

FRONT NINE NEWS

Volume 15, Issue 3

September 2011

A quarterly publication of the Northwestern Pennsylvania Golf Course Superintendents Association, Inc.

September Monthly Meeting Tuesday, September 20, 2011 (Commercial Member Display Day)



Place:

New Castle Country Club
3245 Wilmington Road
New Castle, PA 16105

Speaker/Topic:

Commercial Members Display Day - products will be on display around the back lawn and practice green areas.

Directions:

From the South: Take Rt. 60 North to Mitchell Road Exit. Take Mitchell Road East to first traffic light. Turn right onto Rt. 18 South. Entrance to the club is about 1 mile on the right (between two car dealerships).

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MEETING AGENDA

10:00 AM Commercial Member Displays Open

11:00 AM - 12:00 PM Social Hour

12:00 - 1:30 PM Lunch cookout & brief meeting

1:30 PM Start of tee times

Carts: \$15/person, payable to pro shop

Meeting fee: \$35, payable to NWPGCSA, credit cards will be accepted

All cancellations must be made 24 hours in advance. No shows will be billed.

Open guest policy. All members may bring as many guests as they want (within reason).

Dress Code - casual, golf attire, collared shirts, no jeans; soft spikes required

Lockers and showers available; bar on site

**Host Superintendent,
Dominic "Joe" Giardina,
CGCS**

**Reservations requested by
September 15, 2011
Call Julie Powell at
(724) 421-7588**

From the North: Take I-79 South to I-80 West to Rt. 60 South to Mitchell Road Exit. Follow the directions from Mitchell Road already listed under, "From the South."

From the East: Take Rt. 422 to Rt. 60 North to Mitchell Road Exit. Follow the directions from Mitchell Road already listed under, "From the South."

About the Superintendent:

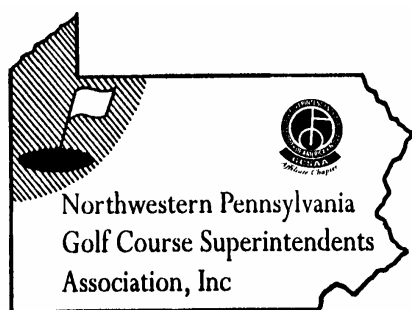
Dominic "Joe" Giardina has been the superintendent at New Castle Country Club since 1985, which is also when he became a NWPGCSA member. He is a Certified Golf Course Superintendent through GCSAA and is currently serving as Past President of NWPGCSA. Joe and his wife, Cindy, have three children - Bennett, age 25, Lisa, age 22, and Michael, age 20. In his spare time, Joe loves hunting, fishing, and woodworking.

About the Course:

New Castle Country Club has a total yardage of 6,349 with a par of 72. It was built in 1923 by A. W. Tillinghast. Men's, Women's, and Senior's U.S. Open local qualifiers have all been held at New Castle Country Club.

Attention NWPGCSA Commercial Members

If you have not already reserved a spot and would like to display your wares at this meeting, please call Joe Giardina at (724) 651-1663. Locations will be given on a first come, first serve basis according to patron levels.



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(724) 421-7588
nwpgcsa@zoominternet.net
www.nwpgcsa.com

DIRECTORY CHANGES

Please make the following changes to your 2011 NWPGCSA membership directory:

Jon Cuny's new home/work address is:

106 South Magnolia Drive
Butler, PA 16001

David Eichenlaub's new email address is:

dseichenlaub@gmail.com

Julius Lester's new cell phone number is:

(814) 853-2663

Eric Fisher's new home/work address is:

171 James Way
Toronto, OH 43964

NWPGCSA CLASSIFIED ADS

Gospel Hill Golf Course will be closing at the end of the 2011 season. All equipment must be sold, but keep in mind that everything will be needed to finish out the season. Below is a list of most items along with an asking price. All prices are negotiable:

