ATLANTIC
CLRA | ACRSD

Maritime Hydroseed
Erosion Solutions & Landscape Services

VERDYOL
Biotic Earth™
Hydraulic Growth Mediums

WHY IMPORT TOP SOIL WHEN YOU CAN MIMIC MOTHER NATURE?

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AN ORGANIC APPROACH TO SOIL BUILDING

The Goal

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How are We Vegetating Now?

- Strip topsoil and pile it up until the end of the project
- Compact the ground
- Spread topsoil back out
- Apply erosion control, seed, and fertilizer
- Sometimes wateré
- Follow up care / maintenance

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The Biotic Approach Asks…

Is importing topsoil <u>really</u> needed for establishing vegetation & controlling erosion?

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We can get grass to GERMINATE on ANYTHING…

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Typical Department of Transportation Standard Specifications for Topsoil

"Use easily cultivated, fertile topsoil that is free from objectionable material, has a high resistance to erosion, and is able to support plant growth. Secure additional topsoil, if necessary, from approved sources"

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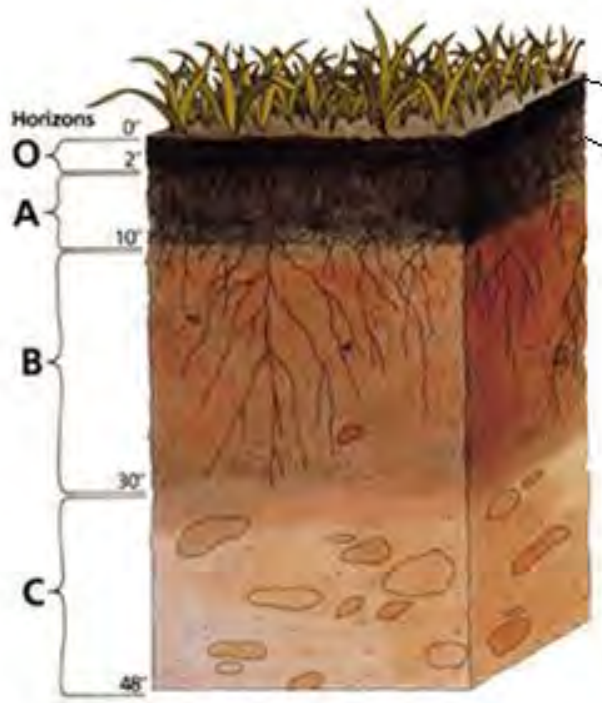
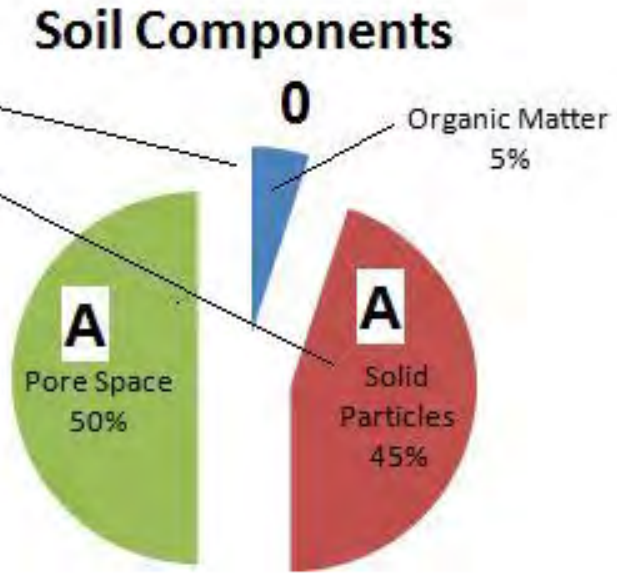
What is Topsoil?





O) Organic matter: Litter layer of plant residues in relatively undecomposed form.
A) Surface soil: Layer of mineral soil
B) Subsoil: This layer accumulates iron, clay, aluminum

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If we're adding topsoil to add organic matter, but organic matter is less than 5% of topsoil, that means what?

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The Drawback of Topsoil

The Ontario Provincial Standard specifies a minimum of 2 inches of topsoil. To achieve this requires the transport and management of 10 trucks per acre loaded with 26 cubic yards of soil in each.

