& Landscape Conference 2008
, Atlantic City, NJ • www.njturfgrass.org

1:00 - 4:00 PM LANDSCAPE CONTRACTOR & LAWN CARE
1 *Credit*: 3A; 2*Credits*: 3B, 6B, 8C, PP2

1:00-1:30 **Ornamental grasses and drought tolerant landscape plants** Bruce Crawford, Rutgers Gardens
1:30-2:00 **Ornamental weed control** Dr. Jeff Derr, Virginia Tech Univ.
2:00-2:30 **Low maintenance turf varieties** Dr. Stacy Bonos, Rutgers Univ.
2:30-3:00 **Growth regulators and other add on services** Dr. Jim Murphy, Rutgers Univ
3:00-3:30 **The customers want results! Are you able to meet their expectations?** Tom Shotzbarger, Tomlinson Bomberger Lawn Care & Landscape
3:30-4:00 **Fleas, ticks, gypsy moths, mosquitoes and other pesky pests** Dr. George Hamilton

1:00 - 4:00 PM SPORTS FIELD MANAGEMENT

1:00-1:30 **SFMANJ Business Meeting**
1:30-2:15 **Communication and Leadership skills for sports field managers** Boyd Montgomery, CSFM, SCPS, Toro Company
2:15-2:45 **A director of recreation's perspective on synthetic infill fields** M. Bruce Kaufmann, CPRP, Town of Westfield
2:45-3:30 **A National look at sports field management** Kim Heck, Sports Field Managers Association
3:30-4:00 **Update on synthetic turf human health issues** Jerry Fagliano, NJ Dept of Health and Senior Services

4:00-7:00 TRADE SHOW – DAY 1
Come to the Trade Show to see what's new in equipment and services, to enjoy some fine refreshment, and catch-up with your peers.

TRADE SHOW sponsored by LEE KOZEY and SYNGENTA PROFESSIONAL PRODUCTS
We thank Atlantic Irrigation for being one of the food sponsors during the Trade Show and Tree Tech and Course Contractors as beverage sponsors.

THURSDAY, DECEMBER 11, 2008

Our Thursday sessions pick up with important science for golf attendees, plus a mixture of science and management for the Sports Fields and Landscape/Lawn Care disciplines. Nationally known scientists and managers have come together to provide you with valuable information you can use to make your operation better.

7:00 - 10:00 AM GOLF EARLY BIRD SESSION I
5 *Credits*: 3B, 6B, 8C, PP2

7:00-7:45 **New strategies for fairy ring control on golf course greens** Dr. Mike Fidanza, Penn State Univ.
7:45-8:30 **Crane flies, cicada killers and other scary bugs** Dr. Albrecht Koppenhofer, Rutgers Univ.
8:30-9:15 **Are you using all of the tools in your toolbox to control turfgrass diseases?** Dr. Bruce Clarke, Rutgers Univ.
9:15-10:00 **A resurgence of an old nemesis- Summer Patch: Lessons learned from 2008** Dr. Bruce Clarke, Rutgers Univ.

7:00 - 10:00 AM SPORTS FIELD MANAGERS
1 *Credit*: 3B, 6B, 8C, PP2

7:00-8:00 **Early bird sports field managers Networking Roundtable**
8:00-9:00 **Turfgrass management for sports fields 101** Dr. James Murphy, Rutgers Univ.
9:00-9:30 **Recent turfgrass traffic tolerance research at Rutgers** Brad Park, Rutgers Univ.
9:30-10:00 **Developing utility sports fields using farming principles** Dr. John Grande, Rutgers Snyder Farm

8:00 - 10:00 AM LANDSCAPE CONTRACTOR & LAWN CARE
3 *Credits*: 3A, 6B, 8C, PP2

8:00-8:45 **Least Toxic Products for the Control of Insects and Diseases in the Landscape** Rich Buckley, Rutgers Univ.
8:45-9:30 **There's new herbicide products on the market... and more coming!** Patrick McCullough, Rutgers University
9:30-10:00 **Lease or purchase: what is your best choice?** Rick Schreib, GE Money

10:00 AM - 12:30 PM TRADE SHOW
We thank Atlantic Irrigation for being one of the food sponsors during the Trade Show and Tree Tech and Course Contractors as beverage sponsors

12:30 - 2:30 PM CORE SESSION 4 *Credits: Core*
Three years ago Dr. Mike Agnew presented a core session that discussed application techniques. It was our highest rated core session ever, and more than 160 people attended. We've asked Mike to reprise and update that talk, and he's graciously agreed. Working with Penn State's Dr. Mike Fidanza, they will be presenting important –and immediately useful- data of maximizing plant protection with proper application. In this day of tight budgets, this session is surely a can't miss opportunity to make your operation better.

