus® Prescriptive Solutions and ProGanics® Biotic Soil Media™**. Having the correct foundation in place from the start makes all the other fundamental decisions that much easier and effective.



1. Creating Optimal Soil Conditions

Soil testing provides essential information to determine what adjustments, if any, need to be made to assure a more favorable growing environment for faster, more complete vegetative growth and sustainable establishment.



2. Picking the Right Plant Species

It is essential to select plant species that are adapted to project locations, site conditions, intended use and maintenance requirements.



4. Ensuring Proper Installation

Correctly installing products in accordance with the manufacturer's mixing, application and installation guidelines will maximize their performance to meet required project results.



3. Selecting the Correct Erosion Control Material

The correct cover is necessary to protect both seed and soil, taking into account erosion control effectiveness, ability to facilitate growth and the functional longevity required for that protection.



5. Follow-up Inspection and Maintenance Practices

Continually monitoring how projects are progressing is the best way to make sure all site requirements and compliance issues are being addressed. Maintenance may be required to mitigate unexpected challenges.

Soil testing is the first step to success

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And it's FREE with PS³



STEP ONE: Log in



Diagnosing the substrate on your project site is a fundamental first step in achieving project success.

PS³ gives you access to **free soil testing** and directions on proper soil collection techniques.

Through comprehensive soil testing for agronomic potential and limitations, we can accurately assess necessary amendments, plant species and erosion control measures needed to establish sustainable vegetation.

STEP TWO: Results and recommendations

You'll receive the results of your soil test, plus recommended prescriptive solutions and application rates for various agronomic formulations based on key soil properties.

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If you need assistance in reviewing soil test results, contact
Profile Products Technical Services Department
at +1-847-215-3464
or tech@profileproducts.com.
.....

STEP THREE: Select the right amendments

The correct combination of ProPlus® Prescriptive Solutions and Biotic Soil Media™ can improve most soils. **The following pages** provide details on these products and how they can help you create optimal soil conditions.

Ongoing PS³ support

In addition to complimentary soil testing for projects entered into PS³, you can also receive site-specific recommendations on the other Fundamentals for establishing sustainable vegetation:



Picking the right plant species



Selecting the correct erosion control material



Ensuring proper installation

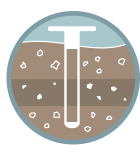


Follow-up inspection and maintenance practices

PS³ software is the only available resource that integrates Hydraulically-applied Erosion Control Products (HECPs), Rolled Erosion Control Products (RECPs), Sediment Retention Fiber Rolls (SRFRs) and Prescriptive Agronomic Formulations (PAFs) to help you develop sustainable solutions for cost-effective erosion control, vegetation establishment and subsequent reductions in sediment and other pollutants from leaving disturbed sites and entering water bodies.

The industry's fastest acting products for

pH Modification



Correct your soil pH to improve nutrient uptake and sustainable growth

For best results, use **NeutraLime** in conjunction with slow release agricultural lime for sustained neutralization. Both dry and liquid formulas are typically used for acidic soils with a pH of less than 6.3.



NeutraLime™ Dry

- Fast-acting Calcium Carbonate (CaCO_3) works in 3-7 days to raise pH

Rates based on soil pH test results; 40-400 lb/ac (49-448 kg/ha)

Packaging: Four, 10-lb (4.5 kg) bags/case; 50, 40-lb (18.1 kg) bags/pallet



NeutraLime™ Liquid

- Calcium Carbonate (CaCO_3) works in 7-10 days to raise pH
- High concentration of the purest form of lime

Rates based on soil pH test results; 2.5-25 gal/ac (23.4-234 L/ha)

Packaging: Two, 2.5-gal (9.5 L) jugs/case



Aqua-pHix™ Hydro

- Fast-acting liquid, safe, self-buffering chelated organic and inorganic acid blend for treating alkaline soils
- Used in hydroseeders, golf course sprayers and fertigation to lower pH in water and/or soils
- Dissolves bicarbonates, displaces sodium and assists vegetation in saline soils

