

COLORADO



**DEPARTMENT OF
AGRICULTURE**
DIVISION OF PLANT INDUSTRY

Nursery News

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www.ag.state.co.us/DPI

Welcome to the eighth edition of the Division of Plant Industry Nursery News. We publish this newsletter to provide our customers with information about recent developments in the nursery and green industries of Colorado.

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EMERALD ASH BORER

The Emerald Ash Borer (*Agrilus planipennis*), a lethal insect to ash (*Fraxinus* sp.), was discovered in Michigan in May, 2002, but was probably introduced into the state at least five years previously from Asia, its native origin.



Fig. 1- Emerald ash borer

The insect kills ash trees by destroying the tree's water and nutrient conducting vessels. Mountainash, not a true ash, is not susceptible to

the EAB. If not contained the potential epidemic resulting from the EAB could rival Dutch Elm Disease, as the insect advances across North America. States which become infested could lose billions of dollars in forest products, and quarantines imposed by state and federal agencies may have dire consequences for plant and wood products industries. An estimated 15 million ash trees have been killed so far by this insect, predominately on the Michigan peninsula. Due to their tolerance of adverse sites, ash trees have been planted extensively in urban/suburban landscape areas; their removal and replanting costs can be staggering.

Diagnosis/Detection of the EAB:

Initial symptoms of the EAB on ash trees begin with a general yellowing and thinning of the foliage. Then, branches begin to die from the top of the tree downward. Dieback of the branches continues until the tree dies. On some trees with moderate EAB infestations, epicormic shoots (sprouts, suckers) may emerge from the trunk or larger branches. Absolute confirmation of the EAB depends on at least one of the following: D-shaped emergence holes about 1/8 inch diameter, serpentine tunneling, or the presence of the adult or larvae in infested trees.

Life Cycle of the EAB:

In Michigan, the adult EAB begins to emerge from ash trees in late May and feed on ash foliage (leaves) for sustenance. Adults are slender, elongate, green metallic beetles measuring 3/8 to 1/2 inches (7.5- 13.5mm) long. After mating, the

adult female may lay as many as 60-90 eggs over her 2-3 week life. Larvae hatch in 7-10 days, burrow through the bark and begin the back and forth (serpentine) tunneling, which is distinctive for this insect. The tunneling directly beneath the bark in the water and nutrient conducting vessels by the larvae is the destructive portion of the insect's life cycle. Larvae continue to feed through the summer and into the fall. Larvae are distinctly segmented and by late summer and early fall may measure 1-1/4 inches (26-32mm). EAB overwinters as larvae and undergo metamorphoses and change into an adult in late April through May, thus repeating the cycle.

The federal EAB quarantine now covers twenty counties in their entirety in southern Michigan and parts of about 20 more counties in other areas on the Michigan peninsula. It has also been found in some sites in Indiana and Ohio. The Colorado Department of Agriculture is conducting a survey to detect emerald ash borer using Federal grant money. So far none have been detected in Colorado.

(taken from: The Emerald Ash Borer: A Threat to Ash in North America, David L. Roberts, Ph.D., Michigan State University Extension)

JAPANESE BEETLES IN COLORADO

The Japanese beetle first appeared in North America in 1916 in New Jersey. It is now present from Maine to Georgia and west to Arkansas and parts of Kansas. It is a serious pest of grasses, including sod, while in the larval stage. As an adult, it is a voracious pest of over 350 different species of plants in 78 plant families. Preferred hosts include grapes, raspberry, peach, plum, rose, apple, cherry, corn, soybean, Virginia creeper, hibiscus, hollyhock, dahlia, zinnia, elm, horsechestnut, linden, lombardy poplar, willow, crepe myrtle, elder, and evening primrose.

Description

The Japanese beetle adult is a scarab beetle and is approximately one-half inch long and has a metallic green body and coppery wing covers. There are 12 tufts of white hairs bordering the margin of the wing covers.

Distribution in Colorado

The Colorado Department of Agriculture, Colorado State University and the USDA have been surveying various sites in Colorado for Japanese beetles since August of 1995. In 1995 three adult Japanese beetles were caught in a trap in Boulder County. Since that time small numbers of adults have been retrieved from traps at various sites throughout Colorado. There was never any evidence that there was an established reproducing population in Colorado. It seemed that the adults that were found in the traps were brought here as partially grown larvae from infested areas to the east of Colorado. These "transplants" then completed their development here in Colorado and emerged as adults during the summer.



Figure 1: Japanese beetle adult

PALISADE

However, that all changed in the summer of 2002 when a homeowner in Palisade, near Grand Junction, turned in an adult Japanese beetle.

As a result, the Colorado Department of Agriculture conducted a survey in Palisade that year and captured 118 adults. In 2003 a survey program resulted in the capture of 1209 beetles. The much larger number should not be taken to mean the population was greatly expanding. The larger catch was due to a much greater survey area incorporating many more traps.

Control programs, covering all properties in the entire town, were then organized for the 2004 and 2005 seasons. Many groups and individuals cooperated during the 2004 and 2005 control programs. There were 978 adults captured in 2004. The effects of the 2004 control program resulted in an 88% decrease in numbers for the 2005 season. Another control program in the small area where the beetles appear to be limited to at this time, was conducted in September, 2005 and will be repeated in 2006 as well.

