## Welcome New & Renewed SFMANJ Members

Currently we have 373 members. 66 have not renewed as of this publishing date and 34 are new members. If you have not seen your name in this newsletter please call (908)730-7770 or email us at hq@sfmanj.org. Take advantage of the August Trade Show and Equipment Demonstration Field Day discount by renewing today.

| | |
|---|---|
| Tom Allen | Monroe Township |
| Douglas Ball | Maplewood Township |
| Alex Barcheski | Perth Amboy, City of |
| Anthony Barone | Down to Earth Landscaping, Inc. |
| James Betts | Tuckahoe Turf Farms Inc |
| Ed Biernacki | South River Board of Education |
| Bob Borelli | Northern Nurseries, Inc. |
| Charles Bullerjohn Jr. | Jonathan Green |
| Virgil Caputo | Monroe Township |
| John Carbone Jr. | Morris & Bergen County Irrigation |
| Ron Carroll | Weymouth Township |
| James W. Casey | Lakewood Township |
| Ray Cipperly | Somerset Patriots Baseball Club |
| Gerald Collincini | Manalapan Township Recreation |
| Kenneth Dix | Lakewood Township DPW |

### SFMANJ Annual Membership Registration Form

* receive update information by email

Name ______________________

Title ______________________

Employer ______________________

Address ______________________

City ______________________

State ____________ Zip ____________

County ______________________

Phone ____________ Fax ____________

*E-mail ______________________

Signature ______________________

*Individual* ............ $35
*Associate* ............ $35
*Organization/Institution* ............ $35
*Additional member from facility* ............ $20

*Commercial/Contractor/Vendor/Supplier* ..... $85
*Additional member from company* ............ $25

*Student* ............ $10

*Send with Check or voucher to:*
SFMANJ
P.O. Box 370
Annandale, NJ 08801

## 2004

### *SFMANJ Board of Directors*

**President** ............ **Eleanora Murfitt-Hermann, CRS**
**Washington Twp Parks & Recreation**

**Vice President** ............ **Jim Hermann CSFM**
**Total Control Inc**

**Secretary** ............ **Fred Castenschiold**
**Storr Tractor Company**

**Treasurer** ............ **Dean Marzocca**
**Dean's Lawn & Landscape Co.**

### *Directors*

**Dr. James Murphy - Rutgers University**

**Jeff Cramer – Plainsboro Township DPW**

**Clare Liptak – Rutgers University**

**Brad Park – Rutgers University**

**George McCarthy – Spring Irrigation Co., Inc.**

**Robin VanDerlyn, Chatham School District**

**Advisor**............ **Dr. Henry Indyk**
**TurfCon GSI Consultants, Inc.**

### *Mission Statement*

**Committed to enhancing the professionalism of athletic field managers in New Jersey by improving the safety, playability and appearance of athletic fields at all levels through seminars, field days, publications and *networking* with those in the sports turf industry.**

***Contact us at:***

**P.O. Box 370**
**Annandale, NJ 08801**
**Web Site – www.sfmanj.org**
**E-mail – hq@sfmanj.org**
**Ph/Fax – 908-730-7770**

**National Organization**
**Sports Turf Managers Association**

**www.sportsturfmanager.com**
**e-mail: SportsTMgr@aol.com**
**Phone: 1-800-323-3875**

| | |
|---|---|
| Paul Donato | Elite Landscaping |
| Jeffrey Dorer | Morris Hills Regional District |
| Steven Douglas, CPWM | Bethlehem Township |
| John Doyle | JDL Equipment |
| Robert Erickson | Bordentown, City of |
| Brian Feldman | Trugreen Companies |
| Guy Fitzgerald | The LandTek Group |
| Bill Foelsch | NJ Recreation & Park Assoc. |
| Robert Fredericks | Central Irrigation Supply |
| Jay Fulton | Monroe Township |
| Brian Gardner | Tuckerton Turf Farms Inc. |
| Michael Gonnelli | Secaucus, Town of |
| George Herberger | Ben Shaffer & Associates, Inc. |