Conventional approach to erosion control

Biotic Approach to Erosion Control → **Add Only What is Needed!** = **1/2**

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The function of organic material, or biotics, is soil improvement.

They should promote natural microbial activity, and natural topsoil forming processes- the hallmarks of healthy vegetation-supporting soil systems.

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What Sources of Organic Materials are Available?

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Compost: a great organic matter but in the tendering and low bid system is inconsistent and fraught with poor quality products. In other words, you can compost anything.

Garbage in a Compost Log

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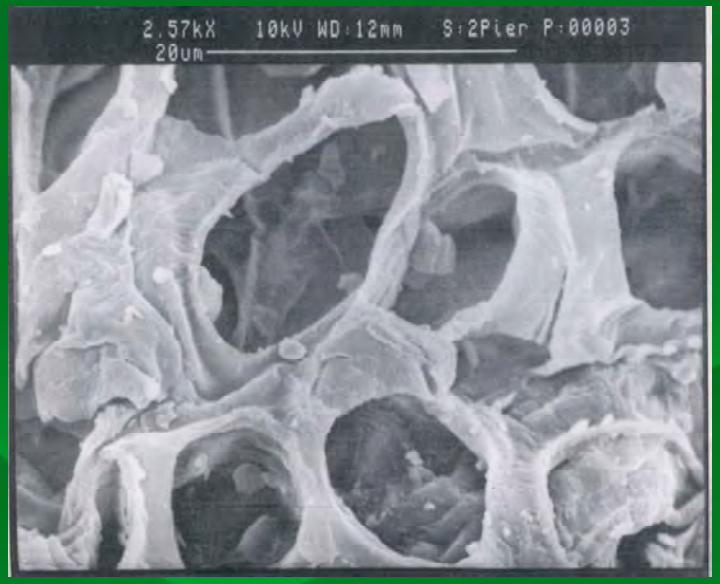
Why Peat Moss?



HONEYCOMB STRUCTURE

This photomicrograph of a peat moss particle shows itôs natural capillary and porous structure (natural sponge). It increases the water and nutrient retention as compared with any other source of organic matter (compost, manure, wood, etc.) The peat absorbs water and nutrients and avoids the leaching and loss of nutrients to the environment.

Why is it the most popular green house growing medium in the world?