GREATER DENVER AREA

In late August of 2005, a small number of traps were placed by the Colorado Department of Agriculture at a golf course in the southeastern quadrant of the greater Denver-metropolitan area. These few traps resulted in the capture of almost 500 adults by the time the adults ceased flying for the season by the end of September. This is a large number considering that by late August the adult populations are beginning to die off having laid most of their eggs for the season. The Colorado Department of Agriculture is concerned that this established population may expand and do significant damage to ornamental, shade and fruit plantings in the Denver area.

ERADICATION

If eradication of this damaging insect from the Denver area is to be achieved, people and companies involved in the green industries need to be proactive.

-Survey: The first tool is to conduct your own survey. Inexpensive traps to detect adults can be purchased from a number of vendors. The time to survey is during adult flight in the months of June through the end of September. The flight time for the adult Japanese beetles runs from late June or early July until the end of September generally.

-Control: Once populations are identified, a control agent needs to be applied. Chemical controls may include Merit or Dylox among others. There are nematodes available as well that are specific to Japanese beetles. These nematodes are microscopic parasitic worms that are harmless to all vertebrates. These nematodes, due to the fact that they are living organisms, are delicate and more complicated to apply in order to be effective. For more information, visit us online at <http://www.ag.state.co.us/DPI/Japanesebeetle.html> or contact the Colorado Department of Agriculture at 303-239-4140.

NOXIOUS WEEDS AS NURSERY STOCK

It is a violation of the Colorado Nursery Act to sell any plants infested with any weed listed in the Rules and Regulations as a prohibited noxious weed. It is also illegal to sell these as nursery stock. There are several ornamental noxious weeds that are among the prohibited weeds, including dame's rocket, myrtle spurge and oxeye daisy, among others. The Colorado Department of Agriculture has been asked to cooperate with the county weed supervisors in enforcing the provisions of the Colorado Nursery Law in respect to keeping these ornamental varieties of noxious weeds from being sold as nursery stock. We are developing protocols to define what their role will be in attempting to keep these noxious weeds out of the nursery trade. More details will be forthcoming at a later date.

NOXIOUS WEED MANAGEMENT

This winter, the Department will be proposing the adoption of statewide, noxious weed management plans for black henbane, diffuse knapweed, oxeye daisy, and yellow toadflax. If you would like to stay abreast of the proposed plans and their incorporation into the rules pertaining to the Colorado Noxious Weed Act, please check our website throughout the winter.

At the present time, the Department does not anticipate adding any new species to the noxious weed list. The state noxious weed advisory committee is developing a series of recommendations to the Commissioner of Agriculture regarding the listing of new species. Within a year, the Department hopes to adopt a more transparent process for the listing and delisting of state noxious weed species. Allen Goodness of Little Valley Nursery in Brighton, Colorado represents the interests of the green industry on the advisory committee. Please contact him if you have any suggestions or concerns.

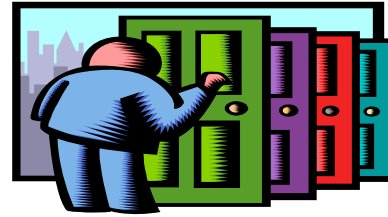
Inspect Your Nursery Stock ...Before We Do!



Inspecting your nursery stock as it arrives can save you time, frustration and money. When a CDA inspector arrives at your business, they charge \$30 an hour to inspect your nursery stock. If you eliminate dead or dying trees and shrubs from your sales area before you are inspected, your inspector doesn't need to spend his or her time culling unsalable plant material. In addition, by inspecting your stock as it comes off the truck, you will be able to identify serious viability issues before accepting delivery. Some common reasons your stock could be stop-saled:

1. **Inadequate root balls.** The Colorado Nursery Act requires root balls 1/3 larger for evergreen trees than those required by the American Nursery Association. If in doubt, check our rules and regulations on the web or contact your inspector.
2. **Plants not established in containers.** For container grown nursery stock to be sold in Colorado, it must be either planted in "plantable" containers (fiber pots) – not acceptable for evergreens – or established to the point where the root ball holds together when removed from the container. If you remove several plants from the pots and the root balls don't remain intact, refuse delivery of the shipment.
3. **Inadequate labeling.** For bench-packed nursery stock (bare-root stock with water retentive material placed around the root system in the form of a ball), a specific tag notifying consumers that they are purchasing bench-packed stock must be affixed to the plant at the time of sale. If you carry this type of stock, make sure each item is properly tagged.

Reminder!



It is illegal to sell nursery stock door-to-door. A nursery registration is required for each fixed sales location.

Helpful Web Sites

- **Div. of Plant Industry**
www.ag.state.co.us/DPI
- **USDA, Plant Protection & Quarantine**
www.aphis.usda.gov
- **CSU, Extension publications on diseases, and plants**
www.ext.colostate.edu/menugard.html
- **Links to Colorado Garden Show Inc., Garden Centers of Colorado, Colorado Association of Lawn Care Professionals, Rocky Mountain Sod Growers Assoc., Colorado Federation of Garden Clubs**
www.gardeningcolorado.com
- **Colorado Nursery and Greenhouse Association**
www.coloradonga.org.
- **Locate County Weed Supervisors**
www.ag.state.co.us/CSD/weeds/mapping/CountyWeedPrograms.html