2003 Toro 3150	\$10,000
1999 Diamond greens mower	\$2,000
1994 Toro 3100	\$2,000
1992 Toro 3000	\$1,000
1995 John Deere 3235	\$2,000
1991 Lesco 5-gang fairway mower	\$1,200
1970 Jacobsen 7-gang rough mower	\$1,000
1970 Jacobsen 7-gang rough mower	\$1,000
1968 Jacobsen G-10 tractor	\$1,500
1980 Satoh Stallion tractor	\$1,500
1998 Kubota w/loader & backhoe	\$17,500
1987 Toro Greensaire	\$1,000
Olathe Seeder/Slicer	\$2,000
Olathe Topdresser	\$2,000
1991 Toro 160 gallon sprayer	\$5,000
1991 Vicon 3-pt hitch spreader	\$800
Saxon Turf Vac	\$2,000
Buffalo Turbine towable blower	\$3,000

(Continued on page 3)

(Continued from page 2)

- Brunco dump trailer \$1,500
- York rake \$200
- West Point fairway aerifier \$300
- Vicon tow behind fairway spreader \$300
- Davis ditcher \$100
- 1999 Club Car Carry All \$1,300
- 59 Club Car golf cars ranging from 1999 to 2003 \$750 - \$1,600
- Many other items too numerous to mention
- All clubhouse equipment to be sold including coolers, freezers, grill, deep fryer, icemaker, tables, chairs, etc.

Contact: Wes Milton
 (814) 899-5700 - golf course
 (814) 460-9812 - cell

Tam 'O Shanter Golf Course has a Toro Hydrojet 3000 for sale in very good shape. It is approximately 10 years old with an Owens engine with 950 hours on it.

Contact: Rick or Paula Kerins
 (904) 864-7442 - cell
 (724) 346-1322 - home

Pine Grove Golf Course has 16 Bag Boy pull carts for sale for \$10/each. They are older and could use a little paint but, overall, are in fairly good shape.

Also for sale is a drill press for \$75

Contact: Brad Chutz
 (724) 456-0741 - cell

Black Hawk Golf Course has the following items for sale:

- 2006 Weidemann Terra Spike Aerfier
- 2001 JD 1500 aercore
- Jac 548 seeder all for sale.

Contact: Mike Blackwood
 (724) 513-5803
 mbb@blackhawkgolfcourse.com

NWPGCSA, Inc.

2011 Meeting Schedule

Sunday, January 30th
 Summertime Widows Party
 Venango Valley Inn & GC
 Venango, PA
 Host: Durbin Loreno

Thursday, March 17th
 March Business Meeting
 Venango Valley Inn & GC
 Venango, PA
 Host: Durbin Loreno

Thursday, April 21st
 Formal Golf Meeting
 The Greens at Greenville
 Greenville, PA
 Host: Dick Bartel

Thursday, June 9th
 Formal Golf Meeting
 Elk Valley Golf Course
 Girard, PA
 Host: Mike Bochert

Thursday, July 7th
 Joint mtg w/GPGCSA
 Grove City Country Club
 Grove City, PA
 Host: Jay Mathews

Thursday, August 11th
 Barbara J. Sternwheeler
 Riverboat Cruise
 Conneaut Lake, PA

Tuesday, September 20th
 New Castle Country Club
 New Castle, PA
 Host: Joe Giardina

Tuesday, October 4th
 Annual Meeting
 Cross Creek Resort
 Titusville, PA
 Host: Buddy Stallone



PRESIDENT'S MESSAGE

What a summer! This year will again be one for the record books. The early, wet spring cost us all a lot of money, and the problems associated with it just made this summer seem a little harder than most. Let's hope next year is a better one with the weather.

With fall comes aerifying season. It is always a little nerve racking, but when all is said and done, there is a sense of relief that follows. Maybe the stress on the turf is over, but maybe it's the stress on the superintendent that is really over. Leaves will start to change, nights get cooler, days get shorter, and the job starts to feel good again. How those guys down south do it, I'll never know! I love the seasons of the north.

The economic times, along with this year's weather, have changed the way we do things from years past. Everything is questioned, new equipment is harder to get approved, and yearly pay raises are a thing of the past. Where exactly this business is going is hard to say, but the big days of golf seem to be over...at least for now.