***continued on page 4***

# Calendar of Events

## 3rd Annual SFMANJ Field Day/Outdoor Trade Show and Equipment Demonstration

***When:*** August 17, 7:30am to 4pm Trade Show opens 9am., Demos begin 10am.
***Where:*** Plainsboro Township DPW, Community Park.
**What:** Educational sessions for Contractors, Landscapers, Parks & Recreation, Irrigation and Sports Field Managers.
**CEU's are pending**
See front page for more information
Fliers will be sent soon. ◆

***continued from page 3***

| | |
|---|---|
| Jim Hermann, CSFM | Total Control Inc. |
| Gene Huntington | Duke Farms Foundation |
| James C. Kelsey | Partac Peat Corp./Beam Clay |
| William Koonz | Koonz Sprinkler Supply |
| Jim Lawlor | Atlantic City Special Improv. Dist. |
| Clare S. Liptak | Rutgers Coop Ext Soil Testing Lab |
| Patric Lisanti | Growing Concern Inc.-Irrigation Div. |
| David Maines | Madison, Borough of |
| Kevin Malone | The LandTek Group |
| Jeffrey Marcason | Northvale, Borough of |
| Ken Mathis | Brick Township |
| Tim Moore | The Lawrenceville School |
| Dennis Myers | Ranney School |
| John Neyhart | Monmouth County Career Center |
| Michael Nicotra | Camden Riversharks LLC |
| Mike Oleykowski | Fisher & Son Co., Inc. |
| Bradford Pastrick | North Brunswick Township |
| Sam Pepe | Central Regional School District |
| Bud Perdun | North Brunswick Board of Ed |
| Joseph Pitcher | Harding Township Public School |
| Mark Rapp | Cinnaminson Township |
| Steve Ratto | Bergen County Dept. of Parks |
| Frank Ravaschiere | Long Branch, City of |
| Gerard Redmond | Freehold Twp. Board of Ed |
| Stephen Regec | Boonton, Township of |
| Paul Richardson | Modern Handling Equip of NJ, Inc. |
| Mike Ryan | The LandTek Group |
| Tom Steward | Cresskill Public Schools |
| Kenneth Suppes | Emerson Board of Education |
| Thomas Taylor | Taylor & Taylor |
| George Taylor | Taylor & Taylor |
| Arsenius Terrill | Morris Hills Regional District |
| Brian Thompson | Alpine Landscape |
| Tom Torpey | Monroe Township |
| Larry Toth | Rider University |
| George Van Haasteren | Sports Field Mgmt. System Inc |
| Robin VanDerlyn | Chatham School District |
| Tony Wilcenski | Monroe Township |
| Bill Wise | Rain Bird Corp. |

# Valuable Lessons in Goose Behavior

***by Mona Zemsky, Marketing Manager, Bird-X, Inc.**

(Phil Whitford, Biology Professor at Capital University and 30-year-veteran researcher of Canada geese) Dr. Whitford has factored the habits of geese into a comprehensive system of deterrence. Here is a sample of his observations:

1. Female geese are the ones you need to move. If she leaves, the male goes with her.

2. The longer geese sit on the nest, the more defensive they become. So begin harassment early in the nesting cycle, such as when the first egg is laid, for maximum disruption before they are fully invested in the nest.

3. In deterring geese, employ more than one element so the birds don't habituate and return when they think the coast is clear.

4. Strictly visual harassment doesn't work well with geese. Be sure to add other sensory stimulants, especially sound, to dislodge them.

5. Geese are not stupid. If the timing and duration of harassment methods are totally consistent, they learn when it's safe to return.

6. Don't stop the harassment. Follow through long enough so the offending geese relocate elsewhere. If a few return, step up deterrence measures immediately.

7. Ideally, begin disrupting geese in the fall when the first migrants arrive to scout the territory. Deterring them early is easier than later, when they've become attached to and comfortable in an area and the infestation has had time to multiply.

**The Multifaceted Problem of those Lovely-Looking Canada Geese**

- Unsightly environment – more than a pound of offensive droppings produced per goose per day.
- Unhealthy conditions – fecal material can harbor contaminants and bacteria that raise coliform levels in ponds.
- Ruined landscape – gross damage to grass, greenways and pond edging.
- Financial drain – heavy cost of cleanup, reseeding, resodding and repairing. Repeated annually.
- Medical bills and lawsuits – aggressive geese can attack, causing people to slip, trip and fall disastrously. The geese's messy droppings are similarly hazardous to humans.

