



Montmorency Conservation District
13210 M-33 North (Fairgrounds)
P.O. Box 789
Atlanta, MI 49709
989-785-4083
montmorencyd.org

Protecting Walnuts and Chestnuts in Michigan

by: *Keith Eldred, Inspector, Pesticide and Plant Pest Management Division
Michigan Department of Agriculture*

On May 17, 2010, two new State quarantines were established by the Michigan Department of Agriculture to protect our walnut (*Juglans* spp.) and chestnut (*Castanea* spp.) industries. These quarantines are as follows.

Thousand Cankers Disease of Walnut Quarantine

This quarantine was established to protect our walnut. Some estimate the sawtimber value in Michigan alone to be in excess of \$86 million as this wood is prized for furniture and other items. Although walnut is seldom found in the landscape nursery trade, it is an important component of our seedling nursery business.

Thousand canker disease (TCD) is a destructive pest complex, consisting of an insect, the walnut twig beetle, *Pityophthorus juglandis*, in conjunction with a fungal pathogen, *Geosmithia morbida* sp. Nov. It is similar to oak wilt or Dutch elm disease in its dispersal and action. All agree that TCD is difficult to control and requires exclusion to protect our native walnuts.

This complex is currently known to occur in Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Washington, and Utah (the native range of walnut twig beetle) where it appears not to be of serious concern to their native walnuts (Arizona walnut, *J. major*; Northern California walnut, *J. hindsii*; Southern California walnut, *J.*



californica). The real problem was realized when our native black walnut, *J. nigra*, was introduced into the western United States. Black walnut trees become infected with the disease when the walnut twig beetle burrows into branches and inoculates the tree with the disease, which is carried on the body of the twig beetle. The fungus causes a canker to form at the site of introduction. The first symptoms of

infection are a flagging of the leaves where movement of sap is reduced by cankers. In severe infestations of the walnut twig beetle, thousands of cankers are produced, thus providing the name. Over time, the cankers coalesce and eventually kill the tree by girdling. It currently appears that the range of this beetle is expanding, threatening walnuts in adjacent states.

This quarantine restricts movement of the following articles from infected states into Michigan:

- All plants and plant parts of the genus *Juglans* including but not limited to nursery stock, budwood, scionwood, green lumber, and other material living, dead, cut, or fallen, including logs, stumps, roots, branches, and composted and uncomposted chips
- Hardwood firewood
- Any article, product, or means of conveyance that present the risk of spread of the walnut twig beetle or the fungal pathogen

Articles, which are exempt and are not a threat in spreading the TCD complex include:

- Nuts, nut meats, and hulls
- Processed lumber that is 100% bark-free, kiln-dried with squared edges
- Finished wood products without bark

It is critically important we keep this pest out of Michigan.

Chestnut Gall Wasp Quarantine



This quarantine was established to protect our chestnut trees and their use in nut production. Michigan ranks number one in the country for number of chestnut farms. According to the U.S. Agricultural Census Michigan has 54 farms encompassing 813 acres. The chestnut gall wasp is a tiny insect that can reduce nut production and often causes the tree to die. These wasps damage both the Asiatic and European chestnut (*Castanea mollissima*, *C. crenata* & *C. sativa*) which are grown commercially for nut production and the remaining American chestnut trees (*C. dentata*), which were largely destroyed due to chestnut blight.

The chestnut gall wasp, *Dryocosmus kuriphilus*, a native of China, was first accidentally introduced into North America in 1974 on imported chestnut cuttings. It's generally spread to new areas by the movement of infested seedlings and exchange of infested scionwood, which is used to graft new trees. The chestnut gall wasp lays eggs in the buds of chestnut shoots and the galls develop on the shoot tips, leaves, and flowers. The gall severely reduces nut production and hinders shoot growth. Once the adult insects emerge, the dried and blackened galls become woody and remain on the tree limbs for years. More severe gall wasp infestations diminish the tree canopy and cause tree mortality. This pest is currently found in Alabama, Georgia, Kentucky, Maryland, North Carolina, Ohio, Pennsylvania, Tennessee, and Virginia. This quarantine restricts both plants and scionwood of all *Castanea* species (including hybrids) from being shipped from these states into Michigan. The regulated articles may be sent from the infested areas listed above with additional official certification attesting to measures taken to insure freedom from this pest (see quarantine for specific details).

These two pests must be excluded from Michigan and adherence to these quarantines is vital to insuring our success. It is very important that the citizens of Michigan and the infested states comply with these measures, being ever diligent in combating these pests. It is a battle we cannot afford to lose.

Additional information:

Thousand Cankers Disease of Walnut Quarantine

<http://mda.mo.gov/plants/pests/MichiganTCDQuarantine.pdf>

A very thorough explanation of TCD with very good pictures:

<http://www.thousandcankerdisease.com/>

MDA – TCD press release

<http://www.michigan.gov/mda/0,1607,7-125--237716--,00.html>

Chestnut Gall Wasp Quarantine

http://www.mi.gov/documents/mda/mda_Chestnut_Gall_Wasp_Quarantine_321905_7.pdf

University of Missouri Extension publication on CGW:

<http://extension.missouri.edu/explorepdf/agguides/pests/pa100.pdf>

MDA – Chestnut Gall Wasp press release

<http://www.michigan.gov/mda/0,1607,7-125--237712--,00.html>