Rates and reapplication are based on soil pH and/or bicarbonate soil tests; 2.5-20 gal/ac (23.4-187 L/ha)

Packaging: Two, 2.5-gal (9.5 L) jugs/case



Aqua-pHix™ Granular

- Slow-release, self-buffering chelated organic and inorganic acid impregnated into Profile ceramics
- Dry-applied; incorporated into soils or topdressed for use in landscapes, golf courses and horticulture
- Lowers pH, reduces bicarbonates and sodium in alkaline soils

Rates and reapplication are based on soil pH and/or bicarbonate levels measured via soil testing;

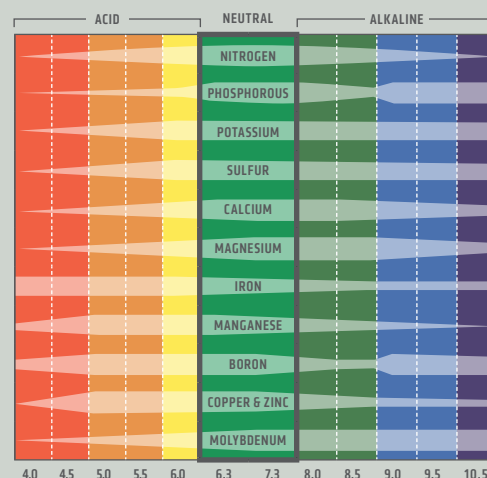
2.5-22.5 lb/1,000 ft² (1.2-11 kg/100 m²)

Packaging: 40, 50-lb (22.7 kg) bags/pallet



Soil pH is second only to moisture availability in its immediate impact on vegetation establishment. NeutraLime™ and Aqua-pHix™ quickly neutralize acidic and alkaline soils, respectively, promoting more complete germination and improving nutrient uptake. The faster you establish vegetation, the sooner you can walk away from an erosion control project. These prescriptive solutions from Profile Products will help you do just that.

IDEAL SOIL pH RANGE



PLANT NUTRIENT AVAILABILITY

SOIL ACIDITY					SOIL ALKALINITY						
4.0	4.5	5.0	5.5	6.0	6.3	7.3	8.0	8.5	9.0	9.5	10.0
10%	29%	46%	67%	80%	100%	100%	80%	67%	46%	29%	10%

TYPICAL APPLICATION RATES

ProPlus® Aqua-pHix™ and NeutraLime™

		Aqua-pHix Hydro		Aqua-pHix Granular	
ALKALINE SOILS	> 9.3	Contact Profile agronomist for specific site recommendations			
	8.7 – 9.2	10 gal/ac	(94 L/ha)	1,100 lb/ac	(1,233 kg/ha)
	8.0 – 8.6	5 gal/ac ²	(47 L/ha)	560 lb/ac	(628 kg/ha)
	7.4 – 7.9	2.5 gal/ac	(23 L/ha)	280 lb/ac	(314 kg/ha)
	6.3 – 7.3	SWEET SPOT			
		NeutraLime Liquid		NeutraLime Dry	
ACIDIC SOILS	5.9 – 6.2	2.5 gal/ac	(23 L/ha)	40 lb/ac	(45 kg/ha)
	5.5 – 5.8	5 gal/ac	(47 L/ha)	80 lb/ac	(90 kg/ha)
	5.1 – 5.4	10 gal/ac	(94 L/ha)	160 lb/ac	(179 kg/ha)
	4.7 – 5.0	15 gal/ac	(140 L/ha)	240 lb/ac	(269 kg/ha)
	4.3 – 4.6	25 gal/ac	(234 L/ha)	400 lb/ac	(448 kg/ha)
< 4.2		Contact Profile agronomist for specific site recommendations			

¹ Soil pH derived from a calcareous soil requires a minimum of 10 gallons (93.5 L/ha) per acre to appropriately modify the soil solution. Defer to soil test to determine soil type.

