



The Wisconsin Landscape Federation Gets a New Executive Director

By Dr. John Stier, Department of Horticulture, University of Wisconsin

The Wisconsin Landscape Federation (WLF) will get a new executive director in January 2002 when Brian Swingle assumes ownership of Torii Advertising, Inc. from the previous owner and executive director of WLF, Mr. Joe Phillips. The company will be renamed Torii Phillips Association Management, LLC. Brian is known to many of us in the turf industry as for the past eight years he was the program manager for Pesticide Certification and Licensing at the Wisconsin Department of Agriculture, Trade, and Consumer Protection (WDATCP).

Brian Swingle's turf roots go deep, however. He received his B.S. degree in Agronomy from Purdue University with a specialty in turfgrass management. During school breaks he worked for a landscape company in the Chicago area called Nice 'N Green Inc. Following graduation from college Brian worked for a short time for a northern Indiana sod producer, but soon returned to Nice 'N Green as general manager. Brian's duties included overseeing sales of fertilizer and pesticides for the company. After several years Brian went to work for ChemLawn Services as a Regional Technical Manager, a position he had for five years before leaving for WDATCP.

On behalf of all of Wisconsin's turf industry, I would like to extend a warm welcome to Brian

Swingle. Brian is one of those rare individuals that is supremely competent yet personable. If you haven't met him, make an effort — his acquaintance will be well worth it.

Note: The author would like to acknowledge the November issue of Green Side Up as a major source for the information presented in this article. 🍀



Brian sharing conversation with Professor Emeritus Chuck Koval at Field Day

Happy
Holidays

The Wisconsin Turfgrass News is the official publication of the Wisconsin Turfgrass Association, edited by Tom Schwab, O.J. Noer Turfgrass Research and Educational Facility.

MEET THE U.W. - MADISON TURF PROGRAM GRADUATE STUDENTS

Researching Amendments For Putting Green Rootzones

By Doug Soldat, Department of Soil Science, University of Wisconsin-Madison

Hello, my name is Doug Soldat and I am Dr. Kussow's new graduate student. I graduated from the University of Wisconsin-Madison this past May with a Bachelors of Science degree in Soil Science. The project I am currently working on for my thesis deals with inorganic amendments for putting greens.

Inorganic materials, such as calcined clays and zeolites, are becoming popular substitutes for traditional organic amendments. Inorganic amendments have physical characteristics similar to sand, yet have the ability to retain water and nutrients. In past studies, inorganic amendments have been shown to reduce the need for fertilizer inputs. These reductions could potentially lead to agronomic, environmental, and economic benefits.

This fall Dr. Kussow and I constructed a putting green to USGA standards at the O.J. Noer Facility. The green contains 20 6'x 8' cells, with different root-zone mixes. Four of the mixes are comprised of 90% sand and 10% amendment. The four amendments include: AgriBoost, a Jordanian zeolite; GSA, a zeolite from Arizona; Profile, a calcined clay; and peat moss. The fifth treatment is comprised of 100% sand. During the winter I will be



Doug working hard in the lab.



The putting green that Doug and Dr. Kussow built this fall, is under cover for the winter.

in the lab running characterization tests of the root-zone mixes. This spring and summer I plan to grow in the green using L-93 creeping bentgrass.

The objective of our study is to quantify the agronomic, environmental, and economic benefits of using inorganic amendments vs.

peat moss or pure sand. I look forward to meeting everybody, and I will keep you updated as the results begin to come together. Feel free to send me an email (djsoldat@students.wisc.edu) with any questions or comments you might have.

See you around! 🍀

Used Equipment For Sale

Place free ads for used equipment, equipment needed or help wanted in this area. To place an ad, call 608-845-6895, fax 608-845-8162, or e-mail tgschwab@facstaff.wisc.edu.