**Bird X - web page: bird-x.com for pictures go to http://www.bird-x.com/pdfs/gbpr.pdf Toll Free: 800-662-5021.* ◆

# Question & Answer-Turf Tec Digest

*by: John Mascaro Volume 10 Number 1 February 2004

An alert Turf-Tec Digest reader worked out the question my father asked some 57 years ago. Here is the question posed along with the answer, thanks Ed!

**Q:** It has been shown that 53,000 worms in an acre can cover the surface with three inches of soil in fifteen years. We do not feel inclined to calculate the exact number of worm-hours, which would be required to top-dress a green, but have presented the figures in case some ambitious person would like to work it out.

**A.** By Ed Bylica, Sports Turf Manager, Ft. Lauderdale Stadium:
(15 years)(24 hrs)(365 days)(53000 worms)= 6,964,200,000 worm hours——but if the worms were city workers????

Also some interesting factors to consider.

1— only 25% would work
2— 870,525,000 days which include 1 hour lunch break 2- 15 min breaks
3— then there is union business on company time
4— injury /sick/personal leave/comp. time/vacation/jury duty/ light duty
5— city daily bureaucracy 2 hrs / day
6— possibility of a worm work slow down (can't strike) — worms slowing down, now that's good humor———now figure that out????

*(TURF-TEC DIGEST-FOR GOLF COURSE SUPERINTENDENTS AND SPORTS TURF MANAGERS.
To see the original article go to: http://www.turf-tec.com/aug03.html) ◆

*continued from page 1*

fields: Kentucky bluegrass, perennial ryegrass, and tall fescue.

**What is traffic?**

While the term "traffic" is often used interchangeably with the term "wear" when referring to turfgrass damage resulting from sports field use, it is important to understand that the term "traffic" actually encompasses four turfgrass stresses: wear, soil compaction, divoting, and soil displacement. Wear injury affects above ground plant parts and is defined as the immediate result of crushing, tearing, and shearing actions of foot and vehicular traffic. Soil compaction is a chronic stress associated with increased soil bulk density, loss of soil structure, and reduced aeration and water infiltration rates. Divoting involves the physical removal of a piece of turf from the turfgrass stand. Soil displacement is the displacement of soil particles due to pressure, resulting in a rut or depression.

The objective of turfgrass traffic research at Rutgers was to examine the tolerance of Kentucky bluegrass, perennial ryegrass, and tall fescue varieties as affected by two stresses comprising traffic: wear and soil compaction.

The research: How we did it

**National Turfgrass Evaluation Program (NTEP)** trials allow for the evaluation of seventeen turfgrass species in as many as forty U.S. states and six provinces in Canada. Information such as turfgrass quality, color, density, resistance to diseases and insects, tolerance to heat, cold, drought and traffic is collected and summarized by NTEP annually. Results can be found at www.ntep.org. Wear and soil compaction were applied to mature Kentucky bluegrass, perennial ryegrass, and tall fescue variety trials sponsored by NTEP located at Rutgers University in 2002 and 2003.

Wear was applied to individual established turfgrass plots using a wear simulator developed by removing the steel and nylon brush of a Sweepster unit and equipping the unit with rubber paddles used in potato harvesting. The modified sweepster was mounted on a Toro Groundsmaster and "passes" were administered over rows of turfgrass plots to create wear (Figure 1). Turfgrass trials received the following number of wear passes in 2002 and 2003, respectively: Kentucky bluegrass: 132 and 178; perennial ryegrass: 128 and 156; and tall fescue: 70 and 130.

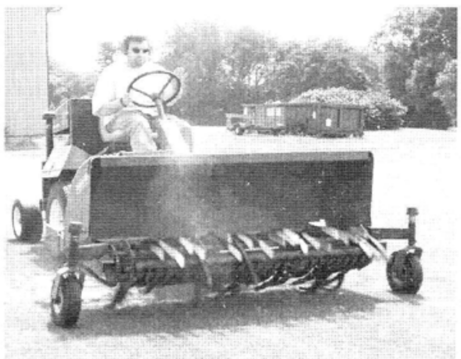

Figure 1. A wear simulator was developed using a modified Sweepster unit. The steel and nylon brush on the Sweepster was replaced with rubber paddles. The modified Sweepster was mounted on a Toro Groundsmaster.