Expect unparalleled on-site performance with unique

Growth Stimulants and Soil Enhancers



Nourish plants for sustainable vegetation establishment

ProPlus® JumpStart™ immediately accelerates the growth of vegetation. BioPrime™ biostimulant is designed to support and sustain longer-term plant vitality.



JumpStart™ (Liquid)

ACCELERATE GERMINATION AND ESTABLISHMENT

- Immediately effective liquid blend of soil-penetration agents, humic acid and more than 200 species of soil bacteria
- Improves moisture infiltration and retention
- Promotes faster nutrient uptake
- Reduces soil compaction and salinity

Rates based on soil testing; 1.25-5 gal/ac (11.7-46.8 L/ha)

Packaging: Two, 2.5-gal (9.5 L) jugs/case



BioPrime™ (Dry)

SLOW RELEASE / REJUVENATES POOR SOILS

- Biostimulant with 18-0-0 slow-release nitrogen, humic acid, seaweed extract and endomycorrhizae
- Promotes the efficient delivery of micro- and macronutrients
- Decreases soil compaction
- Reduces plant stress

Rates based on soil testing; 40-160 lb/ac (44.8-179.2 kg/ha)

Packaging: Four, 10-lb (4.5 kg) water-soluble bags/case; 50, 40-lb (18.1 kg) bags/pallet

Typical Application Rates for ProPlus® JumpStart™ and BioPrime™

EC ¹ mmhos/cm	TDS ² ppm	SAR ³	CEC% Sodium ⁴	%OM ⁵	%OA ⁶	JumpStart™	BioPrime™
< 0.4	< 256	< 2.0	< 2.5	≥ 5.0	≥ 5.0	IDEAL RANGES	
≥ 0.4 & < 0.75	≥ 256 & < 480	≥ 2.0 & < 3.0	≥ 2.5 & < 4.0	≥ 2.0 & < 5.0	≥ 2.5 & < 5.0	1.25 gal/ac (12 L/ha)	40 lb/ac (45 kg/ha)
≥ 0.75 & < 1.5	≥ 480 & < 960	≥ 3.0 & < 4.0	≥ 4.0 & < 6.0	≥ 1.5 & < 2.0	≥ 1.7 & < 2.5	2.5 gal/ac (23 L/ha)	80 lb/ac (90 kg/ha)
≥ 1.5 & < 3.0	≥ 961 & < 1,920	≥ 4.0 & < 5.0	≥ 6.0 & < 7.0	≥ 0.75 & < 1.5	≥ 1.0 & < 1.7	3.75 gal/ac (35 L/ha)	120 lb/ac (134 kg/ha)
≥ 3.0 & < 7.0	≥ 1,920 & < 4,480	≥ 5.0 & < 7.0	≥ 7.0 & < 15.0	< 0.75	< 1.0	5.0 gal/ac (47 L/ha)	160 lb/ac (179 kg/ha)
≥ 7.0	≥ 4,480	≥ 7.0	≥ 15.0	N/A	N/A	Contact Manufacturer for Specific Site Recommendations	

¹Electrical Conductivity

²Total Dissolved Salts

³Sodium Adsorption Ratio

⁴Sodium as % Base Saturation CEC (Cation Exchange Capacity)

⁵Organic Matter

⁶Organic Acids



ProGanics® Biotic Soil Media™

MOST ADVANCED TECHNOLOGY TO INCREASE ORGANIC MATTER AND BOOST SOIL FERTILITY

- Saves time and money as an alternative to costly topsoil or compost
- Perfect for challenging sites with difficult access and on steep slopes where topsoil and compost placement is impractical and unsafe
- An excellent option when soils are too wet or frozen to dig, transport and spread
- Quick and easy loading; engineered to shoot smoothly for optimum performance
- ProGanics is a soil building material that is not necessarily a stand-alone erosion control product

Rates based on soil testing; 3,500-5,000 lb/ac (3,920-5,600 kg/ha)