1995 Toro reel master pull behind mower — \$5000 firm

- Five reels with staggered frame
- Used only two summers
- Reels are in like-new condition
- Hydraulic controls

• For questions call Chris Brindley at the UW-Stevens Point — 715-346-3622

USDA Block Grant to Provide Funds for Turf Industry

By Dr. John Stier, Department of Horticulture, University of Wisconsin

One of Congressman Gary Condit's last official acts this past year provided a large sum of funds to support specialty crops. Specialty crops are those traditionally left out of funding from the United States Department of Agriculture, such as cranberries, potatoes, Christmas trees, greenhouse and nursery, sod, and others. The grant was intended solely for those industries producing a marketable commodity and not for the service industry (lawn care, golf, etc.). The money will be allocated to specialty crop producer organizations as a Specialty Crop Block Grant. The amount for each industry is based on the size of the industry according to 1999 USDA statistical information. Each commodity group that has such an organization in the 50 states will receive some funding. Approximately \$411,000 will be

allocated to Wisconsin's green industry, including approximately \$55,000 for the sod industry.

Funds coming to Wisconsin will be distributed by the Wisconsin Department of Agriculture, Trade, and Consumer Protection (WDATCP). For simplicity of accounting purposes, WDATCP prefers to work with one organization representing the green industry (greenhouse, nursery, cut-flower growers, Christmas trees, and sod). The Wisconsin Landscape Federation (WLF) has offered to assume the mantle of administrative leadership and responsibilities for the block grant. The Wisconsin sod industry is represented by the Wisconsin Sod Producers Association (WSPA) which is a member of the WLF. Each of the commodity groups within the WLF has been asked to submit

proposals to the WLF for projects they would like funded. In a special meeting on November 1, members of WLF met with University of Wisconsin-Madison assistant professors Stier and Jull to discuss use of some of the funds for a green industry survey similar to the one recently conducted for the turf industry. All of the green industry groups agreed to allocate a portion of their commodity-specific funds towards a survey and marketing effort to promote the green industry. The WSPA is considering using their additional funds to conduct annual surveys of the state sod industry during the next three years and to support sod blending studies through development of DNA markers to identify specific Kentucky bluegrass varieties. 🌱



WTA Presidents Message

By Dan Barrett

Every year in December I find myself reflecting back on the events of the previous year, while at the same time looking forward to the year to come. This December is no exception, yet it seems different this year.

I, like many of you, have had my share of frustrating, difficult and down right rotten times this past year. I sit here though, not being very bothered by them. Do I care when things don't go well? Of course I do. Although it seems my thoughts are more about the good things that have happened and the good people I spent time with this year. I find myself really looking forward to

visiting family and old friends during the coming holidays. Much more than I have in past years. I can't explain it, but it feels good.

I would like to thank you and the WTA members for allowing me to serve as your President. It's been a pleasure for me. I've been able to work with some fantastic people this past year as your President. The people I owe a special thanks to are the UW Turfgrass Faculty and O.J. Noer Facility staff. These people spend tireless hours helping plan, organize and put on our events such as Field Day, the golf fundraiser, and Turfgrass

and Greenscape EXPO among all the other duties they perform. A special thanks to Dr. Wayne Kussow, Dr. John Stier, Dr. Michael Casler, Dr. Geunhwa Jung, Dr. Chris Williamson, Mr. Jeff Gregos, Mr. Tom Schwab and Audra Anderson. Your efforts do not go unnoticed or unappreciated. Thank you for your hard work, wonderful personalities, commitment and professionalism.

I do want to wish all of you and your families a very happy holiday season. I look forward to seeing you at EXPO 2002 on January 7th - 9th. Take Care. 🌱

Worth The Delay

By Tom Schwab, O.J. Noer Turfgrass Research and Education Facility
University of Wisconsin-Madison

The weatherman was correct. He called for rain on October 10th, the date for the annual WTA graduate fellowship fundraiser golf tournament. But this group of avid turf research supporters couldn't be swayed; they were going golfing. The event had to be delayed at first because the rain came down pretty hard. This resourceful group decided to eat lunch and pass out door prizes while they waited for the rain to slow down. Rod Johnson said he played in the snow at Maple Bluff, and made it through most of the holes during the Westmoor deluge so he wasn't going to opt out this year. Actually it only rained for about three holes and the rest of the golf was pretty nice. The winds were strong but the temperature was warm enough that some players were seen in short sleeve shirts.