Compaction was created utilizing a 2970-pound Wacker roller (Figure 2). The roller was used to pass over rows of turfgrass plots to create compaction. Turfgrass trials received the following number of compaction passes in 2002 and 2003, respectively: Kentucky bluegrass: 42 and 20; perennial ryegrass: 10 and 16; and tall fescue: 20 and 20.

Trafficked turfgrass quality (i.e. percent groundcover, uniformity, and density) ratings were taken monthly on trafficked plots during the growing season to visually assess traffic tolerance. Non-trafficked plots were assessed for non-trafficked turfgrass quality (i.e. overall appearance, turfgrass color, uniformity, density, mowing quality, leaf texture, and freedom from weed encroachment and/or insect/disease damage). The results of Rutgers' turfgrass traffic tolerance for individual varieties within species are listed in Table 1.

Figure 2. A roller (2970 lbs) was used to create compaction in the test plots.

Numerous Kentucky bluegrass, perennial ryegrass, and tall fescue varieties showed good traffic tolerance compared to other varieties and experimental selections in 2002-2003. The challenges faced by New Jersey sports field managers in overseeing high-use athletic field turf necessitate traffic tolerance evaluations of cool season turfgrasses at Rutgers. When sports field managers are faced with the decision as to specific varieties to establish or overseed, the results provided in Table 1 are a valuable resource.

Literature Cited

Beard, J.B. 1973. Turfgrass: Science and culture. Englewood Cliffs, NJ: Prentice Hall, Inc.

Carrow, R.N. and A.M. Petrovic. 1992. Effects of traffic on turfgrasses. p. 285-330. In D.V. Waddington, R.N. Carrow, and R.C Shearman (eds.) Turfgrass. Agronomy Monograph 32. ASA-CSSA-SSSS, Madison, WI.

**Table 1. Traffic tolerant Kentucky bluegrass, perennial ryegrass, and tall fescue varieties recommended for New Jersey sports fields based on traffic tolerance research conducted at Rutgers University in 2002-2003.**

## Kentucky bluegrass

### Good tolerance

| | | | |
|---|---|---|---|
| Award† | Princeton P-105† | Avalanche† | Midnight II† |
| Tsunami† | NuDestiny† | | |

### Moderately good tolerance

| | | | |
|---|---|---|---|
| Ginney | Cabernet | Bariris | Awesome† |
| Barrister† | Odyssey† | Total Eclipse† | Beyond |
| Impact† | Liberator† | | |

### Fair tolerance

| | | | |
|---|---|---|---|
| Perfection† | Moonshadow | Julia | Arcadia† |
| Excursion | Quantum Leap | Bluestone | Jefferson |
| Serene† | | | |

## Perennial ryegrass

### Good tolerance

| | | | |
|---|---|---|---|
| Prowler | Citation Fore† | Divine | SR 4350 |
| Stellar† | Sierra† | Esteem† | Manhattan 4† |
| Courage | SR 4220† | Pacesetter† | |

### Moderately good tolerance

| | | | |
|---|---|---|---|
| SR 4500† | IQ | Pleasure XL | Inspire† |
| Secretariat | Gallery | Jet† | Premier |
| Catalina II | Elfkin | Churchill | Gallery† |
| Ascend | Sol | Exacta† | Paragon |
| Line Drive | ProTyme | Brightstar II† | Mach 1† |
| Racer II | Grand Slam 2L96† | Kokomo† | Gator 3† |
| Radiant | Pentium† | | |

### Fair tolerance

| | | | |
|---|---|---|---|
| Phantom | Renaissance | Majesty | Paradigm |
| Monterey II | Buccaneer | Summerset† | Premier II |
| Affirmed | Skyhawk | | |

## Tall fescue

### Good tolerance

| | | | |
|---|---|---|---|
| Elisa | Titan Ltd | Apache III† | Endeavor |
| Tar Heel | Olympic Gold† | Jaguar 3 | Bingo† |
| SR 8550† | Dominion | Masterpiece† | |
| Silverstar† | Tulsa II | | |