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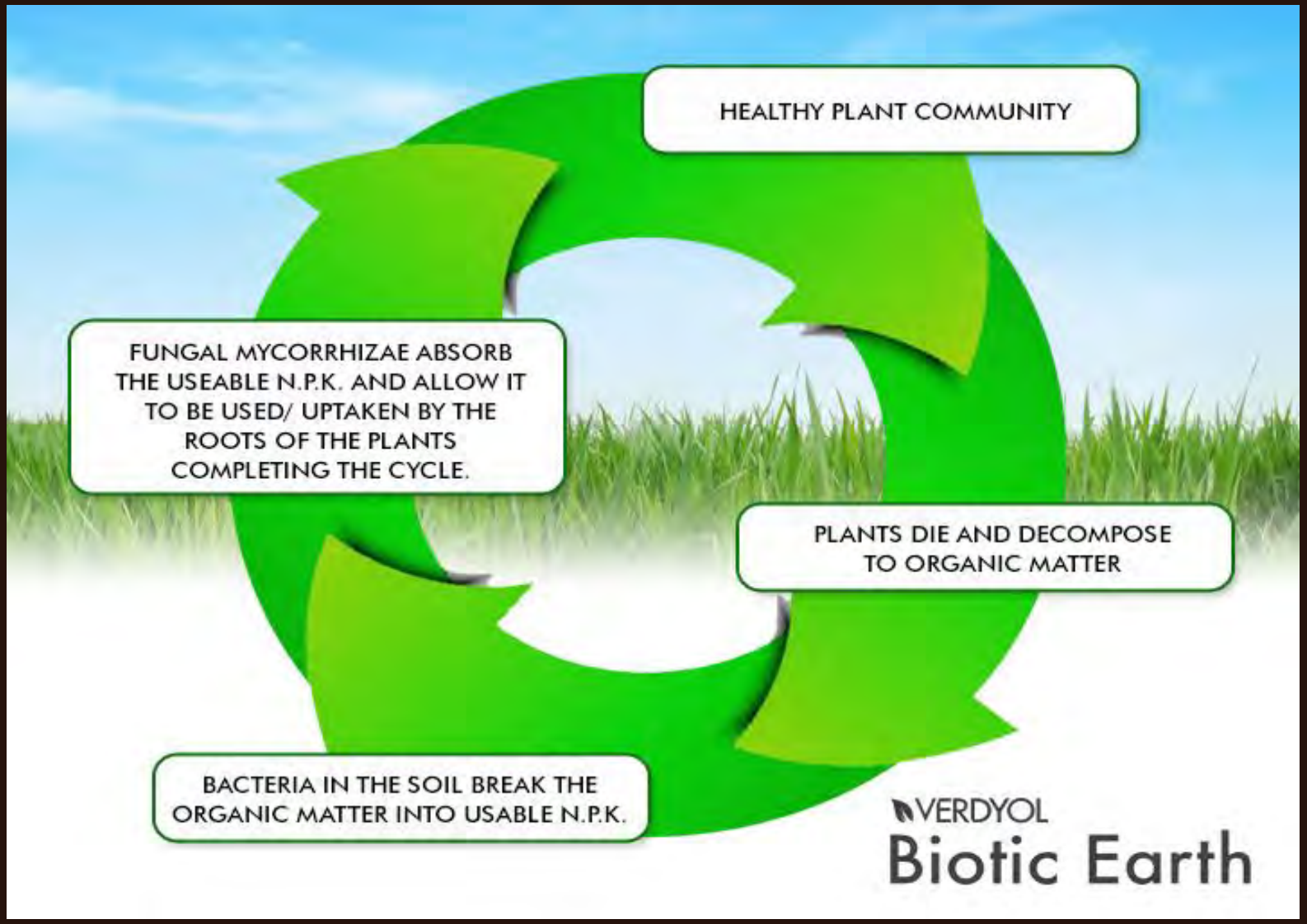
Putting it All Together



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Beneficial Soil Fungus / Mycorrhizae

ROOTS ARE LARGER CREAM COLORED STRANDS

LIGHTER COLORED FINER STRANDS ARE ALL MYCORRHYZAE

This mycorrhizae convert and transport the nitrogen, phosphorous, and potassium the plants need into a form they can easily take up, and they eat (thus creating a symbiotic environment) by feeding off of the sugars (also called exudate) that the plants produce in their roots.

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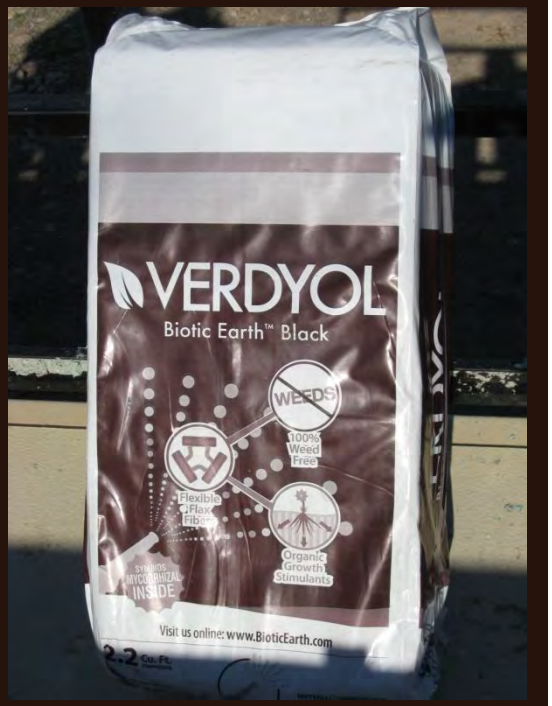
Biotic Earth Black

- 60% Sphagnum Peat Moss
- 40% Straw with Flexible Flax Fiber
- Mycorrhiza and Bacteria
- Tricontonal Growth Stimulant
- Micro Nutrients