The purpose of the fundraiser is to financially provide for future graduate students for the UW-Madison Turf Program. The scholarship program is called the Wisconsin Distinguished Graduate Fellowship in Turfgrass Research. Once they become funded these scholarships will continue indefinitely to keep the turf program in supply of quality graduate students. These graduate students will be investigating important questions and problems to enhance our management of turfgrass well into the future.

Speaking of enhanced, you should have seen the golf course. The event host, Jim Crothers, recently oversaw a major reconstruction of his course at Grand Geneva. I played the course once before the improvements and now once after — and have to admit I loved it both times. But I really noticed the addition of many ornamental

features that added to the enjoyment of the experience. The greens and everything else played so nice. Even when the greens were wet, they were still so fast and true. Jim's 19 years of experience at the same location really showed. It's unfortunate only 46 golfers signed up for the event. Others missed playing an awesome golf course.

Golf wasn't the only fun part of the day. Every attendee got to choose a great door prize and many likewise won events on the course. Take a look at the list below of some of these nice door prizes, and thank donors who gave prizes and helped make the event so fun.

Besides fun the event was successful at raising money for the fellowship. Mike Lee, the fundraiser representative on the WTA board of directors, estimated that we raised over \$5,000, after expenses. This is in large part due to the hole sponsors that are also listed here.

Mike made another important announcement that you should make note of. The date and location for next year's WTA scholarship fundraiser will be Thursday, October 10th at the Meadows Course of Blackwolf Run. So mark your calendars now for another wonderful day of golf, prizes, and fundraising. It will be one more great outing to match what this event has traditionally become - whether we're delayed or not.

Golf Hole Sponsors

Andersons Golf Products
Bayer Corporation
Chipco Specialty Products
DHD Tree Products Inc.
E C Grow
Horst Distributing
J W Turf Equipment
Lohmann Golf Design
Lurvey Turf Nursery
Maple Bluff Country Club



WTA golf fundraiser chairperson Mike Lee organized a successful event this year.



Jim Shone tees off in front of the sign he sponsored.

North Hills Country Club
Olds Seed Company
Oneida Golf Club
Ozaukee County Park
Commission
Pendelton Turf Supply
Reinders
Reinders
Simplot Partners
Syngenta
Tom and Dianne Schwab
United Horticulture Supply
Waupaca Sand and Solutions
Wausau Country Club
West Bend Country Club
Wisconsin Turf Equipment
Wisconsin Turf Equipment

continued on page 7

CALENDAR OF EVENTS

Jan 8	WNA Winter Workshop	Sheraton, Brookfield
Jan 7-9	Wisconsin Turfgrass & Greenscape EXPO	Marriott, Madison West
Jan 16-18	Mid-Am Trade Show	Navy Pier, Chicago
Jan 16-20	STMA National Convention	Las Vegas, NV
Jan 29-Feb 1	TPI Midwinter Conference	Orlando, FL
Feb 3-10	GCSAA International Conference & Show	Orlando, FL
Feb 18-22	School of Turfgrass Management	West Madison Ag Research Station, Madison
Feb 24-26	WLF State Convention	Kalahari Resort, Wisconsin Dells
Feb 25	Pesticide Applicator Training Category 3.0	Waukesha
Feb 26-Mar 1	Reinders Turf and Irrigation Service Conference	Olympia Resort, Oconomowoc
March 4	WGCSA Spring Business & Education Meeting	Fond du Lac
Mar 7	Pesticide Applicator Training Category 3.0	Eau Claire
Mar 11	Spring Valley Turf Fair	Country Inn, Waukesha
Mar 11	Pesticide Applicator Training Category 3.0	Green Bay
Mar 14	Pesticide Applicator Training Category 3.0	Waukesha
Mar 17,18	NGLGCSA Turf Symposium	Wausau
Mar 19	Pesticide Applicator Training Category 3.0	Arlington
March 25-29	Regional Turf Seminars	TBA
Apr 4	Pesticide Applicator Training Category 3.0	Waukesha
Apr 29 or May 6	WGCSA Monthly Meeting	Autumn Ridge, Valders
May 29	WGCSA Monthly Meeting with Super/Pro	Hidden Glen, Cedarburg
June 10 or 11	WGCSA Monthly Meeting	Camelot GC, Lomira
Jul 17-19	TPI Summer Convention and Field Day	Ft. Collins, CO
Aug 13	WTA Summer Field Day	OJ Noer Facility, Verona
Aug 13	WNA Summer Field Day	Bruce Company & West Madison Ag Station, Madison
Sept 9	WGCSA Monthly Meeting	Fox Valley GC, Kaukauna
Oct 1 or Sept 30	WGCSA Monthly Meeting	Pine Hills, Sheboygan
Oct 4,5	WGCSA Dinner Dance	TBA
Oct 10	WTA Scholarship Fundraiser Golf Tournament	Blackwolf Run, Kohler

