



VERDYOL

PLANT RESEARCH

THE BIOTIC FAMILY



 **VERDYOL**
Biotic Earth™ BFM



 **VERDYOL**
Biotic Earth™ Black



 **VERDYOL**
Biotic Earth™ HGM

Distributor:

www.bioticearth.com



PLANT RESEARCH

Hydraulic Line of Products



Biotic Earth™ BFM

Tough slopes, poor soils? Biotic Earth BFM takes immediate erosion control to the highest performance level with the added benefit of superior vegetation establishment. All of this achieved through the combination of a straw/flexible flax fiber based mulch with the added performance enhancement of Canadian Sphagnum peat moss and other proprietary plant growth materials bonded with a premixed cross linking EarthBound® Pro Soil Stabilizer and Tackifier.



Biotic Earth™ Black

Through a scientifically balanced combination of mycorrhizae infused Canadian Sphagnum peat moss enriched with Tricontonal Growth Stimulants, soil conditioners and micro nutrients you get the best possible soil conditioners in the Biotic Earth™ Black. Used in areas where the soil lacks organics and is generally of poor health, Biotic Earth™ Black improves moisture holding and infiltration, provides optimum seed germination, feeds the vegetation long term and kick starts the natural vegetation community which will prevent erosion long term. All this while providing exceptional immediate erosion control.



Biotic Earth™ HGM

Master gardeners have used peat moss for years as an effective seed germination and growth medium. Now hydroseeders can increase their erosion control performance and growing success through the addition of peat to the Biotic Earth HGM. A perfectly balanced organic enhancement of job site soils that are less than optimum! When peat is combined in the Biotic Earth™ with flexible flax fibers and straw of the HydroGold product, your erosion control and plant establish success is even further compounded.

ABOUT THE BIOTIC FAMILY (Introduction)

After construction, soil left for revegetation is often severely degraded and lacks many of the essential organics, nutrients and microbial properties to establish, grow, and sustain effective mature vegetation that can withstand the forces of erosion. The Biotic Earth™

Why consider the Verdyol Plant Research's hydraulic line of products



Make poor soils grow!

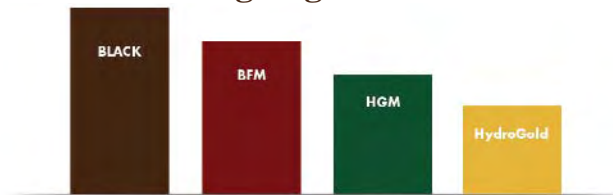
- The combination of organics (peat moss) to HydroGold product adds the much needed organics to the mineral subsoil that is being amended, giving you the base for which topsoil improves and vegetation grows.
- Through the addition of various materials, the subsoils will start to exhibit better aeration, reduced compaction, improved nutrient storage and transfer, improved soil solution management and other essential traits for vegetation establishment and growth.
- Reduces soil crusting for improved water infiltration and plant establishment.

Make good soils great!

- Improved erosion control so the good soil doesn't wash away.
- Improved rates of seed germination and plant establishment will further improve the soil's physical and chemical characteristics.
- Increased infiltration and soil permeability means reduced runoff.
- Addition of numerous trace minerals, sugars, starches, proteins and amino acids further improving the soil's tilth.

Which Biotic is best for you?

Best For Soil Ammending/Vegetation Establishment



Best For Erosion Control Performance



How do they compare?

Product	Straw FFF/Peat mix	Mycorrhizae	Growth Stimulant	FFF	Glue-Bonded
HydroGold	100 Straw & FFF	No	No	Yes	Tack required
HGM	70/30	No	No	Yes	Tack required
Black	40/60	Yes	Yes	Yes	Tack required
BFM	70/30	Yes	Yes	Yes	Yes

30 years of scientific research bring the following benefits to Verdyol customers:

- Higher performance erosion control.
- Improved soil tilth.
- Vegetation boosters for superior seed germination and plant growth.
- Cost-effective prices.
- An all natural, 100% environmentally friendly growth media.
- Easily applied hydraulic system.
- Providing highly effective erosion control technology.
- More in your tank means less production time required to refill.

hydraulic line of products are a series of erosion control mulches combined with our specially blended soil amendments of Canadian peat moss, micro nutrients and active Endomycorrhizae inoculants that will help your soil come alive and allow vegetation to thrive even on severely degraded or poor subsoils. When used in conjunction with our

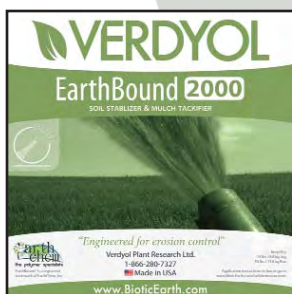
Soil Stabilizer & Tackifier Section

Ver-Tack



Ver-Tack is an effective binding agent for Verdyol Hydraulic Growth Mediums for erosion control and soil stabilization on mild slopes and mild erosive conditions and where vegetation establishment may require up to 3 months. Ver-Tack is a dark brown liquid formulated from ammonium lignosulfonate which is derived from lignin, a natural polymer found in wood that works like glue to hold together the cellulose fibers of pulp.