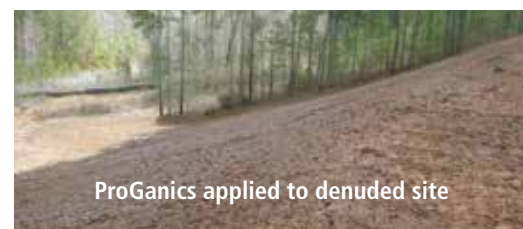
Packaging: 40, 50-lb (22.7 kg) bags/pallet

Typical Application Rates:

% Organic Matter	lb/ac	kg/ha
< 0.75	5,000	5,600
≥ 0.75 & < 1.5	4,500	5,040
≥ 1.5 & < 2.0	4,000	4,480
≥ 2.0 & < 5.0	3,500	3,920

Soils with organic matter >5% typically do not require ProGanics. In absence of a soil test, apply at 5,000 lb/ac (5,600 kg/ha).

Patent pending ProGanics Biotic Soil Media is a combination of recycled Thermally Refined® bark and wood fibers with a proprietary blend of biopolymers, biochar, seaweed extract, humic acid, endomycorrhizae and other beneficial constituents. These components work synergistically to create a holistic solution to improve the agronomic potential in the rhizosphere. Unlike peat harvested from fragile wetlands, all components of the ProGanics Biotic Soil Media blend are naturally derived and renewable, and engineered to optimize moisture retention, growth and establishment of vegetation.



ProGanics applied to denuded site



Vegetation established in 5 weeks

The industry's leading and longest line of

Tackifiers



Binding agents designed to assist in meeting diverse site conditions, applications and regulatory requirements

TACKIFIERS



Tacking Agent 3®

#1 RECOMMENDED ALL-PURPOSE TACKIFIER

- Multi-dimensional tack that requires no cure time and contains marker dye, flocculant and hydrocolloid polymers
- Binds straw/hay, hydraulic mulches and has the ability to control dust
- Slickifier increases the shooting distance of the hydraulic mulch slurry
- Improves water-holding capacity of mulches and marker dye enhances visual metering

Rate: 30-60 lb/ac (33.6-67.2 kg/ha) for hydraulic mulch, straw/hay tacking and short-term dust control

Packaging: Seven, 3-lb (1.4 kg) water-soluble bags/case; Four, 8-lb (3.6 kg) bags/case; 80, 25-lb (11.3 kg) bags/pallet; 40, 50-lb (22.7 kg) bags/pallet



ConTack®

GUAR-BASED TACKIFIER

- An alternative where naturally derived tackifiers are adequate
- Adds lubricity to improve mixing and application of hydraulic slurry

Rate: 40 lb/ac (44.8 kg/ha) for straw tacking

Packaging: Eight, 5-lb (2.3 kg) bags/case; 40, 50-lb (22.7 kg) bags/pallet



ConTack® AT

STARCH-BASED TACKIFIER

- Economical choice where Psyllium husk (*Plantago*) or starch tackifiers are specified
- Recommended for straw tacking

Rate: 75-lb/ac (84 kg/ha) for straw tacking

Packaging: 40, 50-lb (22.7 kg) bags/pallet



Tip: Best value is not just cost per bag, calculate the applied cost per area!

STRAW TACK AND DUST CONTROL



Tornado Tack™ ST-1000

ALL-IN-ONE STRAW TACKIFIER APPLIED BY HYDROSEEDERS

- Cellulose with biopolymers, biodegradable interlocking fibers and porous ceramics
- Eliminates guesswork from field mixing
- Excellent performance on windy sites

Rate: 500 lb/ac (560 kg/ha)

Packaging: 40, 50-lb (22.7 kg) bags/pallet



FloccLoc™

POLYACRYLAMIDE (PAM) FLOCCULATING SOIL STABILIZER

- Flocculates soil particles suspended in water, dropping them from runoff
- Increases shooting distance of the hydraulic mulch slurry due to slickifier
- Improves infiltration of water into the seedbed
- Increases water-holding capacity of hydroseeding slurry and shooting distance
- Enhances suspension of seeds and fertilizer