WTA Members — If you have an important date you'd like to share with other members —
Call 608-845-6895 or Fax 608-845-8162 and let us include it in the next calendar.

Contact Telephone Numbers

EXPO	Wisconsin Turfgrass and Greenscape EXPO	608-845-6536
GCSAA	Golf Course Superintendents Association of America	800-472-7878
Mid Am	Mid Am Trade Show	847-526-2010
NGLGCSA	Northern Great Lakes Golf Course Superintendents Assoc.	715-542-2373
PAT	Pesticide Applicator Training Category 3.0	608-263-6358
Reinders	Reinders Turf and Irrigation Service Conference	800-782-3300
Spring Valley	Spring Valley Turf Fair	800-635-2123
STMA	Sports Turf Manager Association	800-323-3875
TPI	Turf Producer International	800-405-8873
Turf School	School of Turfgrass Management	608-262-1624
Turf Seminars	Regional Turf Seminars	608-845-6895
WGCSA	Wisconsin Golf Course Superintendents Association	414-786-4303
WLCA	Wisconsin Landscape Contractors Association	800-933-9522
WLF	Wisconsin Landscape Federation State Convention	414-529-4705
WNA	Wisconsin Nursery Association	414-529-4705
WSTMA	Wisconsin Sports Turf Manager Association	608-845-6895
WTA	Wisconsin Turfgrass Association	608-845-6536

Don't Miss The Show This Year. You'll Miss A Great Deal

By Tom Schwab, O.J. Noer Turfgrass Research and Education Facility
University of Wisconsin-Madison

Hopefully, you've already registered for the Wisconsin Turfgrass and Greenscape EXPO 2002. The dates are January 7, 8, and 9 (Monday - Wednesday) and the lineup of speakers is second to none. The program and registration form were mailed in early December but it is also included in the newsletter should yours have been misplaced. Take note of the new additions to this year's show. You won't want to miss it.

The planning committee, headed up by WTA EXPO chairman Rich Riggs, has been meeting since last March. Their goal was first to have the best education possible and second to make sure everything runs smoothly.

EXPO 2002 begins on Monday with a new half-day of workshops that have been added. These workshops will cost a little extra (\$20 - \$40) over the conference package. They are optional but may be just what you or some of your staff need. The workshops are:

- Learning Basic and Conversational Spanish
- Pesticide Applicator Training, including taking the WDATCP Applicator Test
- Basic Math Calibration
- Setting Up an IPM Program

The formal EXPO will begin on Tuesday and run through



The round table discussions were so popular at EXPO 2001 that they will be brought back for 2002.

Wednesday. There are too many good topics to mention them all here. Have any of you ever attended the GCSAA seminar on disease management? Dr. Bruce Clarke is one of the presenters for that seminar and we are fortunate to have him at EXPO this year. Dr. Trey Rogers, one of the top authorities on athletic field issues, will also be on the program. Additionally Dr. John Ball, who was overwhelmingly received at one of our past EXPO programs, was invited back to expand on managing trees in a turf environment. There will be many other turf and green industry experts both from in and out of state that will divulge an abundance of information to help everyone who works in the green industry.

