## A SECOND SUCCESS

## Turfgrass Symposium Grows in Quality and Quantity

The registration at the 1993 Guelph Turfgrass Symposium swelled to 886 from the 560 who registered in 1992. The largest increase was from the turf managers of the future, the student registrants, as whose numbers increased from 80 to 229. These numbers do not include the 301 people who attended the Trade Show only and the over 200 people who manned the exhibits. The number of STA menbers in attendance remained the same at 41.

While numbers are a statistical measure of success, the speaker program was equally well received. Over 400 people listened to Dr. James Beard trace the development of the turfgrass industry over the passed 50 years and project its development into the next century. Likewise, each of the Concurrent Seminars was well attended. Subjects ranging from 'Team Building' by Dr. Lynda Pinnington to 'Using Weather Information for Smart Turf Management' by Prof. Terry Gillespie gave attendees a wide range of subject matter to choose from.

The Sports Turf Association hosted three very well attended, half-day sessions where 10 speakers covered various subjects of interest to field managers. The theme of the Wednesday morning session on water was attended by registrants from all aspects of turf, golf superintendents, lawn care professionals and sod growers in addition to sports field managers. In this session Prof. Gillespie enlarged on the water budget concept of irrigation scheduling which was featured in the last Newsletter; Andrew Gaydon discussed the latest in equipment to apply water; Bill Wardle outlined regulations which the government has, or may, impose; and Tom Clancy reviewed what happens when city politicians cut the water line to your sports fields when drought strikes.

Make your plans now to attend next year's Symposium. It will be held January 5th, 6th and 7th. The Organizing Committee is already working to give you a better program. The other good news is *the registration fee will not change and parking is free.*

# GTI Research Hilites

Professors Jack Eggens, Tom Hsiang and Ken Carey, with the assistance of graduate student Xuecai Liu, reported in the 1992 GTI Research Report on a two-year trial with some new organic nitrogen fertilizers.

They introduced the report by stating "Societal concerns regarding environmental quality are prompting the development and use of various kinds of organic amendments to reduce or replace inorganic fertilizer and synthetic pesticide use. These amendments come from a number of sources and they may include slow release of nutritive components, protection from or enhancement of the turfgrass microflora, or addition of different types of living or non-living organic elements."

One of the materials they compared to the standard nitrogen sources, ammonium nitrate and sulphur-coated urea was the 'RINGER' products. These materials are produced from poultry feather meal, blood meal, wheat germ, sulphate of potash and bone meal. They also contain selected proprietary strains of the bacteria, *Bacillus subtilis* and *Bacillus spp.*, and other selected soil microbes related to *Trichoderma viride*. These microorganisms may have a competitive or antagonistic influence on pathogenic organisms which affect turf.

The materials compared and the rate of nitrogen application are listed in Table 1. Alginate is a marine kelp material of little nitrogen value whereas Sandaid is a unspecified marine plant material of similar analysis. They are reported to contain micro elements and other compounds of benefit to turf.

The materials were applied every four weeks beginning June 5, 1991 and June 12, 1992 until September, followed by a dormant application in November for a total of six applications per year.

With the exception of Milorganite, the spring colour of the turf was directly related to the nitrogen applied during the previous year. There was a trend for the Ringer products to provide slightly better spring colour than the inorganic forms of nitrogen. Turf quality, measured on the 12th of August, 1992, was

**Table 1:** The rate of application of several organic materials on Kentucky bluegrass and ratings of turf colour and quality.

| Material | Nutrient Analysis | Application Rate Material | Application Rate Nitrogen | Spring Colour | Turf Quality |
|---|---|---|---|---|---|
| | (N-P-K) | (kg/100 $m^2$) | | (1 - 9*) | |
| Control | - | - | - | 1.0 | 5.3 |
| Ammonium Nitrate | 34-0-0 | 1.3 | 0.44 | 4.0 | 7.5 |
| S-coated Urea | 45-0-0 | 1.5 | 0.52 | 4.0 | 7.0 |
| Milorganite | 6-2-0 | 7.4 | 0.44 | 2.0 | 6.5 |
| Ringer Lawn Restorer | 9-4-4 | 4.9 | 0.44 | 4.5 | 7.8 |
| Ringer Turf Restorer | 10-2-6 | 4.9 | 0.49 | 4.5 | 8.0 |
| Bovamura | - | 0.5 L | - | 1.0 | 6.0 |
| Alginate | 1-0-2 | 10.0 | 0.01 | 1.0 | 6.0 |
| Sandaid | 1-0-2 | 10.0 | 0.01 | 1.0 | 5.5 |

* Evaluation scores were from 1 to 9: 1 = poor, 5 = acceptable and 9 = excellent. Spring colour ratings were made April 30, 1992. Quality ratings were taken from the Aug. 12, 1992 measurements.

