

PRODUCTS

Thatch control made easier: product breaks down lignin layer

Thatch control might be the most talked-about turf problem, after insect/weed/disease control.

The layer of stems and roots that accumulates at the soil surface is one of the causes of weakened root systems and thinning turf.

A new product from Envirogenesis, called Thatch Biodigester, is reported to have shown good results in breaking down thatch through the action of naturally occurring organisms that improve the soil, increase turf disease resistance and restore the turf to a balanced ecosystem.

A key factor in the apparent success of Thatch Biodigester is its ability to reduce the concentrations of lignin, an aromatic polymer which surrounds woody tissue, and which makes up much of the composition of thatch.

According to Envirogenesis, most natural lignin is not degraded to the level of carbon dioxide but instead ends up as humic material. The lignin surrounding the outer layers of turfgrass tissue forms a barrier against microbial degradative enzymes.

Field trial—Envirogenesis recently reported positive results in thatch reduction in two field experiments; one was conducted at the University of California, Davis and a seven-month trial at Edgewood Tahoe Golf Course in Lake Tahoe, Nev.

Results showed higher population of microorganisms useful in thatch control, and better water movement.

According to Envirogenesis, field trials at Edgewood also support the concept that as the complex thatch organic substrates are metabolized and the water-soluble con-

stituents, cellulose and hemicelluloses disappear, the lignin content of the decaying residue rises. As a consequence, well-decomposed materials have a high percentage of lignin that can be measured in field trials.

Thatched turfs may become hydrophobic when dried, a condition that prevents water from reaching the soil.

Evidence suggests that the Thatch Bio Digester improves the water relationship to the soil atmosphere of thatched turfgrass through lignocellulosic conversion.

According to Envirogenesis, a report by Dr. James Beard in 1973 found that improved water relations will accelerate decomposition of thatch, and may also speed the remedy of localized dry spots.

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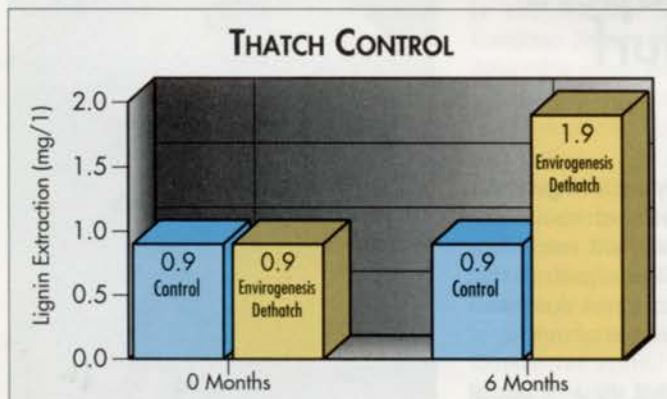


Fig. 1: Lignin content of decayed residue from core samples; Edgewood Golf Course trials, 1992.

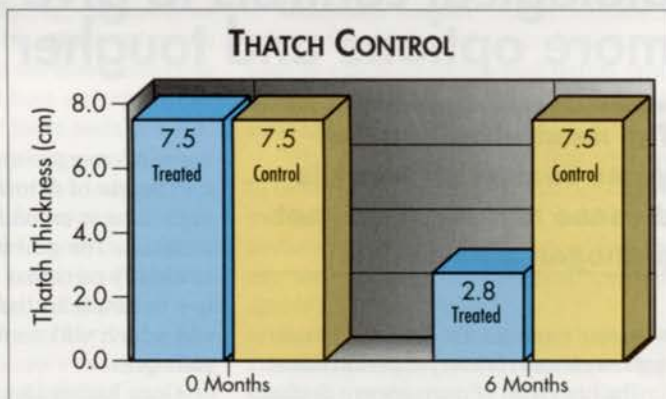


Fig. 2: Thatch thickness from core samples over time; Edgewood Golf Course Trials, 1992.

Carbon-rich blend provides energy for microorganisms

Growth Products, Ltd. has released Essential, an organic matter management product for the professional turf manager.

A liquid solution, Essential is described as a totally natural, organic solution, composed of a unique blend of carbon rich materials, each selected to provide all the various stages of organic decomposition of natural matter.

Essential supplies quick decomposers and more complex forms that require a longer breakdown period, and assist in the

process of soil rejuvenation.