Making your plant protection products work for you! An examination of how products are applied and the impact on plant protection products on efficacy.
Dr. Mike Agnew, Syngenta and Dr. Mike Fidanza, Penn State University

12:30 - 2:30 PM SPORTS FIELD MANAGERS

12:30-12:00 **Renovation of First Energy Stadium, Reading, PA** Dan "Dirt" Douglas, Reading Phillies
1:00-1:30 **Responsibilities of a New Jersey School IPM Coordinator** Erik Hammerdahl, Morris-Jointure Commission
1:30-2:00 **Authoring specifications and managing sports field construction** Tom Miller, Environmental Resolutions
1:30-2:00 **Sports field and grounds management at a New Jersey High School** Kevin Shipman, Kingsway High School

2008 Calendar of Events

93RD ANNUAL NJ LEAGUE OF MUNICIPALITIES CONFERENCE
November 18-21, 2008, 2008
Atlantic City Convention Center, Atlantic City, NJ
(609) 695-3481
www.njslom.org

NEW JERSEY GREEN EXPO 2008
December 9-11, 2008
New Jersey Turfgrass Association
Trump Taj Mahal Casino-Resort, Atlantic City, NJ
(973) 812-6467
www.njturfgrass.org

STMA ANNUAL CONFERENCE 2009
January 13-17, 2009
Sports Turf Managers Association
San Jose, CA
1-800-323-3875
www.stma.org

THREE-DAY ATHLETIC FIELD CONSTRUCTION AND MAINTENANCE
February 17-19, 2009
Rutgers University-Office of Continuing Professional Education
New Brunswick, NJ
(732) 932-9271
www.cpe.rutgers.edu

UNDERSTANDING SYNTHETIC FIELDS
March 4, 2009
Rutgers University-Office of Continuing Professional Education
New Brunswick, NJ
(732) 932-9271
www.cpe.rutgers.edu

BASEBALL/SOFTBALL INFIELD SKIN CONSTRUCTION & MANAGEMENT
March 11, 2009
Rutgers University-Office of Continuing Professional Education
New Brunswick, NJ
(732) 932-9271
www.cpe.rutgers.edu

Rutgers Corner -
Broadleaf Weed Control in Cool Season Turfgrasses

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TRICLOPYR + CLOPYRALID is a non-phenoxy, prepackaged mixture sold only under the trade name of Confront. This mix also provides broad spectrum control of many common broadleaf weeds including oxalis. Clopyralid is now available alone under the trade name of Lontrel. Recently, several companies have started to sell herbicide combinations containing triclopyr and/or clopyralid.

ISOXABEN is sold only under the trade name of Gallery, and is used primarily in the early fall for preemergence control of numerous winter annuals (especially henbit and common chickweed) and some perennial broadleaf weeds. It has no postermergence activity on emerged broadleaf weeds. Delay over-seeding for at least 60 days following application.

QUINCLORAC is sold only under the trade name of Drive. It effectively controls a few broadleaf weed species including white clover and corn speedwell, but the primary use of quinclorac will be for postemergence crabgrass control.

CHLORSULFURON AND METSULFURON are sold under the trade names of Corsair and Manor, respectively. Both herbicides are labeled for use (in some cases as a spot treatment only)
on a limited number of cool season turf species (primarily Kentucky bluegrass). Both herbicides will kill perennial ryegrass and chlorsulfuron will kill tall fescue.

CARFENTRAZONE is a quick acting herbicide that will cause rapid desiccation of the foliage of many broadleaf weed species. It will only be sold in combination with other herbicides such as 2,4-D, MCPP and dicamba.