Another popular speaker and feature from a past EXPO is being brought back by popular demand. The feature is to have a keynote speaker — and that person is the popular and entertaining Mr. Tom Jadin from the Winnebago Mental Health Institute. You won't want to miss hearing his insights on life. Then Russell Rasmussen from the DNR's Bureau of Watershed Management will present the latest updates on the DNR NR151 Regulations for Non-Point Pollution Abatement.

In addition to the above education there will be the popular round-table discussions again this year. The Golf, and Lawn and Landscape session discussion will be on immigration and migrant labor issues, while the Grounds and Sports Turf subject will focus on construction issues. And don't forget the trade show where you can learn about every piece of turf equipment, product, or service available to manage your turf more productively.

EXPO will have everything — information that is good to know and other information that will be critical to know. Mark January 7, 8, and 9th on your calendars now. Tell your friends and consider bringing others from your staff who can benefit. There will be good education for everyone. 🍀



Professor John Stier chats with Jim Trzinski, Paul Huggett, and Professor Emeritus Bob Newman at EXPO 2001.

Donators of the Door Prizes for the Golf Fundraiser

Bob Brooker - 2 golf shirts, cap
 Caddy Shack - Ping putter
 Carl Grassl - golf shirt
 Chris Pinkerton - wedge, 4 golf shirts, 5 caps
 Chris Wendorf - 2 Swiss army knives
 Craig Reinders - four x 4-packs of 2002 season Brewer's tickets
 Dan Barrett - dozen balls, 2 sweatshirts
 Don Ferger - 1 prize
 Ed Witkowski - \$50 Kohls gift certificate, case of Corona beer
 Glenn Gerth - dozen balls
 Janesville CC - cap, golf shirt
 Jim Krieger - 2 golf shirts
 Jim Shone - rain suits, wind shirt, other stuff
 Jim Trzinski - golf shirt
 John Turner - \$150 worth of prizes
 Jon Hegge - cap, wind shirt
 Ken Smith - twosome golf pass with cart
 Kerry Anderson - 2 windshirts

Marc Davison - 2 sweatshirts
 Marc Schwarting - 2 golf shirts, 1 cap
 Mark Grundman - two jackets, one polo shirt
 Mike Berwick - foursome golf pass with carts
 Mike Lee - 2 books, dozen balls, cap, towel
 Mike Urben - dozen balls, 2 caps
 Neil Radditz - Taylor Made three wood golf club
 Oak Ridge - 1 prize
 Prairie Woods - 1 prize
 Randy Van Fleet - jacket
 Riverside GC - foursome golf pass with carts
 Shawn Hilliard - Wisconsin putter
 Steve Bailey - 1 prize
 Steve Spears - golf shirt
 Tiziani Golf Cars - towel, toy
 Tom Harrison - Ping putter, shirt, dozen balls
 Tom Schwab - umbrella, cap
 Towne Country Club - 1 prize
 Wisconsin Turf Equipment - windshirt

Mortality of Nestling Bluebirds and A Treatment

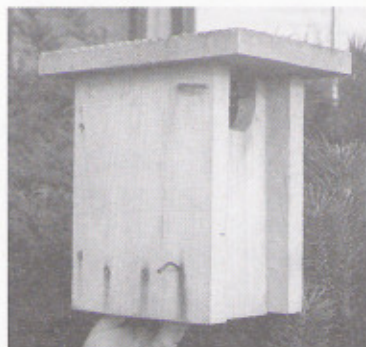
By Gary Gaard, Department of Plant Pathology, University of Wisconsin-Madison

Five to 14-day old tree swallow and bluebird deaths were abundant in nest boxes in 1994 and 2001. I observed this phenomenon at the Noer Facility, University Ridge Golf Course, and other locations in Dane and Iowa Counties last summer. Terry Glanzman of Mondovi, Wisconsin reported losing 90% of nestlings when eggs hatched after June 10. During this same period last summer, from mid-June until the second week in July, I heard many golf course superintendents report that golfers were not having any fun because of maddening gnats. Data indicated an insect was responsible for nest mortality and golfer irritation. We hypothesized the insect was a black fly. In Wisconsin black flies have the common names sand fly or buffalo gnat.