One of the big concerns for our association is the participation and attendance of our superintendent members. Is it a cost factor? Is it having to leave work to attend the meetings? Or is it just changing with the times like our economy? This winter, the board of directors will be discussing the future of our group, and no doubt, be making some changes. If too

few of us can get to our meetings, then we are inconveniencing our hosts and their businesses to have meetings that are poorly attended. I have asked for people to step up and serve on the board, and to date, no one has offered. Please be sure to pass your feelings on to any of our board members (see Page 2) so we can make the proper decisions this winter.

It won't be long, and we will be winterizing our water systems. Snow will be just around the corner, and the holidays will, once again, be upon us. I take that time of year to catch up on my honey-do list, as well as spend serious quality time with my family. I hope you all do the same.

Respectfully submitted,
David M. Stull, CGCS
The Kahkwa Club of Erie

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SCHOLARSHIP NEWS

The NWPGCSA Scholarship Committee, chaired by Director, Durbin Loreno, awarded two scholarships for 2011.



Kristy Tucci

A non-turf scholarship in the amount of \$2,000 was awarded to Kristy Tucci, granddaughter of Dick and Carol Ball. Kristy will be a junior at Kent State University this fall majoring in theatre and dance. She is carrying a 3.61 Grade Point Average with an anticipated graduation date of May 2013. Outside of her 18-21 credit class schedule, Kristy spends much of her time performing on stage either doing summer stock in regional theatres or in productions at Kent State University. She has a long list of community service projects some stemming from her 12 years as a Girl Scout, attaining a Gold Award, and some from her love of theatre such as starting a youth talent show as a member of the Cambridge Springs Pageant Association.

CONGRATULATIONS KRISTY!



Michael LaSpada

A non-turf scholarship in the amount of \$2,000 was awarded to Michael LaSpada, son of Micky LaSpada. Michael will be in his second year at Morrisville State College this fall majoring in Animal Science - Dairy. He is carrying a 2.55 Grade Point Average with an anticipated graduation date of May 2012. Michael has been working for a local dairy farm since he was 12 years old and purchased his first cow when he was 13. He now owns a herd of 15 dairy cows, and his goal is to be the sole owner of a dairy farm someday. In high school, he was always active in sports as a member of the golf, basketball, and trap teams. He also attained the rank of Eagle Scout with his project being the installation of a new lawn and landscaping following a building project at his church. He has also been active in the local 4-H Chapter, which includes showing his cows at the county fair.

CONGRATULATIONS MICHAEL!

The scholarship committee was thrilled to award scholarships to two talented young people from two diverse areas of interest. Once again, this would not have been possible were it not for opening the scholarship opportunities to children and grandchildren of any member no matter what their course of study. Both award winners were able to join us at our August 11th meeting at Conneaut Lake, where they were introduced and presented with plaques recognizing their award. Even though we were unable to take the riverboat cruise (the boat was broken), all in attendance had the opportunity to meet and greet these two wonderful college students and see why they are so deserving of our support. We had a very nice dinner provided by Silver Shores Restaurant and are thinking of making this an annual event so we can continue to meet and congratulate our scholarship winners personally. (See pictures on the next page.)



Members of the board in attendance with scholarship recipient, Kristy Tucci. From left to right: Wayne Rodgers, Durbin Loreno, Joe Giardina, Dave Stull, Kristy, Mike Bochert, Julie Powell, and Jerry Rice.



Scholarship recipient, Michael LaSpada receiving his plaque from Scholarship Committee Chairman, Durbin Loreno.

Thank you, once again, to Van Smith and Wes Milton for their tireless efforts in raising money for our scholarship fund. This year their tournaments brought in almost \$1,000 to add to our scholarship fund of approximately \$30,000. Sadly, this will be Wes's last year to run his tournament with the sale of Gospel Hill Golf Course, so we will need to be thinking creatively on how to continue to fund this worthy cause.

Our Heartfelt Sympathy...