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DID YOU KNOW?

Expo 2008 is presented by the NJ Turfgrass Association in conjunction with various Green Industry organizations including SFMANJ.

APPLYING GYPSUM - When is it really needed?

By: Dr. David D. Minner

Gypsum ($CaSO_4$) is often applied but seldom needed on Iowa [*or New Jersey*] sports fields. The classic misunderstanding with gypsum arises from its association with improving water movement and soil structure on sodic (high sodium) soils that are not typically found in Iowa [*or New Jersey*].

Gypsum is correctly used on sodic soils that have undergone a process of deflocculation. In this case, gypsum will likely improve soil structure and water infiltration. A brief review of soil cation exchange capacity (CEC) and soil aggregation may help you understand how this is actually accomplished by gypsum. There are many negatively (-) charged sites on the surface of clay particles. Some of the more important nutrients are positively charged (calcium Ca^{++}, magnesium Mg^{++}, iron Fe^{++} and potassium K^{+}) and attach themselves to the negatively charged soil particles. These positively charged nutrients are called cations. The CEC is simply a measure of how many negative sites are available to attract the positively charged nutrients or cations.

Soil aggregation is another term you will need to understand to follow this discussion. Small individual soil particles are lumped together to form aggregates or "soil crumbs." Calcium - gypsum is a source of calcium - can cause this granulation to initiate in a process called flocculation, however flocculation alone does not make aggregates stable. Organic matter and other viscous microbial products stabilize soil aggregates. In a well aggregated soil there are larger voids between the "soil crumbs." The larger voids or macropores improve water infiltration.

Now, back to gypsum. The CEC sites in sodic soils are dominated by Na. Other cations that help soil aggregation, such as Ca^{++} and Mg^{++}, are displaced by Na^{+}. The excessive sodium reverses the process of aggregation and causes the "soil crumbs" to disperse into individual soil particles. The deflocculation that occurs in sodic soils results in a very tight arrangement of individually dispersed soil particles saturated with Na^{+}. Macroporosity is greatly reduced and water infiltration slows to near zero. When wet, sodic soils are slick, sticky, and have poor drainage. When dry they become quite hard. Gypsum is correctly used to remedy this situation caused by excessive sodium in the soil.The Ca^{++} in gypsum ($CaSO_4$) displaces Na^{+} on the exchange site. The Na^{++} reacts with sulfate (SO_4^{-}) to form sodium sulfate (Na_2SO_4); a highly water soluble material that is leached from the soil. Removing Na^{+} and replacing Ca^{++} on the exchange site reduces deflocculation and allows natural aggregation of particles that eventually restores soil structure. Gypsum is very useful when soil structure deteriorates because of high Na^{+}.

The **misconception** arises when there is a belief that gypsum can improve structure and drainage in any heavy clay soil, even those not necessarily affected by Na^{+}. A Na^{+} impact on soil structure that requires the application of gypsum only occurs on a small percentage of sports field soils. A soil test will determine the need for gypsum application. The problematic symptoms of sodic soils are very similar to those of heavily trafficked clay soils that are not affected by Na^{+}; both are hard and have poor structure and drainage. To add confusion, gypsum is often advertised as a "soil softener" material. Most soil scientists agree that gypsum will not be useful for improving poor permeability due to problems of soil texture, compaction, hardpans, claypans, or high water tables. Most sports field managers should not anticipate a reduction in compaction and improved drainage by using gypsum. Even with this misconception, there are situations where gypsum is useful in sports fields.

Gypsum ($CaSO_4$) can be used to supply Ca. When pH is above 6.7 and Ca is deficient, gypsum instead of lime ($CaCO_3$), should be used to supply Ca. Lime applied to an already high pH would further increase pH and may lead to iron deficiency. Gypsum supplies Ca without increasing pH. A suggested target range for Ca in the plant is 0.4 to 1.2%.