**Table 2:** The effect of the soil amendments on the microbialpopulation in the thatch and soil under bluegrass.

| Material | Bacteria Thatch | Bacteria Soil | Fungi Thatch | Fungi Soil | Thatch Depth |
|---|---|---|---|---|---|
| | (propagules per gram soil x $10^6$) | | | | (mm) |
| Control | 273 | 65 | 65 | 24 | 15.7 |
| Ammonium Nitrate | 263 | 49 | 132 | 42 | 14.4 |
| S-coated Urea | 390 | 58 | 87 | 22 | 14.9 |
| Milorganite | 268 | 56 | 87 | 32 | 16.0 |
| Ringer Lawn Restore | 576 | 87 | 160 | 43 | 13.3 |
| Ringer Turf Restore | 494 | 66 | 108 | 37 | 13.2 |
| Bovamura | 199 | 42 | 103 | 16 | 14.2 |
| Sandaid | 296 | 86 | 77 | 29 | 13.6 |
| Alginate | 221 | 76 | 72 | 19 | 15.7 |

similar for all materials providing 0.44 kg of N/100$m^2$ with the exception of Milorganite which rated a full point lower.

Plots treated with Ringer Turf Restore or Ringer Lawn Restore had significantly higher microbial populations in the thatch layer. There was a tendency for the application of nitrogen to reduce the thickness of the thatch and for the thatch reduction to be greater where the Ringer materials, or Sandaid, were used. The data would suggest that the enhanced microbial population was effective in reducing thatch in the bluegrass.

**Editorial Note:** Relative to inorganic nitrogen and conventional cultivation techniques for turf quality and thatch control, the final assessment of these new materials rests with the turf manager who must balance cost with their performance based on $/kg of N and a reduced need for thatch control.

## IN MEMORIAM

The Association was saddened to learn of the death of Scott Richmond, in his 35th year as a result of a snowmobile accident on Saturday, Jan. 30, 1993. Scott was Vice President - Sales for Hutcheson Sand & Mixes of Huntsville. Hutcheson's wish to express their thanks to those who assisted in teaching Scott his skills in preparing mixes for better turf. The Association regrets the loss of a valued member of the turf industry.

## Pest Diagnostic Clinic on the Move


The Pest Diagnostic Clinic has moved to the new OMAF Laboratory Services Building on Stone Road in Guelph.

This Clinic offers a diagnostic service to turf managers whose turf may have disease, insect and nutritional problems. If you are not sure what your problem is it is good policy to have a positive identification by this service prior to commencing any treatment. Contact the clinic with regard to protocol for sampling and costs of the service before taking any action. It can save many dollars from incorrect application of chemicals.

Contact: Pest Diagnostic Clinic,
Ag. & Food Laboratory Services Centre,
P.O. Box 3650,
95 Stone Road W., Zone 2,
Guelph, ON.
N1H 8J7

(519) 767-6256

## GRASS CLIPPINGS

- Many animal activities (humans included) create harmful gasses such as carbon dioxide, ozone and methane. Grasses, however, absorb carbon dioxide to survive and replace it with oxygen, vital to the respiration of all animals.


- An area of turf, 50 ft. by 50 ft., generates sufficient oxygen in a day to meet the needs of a family of four.
- Grass produces about 200 pounds of dry clippings per 1,000 square feet per year. If allowed to decay on the surface, they will release 10 pounds of nitrogen, 8 pounds of potassium and 0.8 pounds of phosphorus to the growing grass.
- Studies at Penn State found the runoff and leachate obtained two days after man-applied fertilizer and pesticides provided cleaner water than what government agencies require for drinking water.
- 90% of the weight of a grass plant is in its roots, making it a very efficient system for stabilizing soils.