... to Earl Lees and his family on the loss of his grandson, Eric Scott Kellogg, who passed away on June 21, 2011 following a 3-year battle with melanoma cancer. Eric had just turned 23 and was a student at Slippery Rock University. Earl and his wife, Donna, are the former owners of Valley View Golf Course, Harrisville, PA.

... to Bob Boyd and his family on the loss of his wife, Mary Ann, who passed away on July 17, 2011 following a 23-year battle with multiple sclerosis. Bob is the owner/superintendent of Green Meadows Golf Course, North East, PA.

... to the family of James C. Born who passed away on August 15, 2011 at age 94. Jim Born was a retired golf course superintendent who had worked for Foxburg Country Club, Suncrest Golf Club, Youghioghny Country Club, Edgewood Country Club, and Valleybrook Country Club.

A big thank you to Eric Fisher and Agrium Advanced Technologies for donating \$100 to offset the costs of our August 11th meeting at Conneaut Lake. This allowed us to treat all in attendance to a nice dessert.



2011 Penn State
Golf Turf Conference
November 15-17, 2011
Nittany Lion Inn



Penn State and The Pennsylvania Turfgrass Council would like to invite you to attend the 2011 Penn State Golf Turf Conference at the Nittany Lion Inn, 200 Park Avenue, State College, PA. This conference is designed to provide practical information on golf course management to practitioners, industry reps, and students. The 2011 program will feature presentations by USGA agronomists, golf course superintendents, consultants, and university faculty, a job fair, and a luncheon sponsored by the Penn State Turf Club. For more information, contact Dr. Peter Landschoot at (814) 863-1017 or pjl1@psu.edu. Some of the topics and speakers slated for the conference are as follows:

- ◆ Detailing Your Course for a Fine Look - Mr. Mark Kuhns, CGCS, Baltusrol Golf Club
- ◆ Why So Many ABW Control Failures - Mr. Danny Kline, Penn State
- ◆ Golf Course Staffing, Hiring, and Training - Mr. Bruce Williams, CGCS, Bruce Williams Golf Consulting
- ◆ Winter Injury 101: Causes and Mitigation - Dr. Michelle DaCosta, University of Massachusetts
- ◆ A Season of W's, Not the WWW We Are Used To: Weird, Wild, and Waitea - Dr. Derek Settle, Chicago District Golf Assoc.
- ◆ Dollar Spot Resurgence, Resistance, and Other Problems - Dr. John Kaminski, Penn State
- ◆ Herbicide and PGR Research Update - Mr. Jeff Borger, Penn State
- ◆ Programmatic Poa Control - Mr. Kyungmin Han, Penn State
- ◆ An Update on NFL Standards - Dr. Andy McNitt, Penn State

THANK YOU TO OUR SILVER PATRONS!

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(724) 662-0400

Some Observations on Imprelis Injury to Trees

by Dr. Pete Landschoot, Professor of Turfgrass Science, Penn State

Damage to trees due to leaching or drift of herbicides applied to turf is a rare event; but when it does occur, it can create a lot of anxiety and customer dissatisfaction. This year, professional turfgrass managers from Iowa to New Jersey experienced damage to certain tree species (primarily Norway spruce and white pine) following spring applications of a new herbicide called Imprelis. The following article provides information about Imprelis and tree injury resulting from spring applications.

Imprelis herbicide

Imprelis (aminocyclopyrachlor) was released by DuPont Professional Products in 2010 for use in the professional turf market. It belongs to a new class of herbicides called pyrimidine carboxylic acids. This class is similar, but not identical to the pyridine carboxylic acid herbicides, which includes aminopyralid (Milestone), clopyralid (Lontrel), triclopyr (Turflon, Garlon), fluroxypyr (Spotlight), and picloram (Grazon, Tordon). Herbicides in this class tend to have low mammalian toxicity, herbicidal activity at low rates, and slow decomposition rates in organic residue and manure where oxygen is limited (Hipkins, 2009).