Growth Products says Essential is designed to provide an energy source

for microorganisms, and plant nutrition with simple and complex sugars, enzymes, amino acids and natural organic chelates.

Product nutrients are absorbed through leaf and root tissue to improve plant physiology.

Growth Products says Essential is 100 percent soluble and can be mixed with N-P-K fertilizers and other technical products, for either foliar application or soil injection.

Essential is packaged in quart, gallon,



2-1/2 gal. and drum quantities.

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PRODUCTS

New inoculant jump-starts compost, produces humus

Enviromate Compost Inoculant, by Chr. Hansen's Biosystems, is a scientific combination of selected microbials, enzymes and nutrients designed to initiate and control the natural composting process. Hansen's says the product initiates and promotes a more controlled process, and produces a rich, uniform humus.

The bacteria in Enviromate—*Bacillus megaterium*, *Bacillus licheniformis*, and *Bacillus subtilis*—are a mixture of mesophiles and thermophiles. Mesophiles grow and metabolize well at medium temperatures; thermophiles do well at higher temperatures. Hansen's says these types of bacteria are the most effective decomposers in the composting process.

The guaranteed levels of highly active enzymes in Enviromate—cellulase and pectinase—assist in the rapid breakdown of plant cell walls and other hard-to-decompose organic material.

Cellulase breaks down plant cellulose, or fiber. Pectinase dissolves, pectin, which is a component of the plant cell wall.

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Fertilizer eliminates product waste, adds to turf color

The Milorganite Marketing Division has introduced Milorganite Greens Grade fertilizer, primarily for use by golf course superintendents or persons in charge of highly-managed turf areas.

Alan K. Nees, Milorganite director of marketing, says the product was developed after much demand from superintendents.

"They want a dependable product that can be applied at virtually any time of the year and on any type of turfgrass, and yield the kind of results that the golfer will notice," says Nees.

The product is the same analysis as the company's regular grade Milorganite.

The size of the granule will be produced in very tight dimension specifications, eliminating waste caused when fertilizer is picked up by grass catchers. According to the company, the fertilizer granules' uniform sizing will result in an even and sustained release of nutrients.

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Customized soil blending for golf course, sports turf uses

NorthWoods Organics is an affiliate company of Greensmix, a turf industry leader in customized soil blending. The company provides high quality, custom-processed organics for golf course and sports turf construction.

NorthWoods says its expertise is a result of nearly two decades of applied research at the University of Minnesota and 50 years of construction retail and blending businesses.

Its products include all types of peat sphagnum moss, reed-sedge hypnum and peat humus and composts, processed to specification.

Northwoods says its specialty includes quality control in the area of sports turf organics.

NorthWoods welcomes questions regarding our organic products and their uses in all aspects of sports turf construction, renovation and maintenance.

The company is headquartered in Duluth, Minn.

Circle No. 209 on Reader Inquiry Card

Instrument monitors environs and records pest activity

The EnviroCaster is designed to monitor the environmental conditions when plant disease and pests become most active.

The computer driven system is completely automated, solar powered, and PC compatible.

Each EnviroCaster can hold up to six models per module, which allows the user to take preventative measures based on the data collected.

EnviroCaster, made by Neogen Corp., (headquartered in Lansing, Mich.), is designed to monitor:

- air temperature;
- relative humidity;
- degree days (four accumulators);
- soil temperature at two depths;
- wind speed and direction;
- soil moisture and dewpoint.

The unit records data every 15 minutes, for 24 hours each day.

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Handbook covers natural approach to landscapes

The Landscape Restoration Handbook is a joint publication of the United States Golf Association and the New York Audubon Society.

The handbook demonstrates how to use naturalization as an alternative to more intensive management of landscapes.

Published by Lewis, the book shows how to obtain a variety of benefits from natural landscaping or ecological restoration projects:

- water quality improvement;
- erosion control;
- low maintenance;
- chemical reduction;
- ecosystem and ecological community protection and plant and animal species diversity.

The book also provides a list of scientific and common plant names associated with ecological communities throughout the US.

Available from Lewis Publishers, Boca Raton, FL, by calling (800) 272-7737; or from USGA, (800) 336-4446.

BIOTURF NEWS

For professional landscapers, lawn care operators and golf course superintendents interested in learning more about organic turf care supplements to existing chemical control.

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