EarthBound® 2000

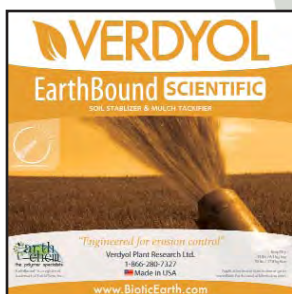


EarthBound® 2000 is a powder formulated from both long chain and cross-linking molecules in conjunction with a hydrocolloid vegetable gum based tackifier to provide effective soil structure stabilization, water infiltration, and most importantly to adhere HGMs to the soil surface.

It is specifically engineered and formulated to provide effective binding of Verdyol Hydraulic Growth Mediums for erosion control and soil stabilization on mild to moderate slopes and moderately erosive conditions where vegetation establishment may require up to 6 months.

An additional benefit is that it can be applied in almost all environmental conditions including light rain without any requirement for a cure time prior to subsequent rain.

EarthBound® Scientific



EarthBound® Scientific is a powder formulated from both long chain and cross-linking molecules in conjunction with a hydrocolloid vegetable gum based tackifier to provide even greater soil structure stabilization, water infiltration, and most importantly to provide exceptional adherence of HGMs to the soil surface than the EarthBound® 2000.

It is specifically engineered and formulated to provide highly effective binding of Verdyol HGMs for severe erosion control and soil stabilization on severe slopes and highly erosive conditions where vegetation establishment may require up to 12 months.

An additional benefit is that it can be applied in almost all environmental conditions including light rain without any requirement for a cure time prior to subsequent rain.

specially engineered EarthBound® Soil Stabilizers and Tackifiers, you are also ensured the most effective immediate erosion control on nearly any application.



HydroGold



Biotic Earth™ HydroGold Mulch Section

Why use just plain old wood or paper mulch when you can use the advanced erosion control technology plant growth abilities of the HydroGold Mulch manufactured from agriculturally renewable straw and flexible flax fibers? The HydroGold straw and flexible flax fibers have undergone special thermal and mechanical processing to ensure:

- Maximum water absorption
- Highly effective ground cover per weight of material
- Exceptional interlocking characteristics to resist raindrop detachment.



Flexible Flax Fiber is a natural interlocking fiber that lasts a couple years in nature. The natural interlocking and longevity characteristics of the flexible flax fibers is a perfect erosion control and fiber stabilization feature when combined with the erosion protection of wide fiber straw. The HydroGold forms the base component for the other Biotic Earth™ HGMs.

HydroGold Application Rates

HydroGold	Slope Gradient (H:V)	HGM Recommended Application Rates lbs/acre (kg/ha)	EarthBound® Recommended Application Rates
HydroGold For use in moderate to	= 6:1	1500 (1686)	EarthBound® 2000 15 lbs or 0.5 lbs/bag
highly erosive conditions.	>6:1 - <3:1	2000 (2248)	EarthBound® 2000 20 lbs or 0.5 lbs/bag
	=3:1 - =2:1 or other highly erosive conditions	2500 (2810)	EarthBound® Scientific 50 lbs or 1.0 lbs/bag
	> 2:1	3000 (3372)	EarthBound® Scientific 60 lbs or 1.0 lbs/bag



Biotic Earth™ Hydraulic Growth Mediums (HGM)
&
EarthBound® Soil Stabilizer & Tack
Application Rates

To maximize performance and ease in use Verdyol Plant Research recommends the use of the following quantities of the Verdyol EarthBound® 2000 or EarthBound® Scientific for each of the following Biotic Earth™ HGMs products at the noted rates. EarthBound® Pro is premixed/prepackaged in the Biotic Earth™ BFM, FRM, & HGM.

Biotic Earth™ HGMs	Slope Gradient (H:V)	HGM Recommended Application Rates lbs/acre (kg/ha)	EarthBound® Recommended Application Rates
Biotic Earth™ HGM For use in moderate to highly erosive conditions.	≤ 6:1	1500 (1686)	EarthBound® 2000 15 lbs or 0.5 lbs/bag
	>6:1 - <3:1	2000 (2248)	EarthBound® 2000 20 lbs or 0.5 lbs/bag
	≥3:1 - ≤2:1 or other highly erosive conditions	2500 (2810)	EarthBound® Scientific 50 lbs or 1.0 lbs/bag
	> 2:1	3000 (3372)	EarthBound® Scientific 60 lbs or 1.0 lbs/bag
Biotic Earth™ Black HGM Besides use as an erosion control/revegetation mulch	6:1 up to 3:1	3500 (3933) or greater depending on required soil conditioning	EarthBound® 2000 35 lbs or 0.5 lbs/bag
Biotic Black Earth can also be used on poor soils as a soil amending material.	≥3:1 up to 2:1 or other highly erosive conditions	3500 (3933) or greater depending on required soil conditioning	EarthBound® Scientific 70 lbs or 1.0 lbs/bag
Biotic Earth™ BFM, FRM & HGM For use on extremely erosive conditions.	Up to 1:1 and other extremely erosive conditions	3500 (3933)	EarthBound® Pro Premixed/prepackaged
All mulches when used in conjunction with a rolled erosion control product. Apply mulch and seed prior to rolled product installation.	May be used in any erosion control application in conjunction with a rolled erosion control product.	1000 (1124) or as required. Contact Verdyol Plant Research for site specific recommendations.	EarthBound® 2000 10 lbs or 0.5 lbs/bag

All application rates noted are general guidelines. Additional considerations like rainfall intensity and soil type should be considered prior to the use and application of any material to establish the level of erosion control required for a specific installation.

EarthBound® is a registered trademark of EarthChem, Inc.