The active ingredient of Imprelis is absorbed through foliage and roots of target weeds. Once in the plant, it is translocated in the xylem and phloem, and accumulates in meristematic regions of shoots and roots (Buken et al., 2010). Symptoms on target weeds are consistent with those of other herbicides in the synthetic auxin family (2,4-D, dicamba, clopyralid, etc.), and include petiole twisting, as well as bending, curling, and cupping of leaves.

Imprelis is labeled for broadleaf weed control in cool and warm-season turfgrass on lawns, golf courses, cemeteries, athletic fields, and sod farms. It is currently available as a soluble liquid formulation. In extensive research trials in turf, it has shown very good efficacy on dandelion, clover, plantain, wild violet, and ground ivy. It also has been reported to have foliar and soil activity on shrub and brush species (Rick et al., 2008).

Imprelis herbicide is active on target weeds at very low rates (3 to 6 fl oz product/A, or 0.047 to 0.094 lb ai/A), is taken up rapidly by foliage, and has immediate rainfast properties. It is considered to have a low volatility risk, and can undergo photolysis (breakdown due to sunlight) under certain conditions. Imprelis is thought to have relatively long residual activity in soils (Oliveira et al., 2011), and a slow decomposition rate in compost. This herbicide is generally recognized as having positive environmental stewardship attributes and low mammalian toxicity (>5,000 ppm oral and dermal LD50 in rats).

Little information is available in scientific journals regarding the behavior of Imprelis in soils. In a recent publication, Oliveira et al. (2011) stated that aminocyclopyrachlor should be very mobile in soil (based on its sorption properties); however, depth of leaching may be overestimated in models. The authors concluded that more information is needed on degradation and sorption of aged herbicide residue to better estimate potential mobility of aminocyclopyrachlor in soils. Until more information becomes available to the public, users should heed the Environmental Hazards portion of the Imprelis label, which states the following:

Surface water advisory:

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff for several months after application. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of aminocyclopyrachlor from runoff water and sediment. Runoff

of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

Groundwater advisory:

Aminocyclopyrachlor has properties and characteristics associated with chemicals detected in ground water. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

Effects on trees:

I first heard about tree damage following Imprelis applications in early June from Mr. Tom Ford, an extension educator in Blair County, PA. Other reports quickly followed from extension educators located in western, eastern, and central portions of Pennsylvania. Most of the reports involved damage to Norway spruce and white pines following April and May applications of Imprelis. Reports from several sites involved suspected herbicide damage to other tree species and ornamental shrubs (these reports are less common than those of spruce and pine). Notices of Norway spruce and white pine injury following Imprelis applications were issued from extension web sites in Nebraska, Iowa, Michigan, Ohio, Maryland, and other states. Turf managers and arborists in and around Pennsylvania are asking what happened, and what can be done to save injured trees, and what should be done with trees that must be removed.

First, not all applications of Imprelis resulted in tree injury. According to a letter sent by DuPont Professional Products to lawn care and golf course managers who used Imprelis, most applications resulted in no tree injury. In cases where injury occurred, symptoms to Norway spruce began as yellowing, curling, and browning of the current season's growth.



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Fig. 1. Symptoms to Norway spruce begin as yellowing, curling, and browning of the current season's growth.

This type of injury would be expected given that the active ingredient of Imprelis is translocated to leaf meristems. In some cases, injury does not progress much further than slight curling and browning of new growth; however, in other cases complete dieback is observed. In severe cases, the entire tree turns brown and begins to lose its needles. Trees of all ages have been affected to varying degrees.



Fig. 2. Dieback and browning of the current season's growth as a result of herbicide uptake.



Fig. 3. A severe case of Imprelis injury, where entire trees turned brown and began to lose needles

Assistant Superintendent Opening at Whispering Woods Golf Club

Superintendent, Rob Goring is looking for a dependable, hard working, dedicated individual to be the assistant superintendent at Whispering Woods Golf Club. The candidate will be responsible for fertilizer/pesticide application and calibration, irrigation maintenance and scheduling, crew supervision, equipment operation and decision making. The candidate should have at least 3 years golf course maintenance experience with a degree or certificate in Turfgrass Management or be working towards one. Salary range is \$500-\$600 per week, and the position is seasonal from March thru November. Other benefits are golf and health insurance reimbursement after 90 days. The position is open immediately. Whispering Woods Golf Club is an 18-hole, semi-private golf course with bentgrass greens, tees, and fairways and a Rainbird irrigation system. Their website is www.whisperingwoodsgc.com.