Many water supplies are often high in Na^{+}. Sand based systems irrigated with high Na^{+} water may have excessive Na^{+} on the exchange complex. Since sands do not deflocculate, the high Na^{+} in this case will not result in reduced drainage. Sands retain their macroporosity through particle size arrangement rather than by aggregation of particles. The high Na^{+} irrigation water can easily displace Ca^{++} and make it deficient in sandy soils with low CEC. Gypsum can be used in this case as a source of Ca^{++}. Testing both soil and plants associated with sand based sports turf has revealed that apparently adequate levels of Ca^{++} in the rootzone have produced apparently deficient levels of Ca^{++} in the plant. Application of gypsum in these situations increased plant calcium and improved turf growth (Dr. David York, personal communication 1998). Calcium availability, uptake, and effect on turfgrass performance in athletic fields continues to be evaluated.

Sodium Chloride (NaCl) is commonly used as a deicer for roadways and sidewalks. Soil Na levels may be elevated in grass areas adjacent to paved surfaces treated with NaCl for deicing. Gypsum may be helpful to remove excessive Na from the soil is this situation.

Dr. David D. Minner is Extension Turfgrass Specialist, Iowa State University

Rutgers Corner -
Broadleaf Weed Control in Cool Season Turfgrasses

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HERBICIDE MIXTURES

The use of mixtures of the above-mentioned herbicides is very common. Combination products result in the control of a broader range of weeds than single herbicides. Some herbicide mixtures may effectively control certain weeds that cannot be easily controlled by the individual herbicides used alone. Some commonly used herbicide mixtures are: 2,4-D + MCPP; 2,4-D + dicamba; 2,4-D (or MCPA) + MCPP + dicamba; 2,4-D + dichlorprop; 2,4-D + triclopyr and clopyralid + triclopyr. These herbicides will successfully control many broadleaf weeds found in cool season turf. The best times of year to control most broadleaf weeds are fall (especially late September) or spring (especially May).

To use these herbicides effectively for broadleaf weed control in turf, remember several points:

1. *READ* and *FOLLOW* the label directions *CAREFULLY.*
2. Spray when the temperature is above 70°F and the weeds are actively growing. Do not spray when the temperature is over 85°F because turfgrass injury may result and some of these products (i.e., low volatile esters) are prone to volatilization causing injury to nearby ornamental plants.
3. Treat only when soil is moist and plants are growing vigorously. Do not apply herbicides during drought periods or when soil is dry.
4. Do not mow one day prior to and after spraying.
5. Spray formulations (i.e. liquids) are generally more effective than granular forms of broadleaf herbicides, but granular products are easier to handle and apply, especially for homeowners.
6. Apply granular formulations when the foliage is moist, during early morning hours when there is a heavy dew.

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PRECAUTIONS FOR USING BROADLEAF HERBICIDES

1. Ornamental plants, trees, shrubs, and vegetables can be susceptible to these chemicals. Do not spray around homes and gardens when there is a wind. Even a slight breeze is likely to carry spray droplets to susceptible ornamental and garden plants. Ester formulations (even low-volatile types) are volatile and are therefore more likely to injure nearby ornamentals and vegetables when sprayed at high temperatures.
2. Dicamba is included in many herbicide combination products and also in some weed and feed (fertilizer-herbicide) combinations. This chemical and other broadleaf herbicides move readily in some soil types and can be absorbed by plant roots. Therefore, products containing dicamba in particular should not be used near the drip-line of trees or near ornamentals where it can be absorbed by roots.
3. Do not use any of these herbicides on newly-seeded turf. Wait until the new lawn has been mowed at least three times before treating (usually about 6 to 8 weeks after seedling emergence).
4. The herbicides listed in this publication are safe to use on established tall fescue, Kentucky bluegrass, perennial ryegrass, and fine-leaf fescues (i.e., strong creeping red, hard, Chewings, blue and sheep). All herbicides have the potential to cause some foliar yellowing. Do not use 2,4-D on turf where bentgrasses or roughstalk bluegrass are considered desirable species.
5. Thoroughly clean the sprayer tank, hose, and boom after using herbicides. One sprayer should be used for turf and another for spraying ornamentals. Do not allow spray mixtures to spill or leak onto areas where they can be taken up by foliage, roots of trees, or ornamentals.
6. Keep herbicide containers closed, properly labeled, and safely stored.
7. Always store a pesticide in its original container.

** Dr. Steve Hart is Extension Specialist in Weed Science, Rutgers University*