Phil Pellitteri from the University Wisconsin-Madison Insect Diagnostic Laboratory identified the gnat that was biting people and presumed killing nestling birds. It was a black fly, *Cnephia taeniatifrons*. He also provided technical advice and references.

Black flies feed only outdoors.

Our present hypothesis is that nest boxes with no ventilation hole protected the nestlings because the insects do not go indoors to feed. Of the three styles of bluebird nest boxes observed, two had ventilation holes (Peterson and Gilbertson PVC) and one had no ventilation holes (Gilwood). Young birds in houses with ventilation holes can be partially protected from the biting insects by spraying the outside of the nest boxes with the insecticide Permethrin or placing sticky trap like 'Tree Tanglefoot' around ventilation holes. 'Tanglefoot' can trap 300 to 500 blackflies per house.

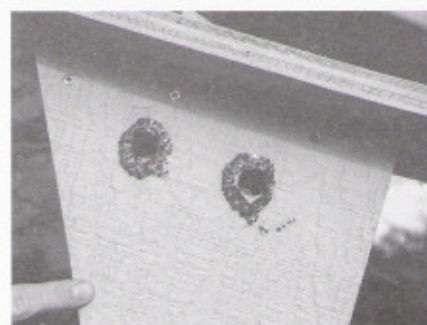


A newer design nest box, the Gilwood, has no vent holes. At the Noer facility, black flies did not go inside this house for a blood meal.

Black fly populations are highest in years with cool, wet springs, which we definitely had in 2001. Additionally larval stages reproduce in large, slow flowing rivers like the Chippewa, Wisconsin, Mississippi and St. Croix. After hatching, the adult black flies can travel 15 miles from these rivers. The areas where I observed the problem were within this range.



Peterson nest box.



Black flies trapped in Tree Tanglefoot encircling vent holes of Peterson nest box.

UW Students Tour Miller Park

By Jason M. Grode, University of Wisconsin-Madison, Badger Turf and Grounds Club

On Friday, November 16th, 2001, University of Wisconsin-Madison students from Dr. John Stier's introductory turf management class and student members of the Badger Turf and Grounds Club got a tour of the grounds at the Milwaukee Brewer's Miller Park. Although most students studying turf management at the UW tend to work on golf courses after graduation, tours like this one give us an in depth look at other career options in the turf industry.

The tour started by taking an elevator down to ground level where students got a first hand look. We started right down on the turf in left field. Gary Vandenberg, head of grounds at Miller Park, and his assistant Raechal Saeger, who is a UW-Madison alumnus, spent about an hour going over the challenges they face and the things that are involved in managing an athletic field like Miller Park. Mr. Vandenberg told us about the problems associated with growing grass in a very unique environment including shade, disease, and traffic stresses — among other things.

One of the most important factors with athletic fields that was stressed is the safety of the players. Thus a smooth playing field is mandatory. Gary and Raechal detailed the time consuming process of smoothing out the playing surface with sand and they also described



The impressive structure that greeted us for our tour.

their fertilization program. In addition they discussed their use of plant growth regulators and other types of products, some of which are researched at UW-Madison. They are observing some positive results from using these products on turf in the shade. Since the field is multi-use (including being used for concerts), the outfield turf is periodically renovated with new sod composed of a blend of Kentucky bluegrasses. As for the infield, Mr. Vandenberg noted that he's gotten a lot of positive feedback about the maintenance of his infield over the many years he's been with the Milwaukee Brewers organization. He hasn't changed anything from when they moved from County Stadium to Miller Park.

The tour of Miller Park continued into the maintenance facility which is located near the right outfield foul pole. Here is where we had the opportunity to see the equipment used at Miller Park, which is composed almost completely of Toro products. Mr.

Vandenberg said that building a strong positive relationship with a company like Toro has made his job a lot easier.

Managing Miller Park isn't limited to the field, as there are many landscaping areas located around the stadium that are maintained by the grounds staff. Dealing with the media and various people in the community are also responsibilities included in the management of Miller Park. Mr. Vandenberg encouraged those who are interested in athletic field management to begin an internship while they are still in college. He said the job security is pretty good compared to a private golf course, for example, and he said the work itself is very rewarding.