### Moderate good tolerance

| | | | |
|---|---|---|---|
| Blackwatch† | Forte† | Tar Heel II† | Padre† |
| Finelawn Elite† | Falcon IV† | Falcon II | SR 8600 |
| 2nd Millennium† | Bravo | Coyote | Barlexas |
| Millennium | Watchdog | | |

Fair tolerance

| | | | |
|---|---|---|---|
| Scorpion | Tempest | Rendition† | Barlexas II |
| Tomahawk RT | Focus | Wyatt | |

† Varieties showing the highest turfgrass quality when evaluated in the absence of traffic. ◆

# Best Management Practices:

## Avoid Soil Compaction

***by Dr. Stephanie Murphy and Clare Liptak**

Why shouldn't we work the soil when it's wet? Why shouldn't the marching band and the drill team practice on athletic fields, even when they're dry? Why should we avoid tight turns and spinning wheels with our turf maintenance equipment? Because we want to avoid soil compaction, a natural process that – taken to the extreme - eventually results in the formation of sedimentary rock. Soil doesn't have to be as hard as rock to be too compacted for the healthy growth of turfgrasses.

Wet soils are easily compacted because the excess moisture they contain minimizes the friction between particles and allows them to shift into close-packing arrangement. Like working wet soils, frequent pedestrian traffic and heavy machinery also destroy soil structure, a term that refers to the arrangement of clusters or aggregates of soil particles. Aggregates can be shaped like blocks, plates laminated together, clods, prisms, or crumbs. Aggregates of soil particles form over a period of years, or more slowly if organic matter is deficient. The action of soil microorganisms on organic matter releases gels or gums that hold the particles together. Excessive force can overcome the organic matter bonds that hold particles into desirable soil structure (aggregates). For example, pick-up trucks with standard tires concentrate their weight on relatively small surface area, and therefore exert larges forces (high psi) on the soil surface.

When soil particles are squeezed together due to shear force (such as from spinning wheels) or static weight on the soil surface, some of the air space between the particles is eliminated and reduced in size. Ideally, air space in soil should be about 25% of the total volume. For example, imagine a volume of soil one foot wide, one foot long, and one foot deep. One quarter of that volume (equivalent to 6"x 6"x 6") should be air. As the amount of air is reduced because soil particles are packed tightly together, the soil environment becomes unfavorable for root growth, and eventually for the entire turfgrass plant.

The soil can become so compressed that grass roots can't penetrate the surrounding soil, affecting their rate of growth, length, orientation, and branch patterns. Besides the physical aspects of a compacted soil, the lack of air space often means that air diffusion is limited and roots are suffocated. This inhibition of air diffusion is exacerbated by poor drainage in compacted soil.

Compaction significantly reduces the speed with which water passes through the soil, in part because of the reduction in total pore-space, but in particular because of reduced pore size between the tightly packed particles. In the smaller pores, water molecules are attached to nearby soil particles through capillary action, effectively reducing the gravitational pull on the water molecule. That is why compacted soil is usually poorly drained.

The plants' normal life processes that allow water and nutrient uptake cannot occur in root tissue when the surrounding soil is excessively wet. Instead, other life processes predominate, specifically, those that can occur in an environment containing little or no oxygen. Organic acids and alcohols build up in the soil, often giving it a characteristic fermented odor. Symptoms observed in plants growing under conditions of soil compaction include: *yellowing, stunting, poor vigor, swollen short roots with few root hairs, susceptibility to disease.*

Qualitative assessments of compaction involve the measurement of bulk density, which is the mass of dry soil in a known volume (as it occurs in place). The equipment to extract a specific volume of soil is expensive and can be easily damaged when sampling in stony soil. Getting a volume sample in a soil that is stony or one that contains buried debris can be difficult. For example, when the sampling tool is removed from the ground, the excavated soil may not be an accurate volume because of a hole left by a rock that remained in the ground. Any rock in the path of the sampling tool also interferes with obtaining an accurate sample. Interpretation of bulk density values will depend on other factors, such as soil texture and comparison to uncompacted sites of the same soil type. Penetrometers, which measure the resistance of the soil to a probe pushed