Rate: 3 lb/ac (3.4 kg/ha)

Packaging: Six, 3-lb (1.4 kg) jugs/case; 40-lb (18.1 kg) pail

Increase performance and productivity with superior

Fiber Mulch Amendments



Fiber Mulch Amendments help slurries shoot farther, spread more uniformly and bond to soil more securely



FiberBond Ultra™

INCREASE BOND STRENGTH

- Reinforcing fibers with guar tackifier
- For use with mulches that contain no tackifiers
- Increases bond strength of hydraulic mulches both mechanically and chemically

Rate: 30 lb/ac (33.6 kg/ha)

Packaging: Four, 7.5-lb (3.4 kg) bags/case



FiberLock™

INCREASE BOND STRENGTH

- Crimped, biodegradable, interlocking cellulosic fibers derived from regenerated plant-based sources
- Increases the mechanical bond and shooting distance of hydraulically applied mulches
- Enhances erosion control performance

Rate: 10 lb/ac (11.2 kg/ha)

Packaging: 10-lb (4.5 kg) case



SlikColor™

ENHANCE VISUAL METERING

- Concentrated marker dye
- Improves visual metering and enhances mulch color
- Slickifier increases the shooting distance of the mulch slurry

Rate: 3 lb/ac (3.36 kg/ha)

Packaging: 11, 1-lb (0.5 kg) water-soluble bags/case; Two, 11-lb (5 kg) jugs/case



AquaGel™ Coarse and Fine

SUPER ABSORBENT CO-POLYMER GEL

- Holds up to 400 times its weight in water
- Ensures plants and roots get water where needed
- AquaGel Coarse – Ideal for laying sod and amending planting beds
- AquaGel Fine – Ideal for hydroseeding, transplants and dipping roots

Rates: 10 lb/ac (11.2 kg/ha) for hydroseeding;

1 lb (0.5 kg) per 40 gal (151 L) of water for root dipping

Packaging: Two, 16-lb (7.3 kg) jugs/case; 25-lb (11.3 kg) bag; 50-lb (22.7 kg) drum

DELIVERING GREATER VALUE, PROJECT AFTER PROJECT

A global leader in erosion control and revegetation science, PROFILE Products LLC provides our customers with cost-effective and sustainable solutions using environmentally friendly products. We are the preeminent manufacturer and supplier of hydraulically applied erosion control technologies, turf reinforcement mats and vegetation establishment products.

Many of today's industry standards were innovations developed and introduced by Profile® incorporating Green Design Engineering™, our holistic approach that combines environmentally beneficial project design with products that are ecologically responsible. We endeavor to provide measurable value to our customers through our team of consulting professionals, innovative products, aggressive research and development, industry support, and delivery of educational resources.



Green Design Engineering™ is a holistic approach, combining environmentally beneficial design and ecologically sound products with agronomic and erosion control expertise, to provide the most effective, customized and cost-efficient solutions for erosion control and vegetative establishment.



Put Green Design Engineering into action. PS³ is the industry's first and only web-based design and selection tool that integrates erosion and sediment control engineering with agronomic excellence. Log on to ProfilePS3.com to find the right solution for your site.



PROFILE Products LLC
750 W. Lake Cook Rd • Suite 440
Buffalo Grove, IL 60089 • International 847-215-1144
profileproducts.com

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Solutions for your Environment, Earth-Friendly Solutions for Sustainable Results, Neutralime, JumpStart, AquaGel, FloccLoc, FiberLock, FiberBond Ultra, Tornado Tack, BioPrime, Biotic Soil Media, Aqua-pHix and SlikColor are trademarks of PROFILE Products LLC.

U.S. Patents: 7,854,926; 8,728,460; 10,266,457 | Canada Patent: 2,616,578



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