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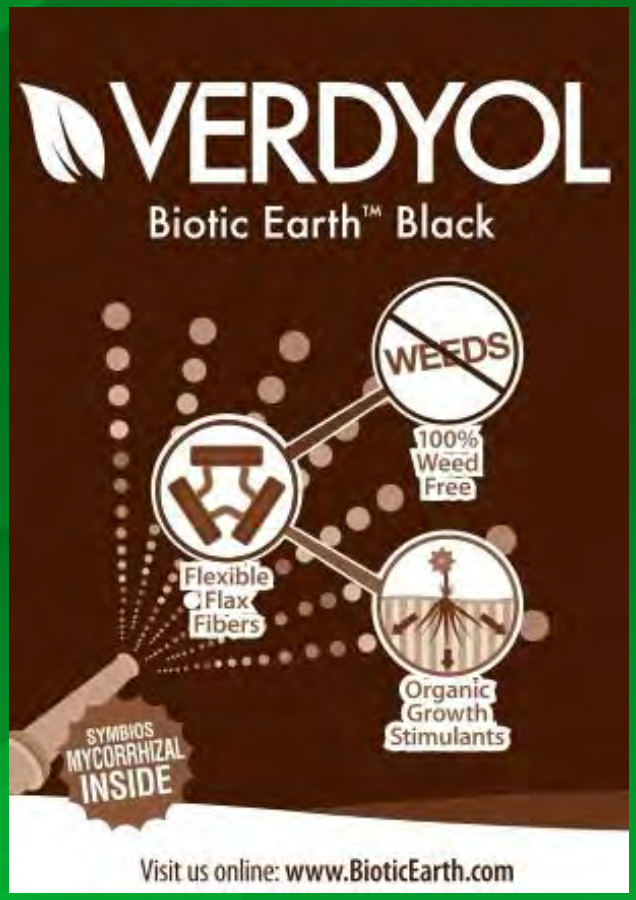
Use on soils where:

- there are minimal to no organics
- there is little to no soil structure
- application will occur over subsoil
- a moderate level of erosion control is required

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Effects of mycorrhizea
(a strong root system)


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Biotic layer mimics the natural O horizon

Case Study ï Slope, Saint John, NB


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Loading the Hydroseeder

Low grade soil with poor organics


Biotic Earth Application


Biotic Earth Application

FRM Application
(Fibre Reinforced Matrix)

Completed FRM Application


6 weeks post application of Biotic Earth & FRM


applying Biotic Earth
6 weeks post application of Biotic Earth and FRM


after (6 weeks)
before


6 week growth


Back Slope before application


Applying Biotic Earth to the Back Slope


Back Slope FRM application


Back Slope 6 weeks post application

Questions?

Follow up??

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Erosion Prevention • Sediment Control • Revegetation • Stormwater Control

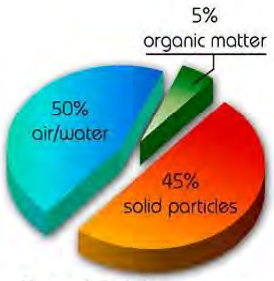
Make Poor Dirt Rich With Biotic Earth™

Soil that lacks the necessary 5% organics requires additional topsoil to establish vegetation and prevent soil erosion.

Verdyol Biotic Earth™ provides the correct amount of organic matter without the need to import and apply expensive topsoil.

Biotic Earth is made with peat moss, flexible flax fibres plus a tackifier. It is then mixed with fertilizer, water and grass seed and applied with a high pressure hydroseeder. This approach has significant benefits over the traditional approach of spreading topsoil:

- provides the right amount of organics
- minimizes the amount of earthwork
- provides immediate erosion control
- perfect for hard to reach locations
- Biotic Earth utilizes natural ingredients
- perfect for short growing seasons
- huge cost savings



Natural Soil Components

With three products to choose from, we can select one that best suits the soil condition.

Biotic Earth™ BFM - best for erosion control
Biotic Earth™ Black - best for soil ammending
Biotic Earth™ HGM - balanced product

Erosion Solution Specialists

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