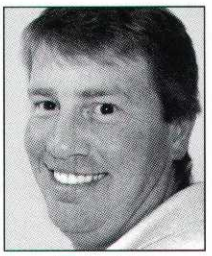
MINNESOTA IN THE CROSSHAIRS

EAB, DED and GM



By PAUL DIEGNAU, CGCS
Keller Golf Course

I hope all class A and B members of the MGCSA have received their 2005 MISAC calendars in the mail. Each month a different invasive specie is highlighted with pictures and relevant information. The MGCSA contributed $200 toward the $7,000 production costs of the calendar. These calendars have also been distributed to industry professionals across the state, from master gardeners to DNR field staff to nature centers and park boards. The intent is to raise AWARENESS of invasive species AND of MISAC. To get a feel for the scope of participation in this council, look at the logos of all the participating organizations and agencies found on the bottom of the first page of the calendar. It is rather impressive. Don't forget to check out the MISAC web site at www.mda.state.mn.us/misac/. If you did not receive a calendar and would like one, it is available at the MISAC web site in a 2.13 MB PDF file.

Several weeks ago I attended the winter quarter MISAC meeting. From all accounts, 2005 should prove to be another interesting year on the invasive species front. As many of you probably heard at the Green Expo, Dutch Elm Disease (DED) will be on the rampage, mimicking infection levels from the 1970s. Emerald Ash Borer (EAB) appears to be spreading faster than originally predicted and investigative research on this pest has exploded in the past year. Another Gypsy Moth (GM) hot spot was discovered this past fall in Minnesota and Pine Shoot Borer was trapped for the first time in the Twin City metro area.

Because EAB has the potential of becoming one of the most destructive invasive species in the U.S., research on this pest is full speed ahead. Here are some of the highlights presented recently at the Exotic Forest Pest Workshop in St. Louis, MO:

+ Most EAB larvae reproduce in a one-year life cycle. There is evidence that a fraction of the EAB population uses a two-year life cycle. The occurrence of two-year larvae has many implications for research, management and the containment/eradication effort. The presence of mature larvae in the spring and summer presents issues for targeting this species with pesticide applications and possible delayed identification of infestations.

+ In southeast Michigan, woodpeckers are exhibiting predation rates on EAB larvae from 9-95% (mean 44%). Because woodpeckers are currently the only documented native species to inflict mortality rates greater than single digits on EAB, these vertebrates may be an effective bio-control. There are two thoughts on this relationship that will require further research. Will woodpecker populations increase with rising EAB numbers and, if they do, how long will these increases in response to a high quality food source take to manifest? Woodpeckers hold promise as an effective bio-control and their predator-prey relationship with EAB will be a hot research topic in the future.

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+ Adult female EAB that have mated fly much further than males or unmated females, averaging 1.7 km in the first 24 hours. This is alarming because it suggests that mated females are programmed to make long dispersal flights.

+ EAB is currently found in southern Ontario, Indiana, Ohio, Maryland, Virginia, and Michigan. In Michigan, four new counties were added to the quarantine in 2004, bringing the total to 20 infected counties. Michigan officials are concerned that EAB is spreading faster than anticipated.

+ EAB prefers green and white ash of all Fraxinus found in North America. Blue ash is the least preferred food source of EAB.

+ In one study, Permethrin, pyrethroid and imidacloprid (Merit) produced 66-94% control of EAB life stages when applied as a bark surface treatment.

+ Control measures for EAB include removing all ash trees within one-half mile of the infection center. This distance translates into 490 acres of ash removal. Imagine that task in a forest or woodland setting!

A rogue population of Gypsy Moth was discovered this past fall in the vicinity of Ely, Minn. Approximately 640 acres will be treated in 2005 to eradicate this population. Experts are concerned as to how this population became established in such a remote location.

When dealing with DED, remove diseased trees as soon as possible. Sanitation is very important in suppressing the spread of this pathogen. Don't forget to check wild elms found on your property and along roads and right-of -ways adjacent to your property. Wild elms are highly susceptible to DED and, when left standing, pose a serious threat to ornamental specimens in the area.

This past summer, the Pine Shoot Beetle was discovered in Anoka, Ramsey and Dakota counties in the Twin City metro area. This eighth-inch long black beetle is capable of inflicting serious damage on Scotch, Red, White and Jack pines. Originating in Europe, this beetle was first discovered in the U.S. in 1992 in several midwestern states including Indiana. Currently, sixty of Indiana's 92 counties are infested and quarantined under state and federal law. The beetle lives in the shoots of pine trees during the summer months and burrows into the bark of pine trees in winter. Large populations of this beetle can kill already stressed trees and may in fact weaken and kill healthy trees when populations are allowed to get extremely high. Overall, it is considered a moderate pest and can be controlled with proper forest management.

(Editor's Note: Paul Diegnau, CGCS, is the MGCSA liaison to the Minnesota Invasive Species Council. MISAC is co-chaired by the MN Dept. of Agriculture and the MN Dept. of Natural Resources. The council was formed in response to Presidential Executive Order 13112 on invasive species, the National Invasive Species Management Plan and Minnesota legislation that encouraged the state to plan and take action on invasive species.)