The Most Advanced Soil Amendments, Tackifiers and Fiber Mulch Additives for Establishing and Sustaining Vegetation
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 you need to make 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.

3. Selecting the Correct Erosion Control Material
The correct cover is necessary to protect both seed and soil, taking into account the erosion control product's effectiveness, ability to facilitate growth and the functional longevity required for that protection.

4. Ensuring Proper Installation
Correctly installing these products in accordance with the manufacturer’s mixing, application and installation guidelines will maximize their performance to meet required project results.

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
And it’s FREE with PS³

STEP ONE: Log in

www.ProfilePS3.com

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 are able to accurately assess the necessary amendments, plant species and erosion control measures that are 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.

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 products

The correct combination of ProPlus® Prescriptive Solutions and Biotic Soil Media™ can improve virtually any soil. 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.
Correct your soil pH to dramatically improve nutrient uptake and sustainable growth

NeutraLime™ Dry
- Fast-acting Calcium Carbonate (CaCO₃) works in 3-7 days raising pH and lasts for up to 18 weeks
- Typically used for acidic soils with a pH of less than 6.3; improves nutrient uptake and enhances plant establishment
- For best results, use NeutraLime in conjunction with slow release agricultural lime for sustained neutralization

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
- Fast-acting Calcium Carbonate (CaCO₃) works in 7-10 days and is effective up to 6 weeks
- High concentration of the purest form of lime
- Typically used for acidic soils with a pH of less than 6.3; improves nutrient uptake and enhances plant establishment

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 Modification

Soil pH is second only to moisture availability in its immediate impact on vegetation establishment. ProPlus’ NeutraLime™ and Aqua-pHix™ quickly neutralize acidic and alkaline soils, 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

<table>
<thead>
<tr>
<th>Soil Acidity</th>
<th>Soil Alkalinity</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACID</td>
<td>NEUTRAL</td>
</tr>
<tr>
<td>4.0</td>
<td>4.5</td>
</tr>
<tr>
<td>5.0</td>
<td>5.5</td>
</tr>
<tr>
<td>6.0</td>
<td>6.3</td>
</tr>
<tr>
<td>7.0</td>
<td>7.4</td>
</tr>
<tr>
<td>8.0</td>
<td>8.2</td>
</tr>
<tr>
<td>9.0</td>
<td>9.2</td>
</tr>
<tr>
<td>10.0</td>
<td>10.0</td>
</tr>
</tbody>
</table>

### TYPICAL APPLICATION RATES

<table>
<thead>
<tr>
<th>ProPlus’ Aqua-pHix and NeutraLime™</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aqua-pHix Hydro</td>
</tr>
<tr>
<td>Aqua-pHix Granular</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acid Alkaline Soils</th>
<th>Neutral Lime</th>
<th>NeutraLime Dry</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 10.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.3 – 10.0</td>
<td>(187 L/ha)</td>
<td>(2,488 kg/ha)</td>
</tr>
<tr>
<td>8.7 – 9.3</td>
<td>(94 L/ha)</td>
<td>(1,233 kg/ha)</td>
</tr>
<tr>
<td>8.0 – 8.6</td>
<td>(67 L/ha)</td>
<td>(628 kg/ha)</td>
</tr>
<tr>
<td>7.4 – 7.9</td>
<td>(23 L/ha)</td>
<td>(269 kg/ha)</td>
</tr>
<tr>
<td>6.3 – 7.3</td>
<td>(4 L/ha)</td>
<td>(314 kg/ha)</td>
</tr>
</tbody>
</table>

1 The minimum dilution rate for application with seed is 300 parts water to 1 part Aqua-pHix. For example, do not mix seed with more than 10 gallons (37.9 L) of Aqua-pHix in a 3,000-gallon (11,356 L) machine. In highly alkaline soils, apply seed in a separate step.

2 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.

Never mix Aqua-pHix with JumpStart.
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.

**BioPrime™ (Dry)**

- Slow release / rejuvenates poor soils
- Biostimulant with 18-0-0 slow-release nitrogen, humic acid, seaweed extract and endomycorrhizae lasting up to 6 months
- 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

**JumpStart™ (Liquid)**

- Accelerate germination and establishment
- Immediately effective liquid blend of soil-penetration agents, humic acid and more than 200 species of soil bacteria lasting up to 6 weeks
- Improves moisture infiltration and retention
- Promotes faster nutrient uptake
- Decreases 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

**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
- Can be used on challenging sites with difficult access and on steep slopes where topsoil and compost placement is impractical
- 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 not a stand-alone erosion control product and should be used with Profile’s erosion control products