Contact: Rob Goring

(814) 835-7074, office or (814) 460-5712, cell or wwgcsuper@verizon.net



Fig. 4. Imprelis injury on white pine.

The white pine injury I have observed involves severe twisting and curling followed by needle drop of the new season's growth.

Some landscape contractors and lawn care professionals have asked if the Imprelis damage is a result of drift or root uptake. Although it is difficult to determine the exact mode of entry into affected trees, most of the symptoms I have seen are more consistent with root uptake than drift.

Although drift has been suspected where symptoms appear on groups of branches, or on only one side of the affected tree, such symptoms are consistent with root uptake. Dr. Jim Sellmer (Penn State Dept. of Horticulture) pointed out that if only a portion of the root system was exposed to the herbicide, then foliar damage may be limited to the section of the plant that is serviced by those roots. He cautions that there may be no direct connection between the side of the tree exposed to the herbicide, and the side showing injury from herbicide uptake. Because of the spiral pattern of the vascular system in many conifers, damage from herbicide uptake may even appear as a spiral on foliage (Freucht, 1988).

Imprelis injury seems to be related to the soaking spring rains of April and May, the fact that assimilates are moving mostly upwards in tree phloem in spring (I am not aware of any tree injury following fall applications), and to some particular characteristics of the herbicide. Even though applicators I have spoken with did not apply the herbicide within the "drip line" of affected trees (as directed on the Imprelis label), injury still occurred. Research has shown that root spread of trees far exceed the branch spread; thus, root uptake from leached herbicide residue can occur outside of the drip line (Freucht, 1988). Although leaching of herbicides is more of a risk in sandy soils with low organic matter content, Imprelis-related damage occurred in several locations on heavy, clay soils. Right now, there is much speculation about the details surrounding tree damage due to Imprelis applications, but the exact reasons still need to be sorted out.



Fig. 5. The injury from herbicide uptake may appear as a spiral pattern in conifers because of the spiral nature of the vascular system.

What can be done about injured trees?

First, it's important to make sure tree injury is a result of herbicide uptake. Freucht (1988) stresses the importance of recognizing symptoms that mimic growth regulator herbicide injury on trees. For example, eriophyid mites can cause deciduous tree leaves to twist or curl (mostly upward); however, their feeding does not result in twisting of the petioles. Leafhoppers and aphids may produce petiole twisting and leaf curl, but will usually leave stippled patterns from feeding.

In conifers, biotic or abiotic factors can cause symptoms similar to Imprelis injury. Diplodia blight and injury due to environmental stress are two factors that can cause browning of new growth. Mr. Scott Guiser, extension educator in Bucks County, noted that portions of Pennsylvania experienced severe drought in 2010, and Norway spruce were especially affected by this stress. Drought injury to spruce results in branch dieback, but current season's growth does not exhibit curling and distortion associated with synthetic auxins. An extension educator in southern PA recently sent pictures to Penn State tree specialists showing tip dieback of Douglas firs from an area that had not been treated with herbicides. The injury was diagnosed by Penn State specialists as being caused by high heat and light intensity following a prolonged period of cool, cloudy conditions during needle expansion.

Some state labs (Minnesota, Michigan, and possibly others) are offering to analyze for aminocyclopyrachlor in soils or plant tissue, but due to extensive laboratory renovations at the Pennsylvania Dept. of Agriculture, an analysis cannot be obtained in Pennsylvania. If a laboratory analysis cannot be secured, diagnosis of Imprelis injury will have to be based on visual symptoms (curling, twisting, yellowing, and browning of needles and leaves, mostly on new-season's growth).