Our tour of Miller Park concluded and we went back through the field and made our way up the elevator. Special thanks to Mr. Vandenberg and his assistant, Raechal, for taking the time out of their busy schedules to give us this tour and for answering all of our questions. 🍀



The field tour started on the turf in left field



Gary and Raechal graciously explained their unique Miller Park maintenance program.

Gypsy Moths: Where Did They Come From?

By Dr. R. Chris Williamson, Turfgrass and Ornamental Entomologist,
University of Wisconsin-Madison

L. Trouvelot in Medford, Massachusetts in a haphazard attempt to breed a hardy silkworm, inadvertently introduced the gypsy moth into the United States in 1889. As time elapsed, it slowly moved westward across the northern U.S. as far as Minnesota, establishing itself and causing measurable damage to numerous susceptible trees. The gypsy moth was first reported in eastern Wisconsin in just a few counties bordering Lake Michigan in the early 1990's. Since then, the gypsy moth has become established over much of the eastern third of Wisconsin. Currently, the gypsy moth continues to slowly make its way into the central and western parts of the state.

What does the gypsy moth look like and when are they present?

The gypsy moth has four distinct life stages: Egg (masses), caterpillar, pupa, and moth. All stages are quite distinguishable. Eggs are laid in masses (300-1000 eggs) by female moths. Eggs are frequently attached to houses, lawn furniture, mailboxes, rocks, trees, and most other objects. Egg masses are typically buff colored initially, but often bleach-out over the winter when exposed to sunlight. The egg masses are often most frequently observed because they are present from August through May, and empty egg masses may persist even after caterpillars emerge in the spring.

When the eggs hatch in April and May, tiny gypsy moth caterpillars emerge and climb into tree canopies to begin feeding on foliage both day and night. As larvae begin to grow and develop, they undergo a physiological process called molting whereby they shed their skin in order to increase in size. Once they attain the 4th stage (instar) of caterpillar

development, their behavior drastically changes. They become predominantly nocturnal (active at night). Gypsy moth caterpillars experience a total of six instars. Over 90% of leaves consumed by caterpillars are eaten during the final two instars (5th and 6th).

After they have completed feeding and are physiologically mature, the caterpillars enter a life stage whereby they transform into adult moths. This is referred to as the pupal stage. After a few weeks, adult moths emerge from the pupa (cocoon), begin mating, and lay eggs that will hatch the following year. The adults are not damaging because they do not feed and only live long enough to mate and produce eggs.

What type of damage do gypsy moth caterpillars cause?

Only the caterpillar life stage is destructive. Gypsy moth caterpillars are considered serious pests, they are capable of completely defoliating trees leaving nothing to spare but woody tissue. They are known to feed on over 600 species of trees and shrubs present in Wisconsin including many hardwoods of high economic value.

What can I do to get rid of them?

It is impossible to eradicate gypsy moths, however we can

suppress or slow down their spread and the subsequent damage they cause. Successful management of gypsy moth requires an integrated approach that includes several strategies.

When populations are in outbreak situations, the most effective approach is aerial applications of *Bacillus thuringiensis* (Bt). Landowners of large tracts of forested areas (greater than 40 Acres) are qualified to participate in federal and state sponsored spray programs whereby aerial sprays of (Bt) are made to curtail the caterpillars.

For those not qualified (such as homeowners) other effective control options are available. Such options include: removal and destruction of egg masses in the fall and winter, oiling of egg masses with Golden Pest Spray Oil in the winter and spring before egg hatch, daily collection and destruction of caterpillars in the spring using hiding banding (burlap) or barrier banding, and spraying of caterpillars and foliage with conventional insecticides.



Trees defoliated by Gypsy Moth caterpillar feeding.



Feeding Gypsy Moth pupae.



Trapping Gypsy caterpillars in burlap banding.

WISCONSIN TURFGRASS ASSN.

O.J. Noer Turfgrass Research & Education Facility
3101 Hwy M
Verona, WI 53593-9537

First Class
U.S. Postage
PAID
Permit No. 2944
Madison, WI