**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 for ProPlus® JumpStart™ and BioPrime™**

<table>
<thead>
<tr>
<th>EC1 mmhos/cm</th>
<th>TDS2 ppm</th>
<th>SAR3</th>
<th>CEC% Sodium</th>
<th>%OM5</th>
<th>%OA6</th>
<th>JumpStart®</th>
<th>BioPrime®</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 0.4</td>
<td>&lt; 256</td>
<td></td>
<td></td>
<td>&gt; 2.5</td>
<td>&gt; 5.0</td>
<td>1.25 gal/ac (12 L/ha)</td>
<td>40 lb/ac (45 kg/ha)</td>
</tr>
<tr>
<td>0.4 &amp; &lt; 0.75</td>
<td>256 &amp; &lt; 480</td>
<td></td>
<td>&gt; 2.0 &amp; &lt; 3.0</td>
<td>&gt; 2.5 &amp; &lt; 5.0</td>
<td>&gt; 2.5 &amp; &lt; 5.0</td>
<td>3.75 gal/ac (35 L/ha)</td>
<td>120 lb/ac (134 kg/ha)</td>
</tr>
<tr>
<td>&gt; 0.75 &amp; &lt; 1.5</td>
<td>480 &amp; &lt; 960</td>
<td></td>
<td>&gt; 3.0 &amp; &lt; 4.0</td>
<td>&gt; 4.0 &amp; &lt; 6.0</td>
<td>&gt; 1.5 &amp; &lt; 2.0</td>
<td>5.0 gal/ac (47 L/ha)</td>
<td>160 lb/ac (179 kg/ha)</td>
</tr>
<tr>
<td>&gt; 1.5 &amp; &lt; 2.0</td>
<td>961 &amp; &lt; 1,920</td>
<td></td>
<td>&gt; 4.0 &amp; &lt; 5.0</td>
<td>&gt; 6.0 &amp; &lt; 7.0</td>
<td>&gt; 1.0 &amp; &lt; 1.7</td>
<td>0.75 gal/ac (7 L/ha)</td>
<td>60 lb/ac (69 kg/ha)</td>
</tr>
<tr>
<td>&gt; 2.0 &amp; &lt; 2.5</td>
<td>1,920 &amp; &lt; 4,480</td>
<td></td>
<td>&gt; 5.0 &amp; &lt; 7.0</td>
<td>&gt; 7.0 &amp; &lt; 15.0</td>
<td>&lt; 0.75</td>
<td>1.25 gal/ac (12 L/ha)</td>
<td>40 lb/ac (45 kg/ha)</td>
</tr>
<tr>
<td>&gt; 2.5 &amp; &lt; 3.0</td>
<td>4,480</td>
<td></td>
<td>&gt; 15.0</td>
<td>N/A</td>
<td>N/A</td>
<td>1.25 gal/ac (12 L/ha)</td>
<td>40 lb/ac (45 kg/ha)</td>
</tr>
</tbody>
</table>

**Typical Application Rates:**

<table>
<thead>
<tr>
<th>% Organic Matter</th>
<th>lb/ac</th>
<th>kg/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 0.75</td>
<td>5,000</td>
<td>5,600</td>
</tr>
<tr>
<td>0.75 &amp; &lt; 1.5</td>
<td>4,500</td>
<td>5,040</td>
</tr>
<tr>
<td>1.5 &amp; &lt; 2.0</td>
<td>4,000</td>
<td>4,480</td>
</tr>
<tr>
<td>&gt; 2.0 &amp; &lt; 5.0</td>
<td>3,500</td>
<td>3,920</td>
</tr>
</tbody>
</table>

1 Electrical Conductivity
2 Total Dissolved Salts
3 Sodium Adsorption Ratio
4 Sodium as % Base Saturation CEC (Cation Exchange Capacity)
5 Organic Matter
6 Organic Acids

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.

Typical Application Rates:

<table>
<thead>
<tr>
<th>% Organic Matter</th>
<th>lb/ac</th>
<th>kg/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 0.75</td>
<td>5,000</td>
<td>5,600</td>
</tr>
<tr>
<td>0.75 &amp; &lt; 1.5</td>
<td>4,500</td>
<td>5,040</td>
</tr>
<tr>
<td>1.5 &amp; &lt; 2.0</td>
<td>4,000</td>
<td>4,480</td>
</tr>
<tr>
<td>&gt; 2.0 &amp; &lt; 5.0</td>
<td>3,500</td>
<td>3,920</td>
</tr>
</tbody>
</table>

Soils with organic matter >5% typically do not require ProGanics.
# Tackifiers

The industry’s leading and longest line of binding agent products designed to assist in meeting diverse site conditions, applications and regulatory requirements.

## Tackifiers

### Tackifying 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 on soils
- 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 organic-based tackifiers are required

**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

### Tornado Tack™ ST-1000

**ALL-IN-ONE STRAW TACKIFIER APPLIED BY HYDROSEEDERS**

- Cellulose with biopolymers, crimped fibers and porous ceramics
- No field mixing required
- Excellent performance in high wind situations

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

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

### FlocLoc™

**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 water infiltration 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

Tip: Best value is not just cost per bag, calculate the applied cost per area!
Fiber Mulch Amendments help slurries shoot farther, spread more uniformly and bond to soil more securely.

**FiberBond Ultra™**

**INCREASE BOND STRENGTH**
- ½-inch (12.5 mm) polypropylene fibers with guar tackifier
- For use with mulches that contain no tackifiers
- Increases bond strength of hydraulic mulch fibers 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, ½-inch (12.5 mm) polypropylene fibers
- 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™ B (coarse particles) and D (fine particles)**

**SUPER ABSORBENT CO-POLYMER GEL**
- Holds up to 400 times its weight in water
- Ensures plants and roots get water where needed
- AquaGel B – Ideal for laying sod and amending planting beds
- AquaGel D – 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 www.ProfilePS3.com to find the right solution for your site.

©2016 PROFILE Products LLC, all rights reserved.
Profile, ProPlus, Tacking Agent 3 and ConTack are registered trademarks of PROFILE Products LLC.
Solutions for your Environment, Earth-Friendly Solutions for Sustainable Results, NeutraLime, JumpStart, AquaGel, FlocLoc, FiberLoc, FiberBond Ultra, Tornado Tack, BioPrime, ProGanics, Biotic Soil Media, Aqua-phix and SlikColor are trademarks of PROFILE Products LLC.