In cases where injury is clearly herbicide induced, do not fertilize trees for at least one growing season (excess growth can compound injury). Watering to alleviate stress may be useful on trees that received only slight damage. Officials from DuPont suggest placing a soaker hose on the soil near the trunk of injured Norway spruce trees that have low hanging branches. Use of activated charcoal to deactivate the herbicide will be of little use at this point. On trees with dieback, pruning should be delayed for up to a year to fully assess the extent of the damage, and to allow for recovery (Patton et al., 2011). Some tree experts have indicated that dieback on conifers may ultimately destroy the shape and beauty of the tree, so it is questionable how much pruning will help.

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Some turfgrass managers have expressed concern about increasing tree damage as the summer progresses. Although no one knows for sure, Dr. Charles Silcox from DuPont Professional Products points out that the average half life of aminocyclopyrachlor in turfgrass systems is 44 days, so a large proportion of the active ingredient has probably been degraded, and will continue to dissipate over the next few weeks.

The Pennsylvania Dept. of Agriculture is aware of tree injury resulting from applications of Imprelis herbicide, and is collecting and investigating reports of suspected damage. EPA is also collecting information on possible adverse effects to trees and is asking concerned individuals to fill out a form (form can be obtained from Pete Landschoot at pjl1@psu.edu). DuPont Professional Products has released letters to turf professionals and turf distributors who have purchased and sold Imprelis, explaining the situation. Representatives from DuPont have visited many sites to collect information and assess each situation. We hope to obtain information soon on how to dispose of damaged trees. There is some concern that ground/chipped trees may still contain enough herbicide residue to damage sensitive plants.

This article was prepared by Pete Landschoot, Professor of Turfgrass Science, Penn State. Much of the information in this article comes from first hand observations by the author, and from conversations, photos, and reports from Andy Beck, Jeff Borger, Nancy Bosold, Tom Ford, Jeff Fowler, Scott Guiser, Jay Matthews, Eric Oesterling, and Jim Sellmer.

References:

Buken, B., R. B. Lindenmayer, S. J. Nissen, P. Westra, D. L. Shaner, and G. Brunk. 2010. Absorption and translocation of aminocyclopyrachlor and aminocyclopyrachlor-methyl ester in Canada thistle (*Cirsium arvense*). *Weed Science* 58:96–102.

Freucht, J. 1988. Herbicide injury to trees - Symptoms and solutions. *J. of Arboriculture* 14:215-219.

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Think Ahead.

David Feherty to Keynote Golf Industry Show

GCSAA News Release - September 6, 2011

David Feherty, the immensely popular television golf commentator and host of the Golf Channel show "Feherty," will keynote the Golf Industry Show March 1 General Session, "Tales of a Survivor. The Wit and Wisdom of David Feherty," in Las Vegas.

Feherty was born and raised in Northern Ireland and is now a U.S. citizen living in Dallas with his wife, Anita, and their five children. He enjoyed a successful professional golf career with 10 victories worldwide and over \$3 million in prize money. Feherty retired from professional golf in 1997 when offered a position as a golf commentator for CBS Sports. With his sharp wit and colorful

personality, Feherty has become one of golf's favorite announcers. He has authored six books, several making the *New York Times* "Best Sellers List," and he writes a popular monthly column on the back page of *GOLF Magazine*.

Feherty is also a very active and passionate supporter of badly injured U.S. troops, staging events for wounded Special Forces, Green Berets and other U.S. heroes involving golf, hunting, bicycling, and skiing. "Losing a limb, or the ability to use a limb, is one thing," Feherty says. "But the dignity they lose with it is perhaps even more important. And to be able to give them some of that dignity

back is my mission these days. It's not a charity. It's just trying to pay back a very small part of the check that we owe them." What works for Feherty as a rehabilitative tool is humor--wicked humor. Having battled depression and alcoholism, Feherty knows the healing value of laughter.

The Golf Industry Show is February 29-March 1, 2012. The presenting partners also hold their respective education conferences in conjunction with the Golf Industry Show February 27-March 2, 2012, bookending the two-day, mid-week trade show with three days of seminars and sessions.



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