

BIOTURF NEWS

'Total System' for turf based on balance between organics and cultural practices

Canadian company shows clients that results of organic turf care programs are worth the wait.

■ It's got to make the skeptics sit up and take notice.

A 25-year-old company reduces chemical pesticide and synthetic fertilizer use by 80 percent for a majority of its 4000 customers using a fish-based fertilizer.

Is it because John Edmonds' company is in Halifax, Nova Scotia? Is the turf that much different up there?

Nope. Edmonds Landscape and Construction Services, Ltd.—run by John and his brother Roger—says it has made a success of organics by way of thorough education, patient customers and an effective fertilizer.

Edmonds' conversion to organic turf care began in 1989 when it developed its "Organic Pro Lawn, Earth, Tree and Shrub Care" programs. Employee training came first, followed by customer initiation.

"After demonstrating that organic soil management practices were more advantageous to the landscape in the long term," says Edmonds, "clients gradually began realizing that synthetic pesticides

and fertilizers were an unnecessary step in the landscape management process."

The secret: build up a healthy topsoil and let the natural soil biology do its thing. Some properties are now in the third year of the organic program, and, according to Edmonds, none of the properties is showing any strain. There's less chemical leaching, less thatch buildup, and better disease/insect/drought resistance.

John Edmonds, left, and biology professor David Patriquin are studying the fertility and soil-building properties of different compost materials.



Find the right formula—The next major step was to hit on a product that worked. Edmonds collaborated with National Sea Products, Ltd., to produce SeaGreen 7-7-7 fish-based fertilizer. NSP

now sells SeaGreen across the country. The company also continues to research the efficacy of various other organic fertilizers. Organics expert, Dr. David Patriquin, and the Edmonds staff are also researching the viability of using spent brewery grain as an organic soil amendment.

Current experiments involve the use of white clover seed in lawn mixes to fix atmospheric nitrogen into usable plant nutrients. (see sidebar).

An Integrated Pest Management system relies on pest identification and population monitoring to best determine the proper control method to use, and when. Proper soil conditions such as drainage, fertility, pH and soil structure are all key components.



The grounds around Summer Gardens, a Halifax condominium complex, show the results of the SeaGreen program.

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TOTAL SYSTEM RESEARCH

■ John Edmonds' "Total System Organic Management" focuses on turf care in the urban/suburban environment by using "specific management strategies and products to create ecologically healthy environments at relatively low costs."

One part of the company's research is taking place on turf plots established on the grounds of "The Oaks" at St. Mary's University in May of 1992. Laboratory, greenhouse, growth chamber and outdoor lysimeter experiments are also being conducted at Dalhousie University. The Oaks plots were established on two soil types, one a newly-imported topsoil and others on severely degraded soil.

Locally available waste products are being compared with synthetic NPK fertilizer treatments and control plots using no soil amendments. The waste products tested include:

- an agricultural compost;
- unprocessed brewery waste;
- SeaGreen fish byproducts;
- three grass mixes, including a custom "Ecomix"; an off-the-shelf mix; and a mix of two tall fescues, one with clover, and one without clover;
- rock-phosphate in the "no-clover" mixes.

Greenness was assessed visually, and by chlorophyll measurements using a Minolta chlorophyll meter.

Greenness was found to be roughly proportional to the total nutrient applications. In July and August, the control plots were darkest green on the better field, and the brewery waste and Seagreen plots were darkest on the field of degraded soil.

According to the Edmonds report, results showed that it is possible to achieve sustained high quality of turfs with organic management, and that it is important not to over- or under-fertilize, and to select mixes for organic use.

Similar intensive tests have been conducted for chinch bug control and weed control. To obtain a copy of the company's Greenfacts Special Research Edition, contact Edmonds Landscape and Construction Services, 2675 Clifton St., Halifax, N.S. B3K 4V4; or fax your request to (902) 455-9956.

"Some of our high-profile properties haven't had any chemicals applied on them for two years," says Edmonds, "and chinch bugs are not a problem. That's not the case for chemically-treated lawns." A

\$5 million company, Edmonds Landscape and Construction Services was awarded the Canada Award for Business Excellence in 1991 for what was viewed as a valuable, death-defying—and apparently success-

ful—business feat.

A composting program began last year. Backyard composters are given free to regular landscape maintenance clients.

—Terry McIver

Healthy soil the key to turf care science

Biological soil management may be the 'missing link' in making IPM programs work.

by Joel Simmons,
EarthWorks, Inc.

■ Man's survival has always depended on his ability to work the land.

As man became more civilized, so did his skills at agriculture and horticulture and his understanding of the importance

of proper soil management. Today, many farmers, fruit growers and turf managers are re-evaluating the importance of the soil and gaining an understanding for the concepts of biological soil management.

Rediscover the basics—Biological soil management is based on solid agronomic principles that date back decades, if not centuries. Dr. William Albrecht, the former head of agronomy at the University of Missouri, wrote in the late 50s and early 60s of the importance of maintaining a healthy soil. Today, the agriculture industry is making major changes in its outlook toward the importance of soils, as farmers continue to lose

topsoil at alarming rates.

The practice of eco-agriculture is being led by government and universities in the U.S. and the world over.

Many in the turf industry are starting to realize the advantages of natural programming. An effective program depends on an understanding of the agronomic principles behind biological soil management.

For years now, we have been focusing on plant growth, and have ignored the soil. We must build a healthy soil first, which allows for ample nutrition, and a healthier plant.

The principles—There are four basic agronomic principles that have to be considered to build a healthy soil. Those are, in descending order of importance:

- air management;
- water management;
- decay management; and
- nutrient management.