

Spring 2012

Boxwood Blight

Jon A. Appel, Plant Pathologist

Boxwood, a common landscape shrub used in Kansas, was recently recognized as the 2011 Shrub of the year. It makes nice hedges and bushes in the landscape and is relatively hardy to weather conditions. In the past, pest problems associated with the plant have been relatively few and have included such diseases as *Phytophthora* root and crown rot, *Volutella* blight, and *Macrophoma* leaf spot.

Recently, states including Connecticut, Virginia, Rhode Island, Maryland, Massachusetts, Oregon, and New York have had reports of a disease called "Boxwood Blight" or box blight. This disease had been previously reported in many of the European countries, and Oceania and New Zealand. The finds in the United States are in various types of locations including landscapes, nurseries, and retail centers. The United States Department of Agriculture and state departments of agriculture are addressing the various situations in eradication or containment efforts. Trace forward and trace back investigations are also underway. Considering the widespread nature of the disease and the host, it is our opinion that boxwood blight was introduced some time ago into the United States. It has spread through the nursery trade and natural pathways in many areas of the east. We anticipate more findings of this disease in the nursery trade and the likely report in Kansas or neighboring states.

A little about the disease biology and symptoms: The fungus *Cylindrocladium buxicola* infects the above ground parts of the plant including the stem, twigs and leaves. Leaf drop is common and repeated attacks lead to decline then death of plantings. Warm and humid conditions are highly favorable for the disease. All species of *Buxus* have been susceptible so far.

Those propagating plants should be aware of symptoms and limit overhead irrigation whenever possible. Spores of the fungus are splash dispersed on the same plant and carried longer distances by wind or wind driven rain within a nursery. The movement of infected plant

material in the nursery trade, contaminated clothing and tools, and wild creatures to a smaller extent can lead to long distance transmission. The good news is that high temperatures (above 91° F) kill the fungus. Perhaps last summer's temperatures of over 100° F for several weeks killed the disease in Kansas if it already was here. Something good may have come out of that scorcher!

Growers should be aware of buying boxwood from eastern U.S. sources or large brokers where the source of the plants is hard to determine. Plants that are treated with a fungicide may only mask symptoms and not cure the disease. The disease then can pass into your operation unnoticed until an outbreak follows the breakdown of the fungicide and reemergence of the disease occurs. Nursery operators and employees need to separate new plants or rooted cuttings from outside sources away from established plantings. It is important to scout plantings weekly and educate those caring for them on the disease. If you suspect something a little strange going on such as rapid leaf drop and a decline, isolate and sample. You should notify your KDA area specialist or local extension agent for aid in getting a diagnosis. Remember there are other diseases of boxwood and they can be confused with this disease so proper diagnosis is critical. This disease is more aggressive than others, and that should be a key characteristic in your scouting. The debris is highly infectious and should be bagged, burned or buried. Do not compost.



Initial symptoms appear as dark or light brown spots on the leaves.

Picture: The Connecticut Agricultural Experiment Station Disease Alert

What does it look like?

View pictures in an image gallery online at:

http://www.ct.gov/caes/lib/caes/documents/publications/disease_alerts/caes_disease_alert_boxwood_blight_01-11-12.pdf

Winter Moth

Greg Chrislip, State Entomologist

The winter moth (*O. brumata*) is a looper moth (Geometridae) commonly found in Europe. The first North American occurrence was a confirmed infestation in the 1930's in Nova Scotia. Current infestations are found in British Columbia, Washington, Oregon, New Brunswick, Prince Edward Island, Massachusetts and Rhode Island.

Male and female winter moth



The winter moth is unusual in that the adult moths emerge in late November and can be active into January under the right weather conditions.

The mature adults are sexually dimorphic with the males being winged and the females with the wings reduced to small buds. After mating the females lay egg clusters on tree trunks and branches. The

eggs are often deposited in bark crevices, under lichens or bark scales.

The larvae appear as early as March. The eggs hatch when temperatures average around 55°F. Young larvae tunnel into buds, especially the flower buds of fruits, and feed inside buds. Once the initial bud has been devoured, the larvae will move to another bud to feed. Older larvae are free feeders on foliage. Trees may be totally defoliated by large numbers of larvae.

The winter moth is closely related to a native species, the Bruce Spanworm (*O. bruceata*). The species look very similar and are difficult to distinguish. Studies have looked at the difference in wing venation and genitalia. Another study is currently being conducted on species hybridization.

In October, KDA's Plant Protection and Weed Control program set out 150 wing traps baited with winter moth pheromone in 25 nurseries and garden centers in 13 counties in the state. The lures were changed in November and the traps were removed in December. Thirty-six traps were sent to the Washington State Department of Agriculture lab for suspect moth identification. A total of 31 traps with 775 specimens were sent for identification. There were 689 Bruce Spanworm collected. No winter moths were found.

Preferred Hosts of Winter Moth

<i>Acer</i> – Maple	<i>Picea</i> - Spruce
<i>Amelanchier</i>	<i>Populus</i> - Poplar
<i>Betula</i> – Birch	<i>Prunus</i>
<i>Calluna</i> - Heather	<i>Pyrus</i> - Pear
<i>Carpinus</i> - European Hornbeam	<i>Quercus</i> - Oak
<i>Castanea</i> - Chestnut	<i>Rhamnus</i> - Buckthorn
<i>Corylus</i> - Hazel	<i>Rhododendron</i>
<i>Cotoneaster</i>	<i>Ribes</i> - Currant
<i>Crataegus</i> - Hawthorn	<i>Rosa</i> - Rugosa Rose
<i>Cydonia</i> - Quince	<i>Rubus</i> - Raspberry
<i>Fagus</i> – Beech	<i>Salix</i> - Willow
<i>Fraxinus</i> – Ash	<i>Sorbus</i> - Mountain Ash
<i>Larix</i> - European Larch	<i>Tilia</i> - Linden, Basswood
<i>Malus</i> – Apple	<i>Ulmus</i> - Elm
<i>Myrica</i> - Bayberry	<i>Viburnum</i>
<i>Ostrya</i> - Hophornbeam	

Brown Marmorated Stink Bug - *Halyomorpha halys*

Introduced into the United States from Asia the Brown Marmorated Stink Bug (BMSB) was first found near Allentown, Pa. around 2001. The stinkbug is now found in California, Connecticut, Delaware, Indiana, Kentucky, Maine, Maryland, Massachusetts, Mississippi, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Virginia, Washington, D.C. and West Virginia. Specimens have also been located in Florida, Illinois, Minnesota, Nebraska and Wisconsin.

BMSB feeds on a wide variety of fruits, vegetables, row crops and ornamental plants. Plants affected include corn,



soybeans, raspberries, blackberries, stone fruits, apples, pears, cherries, butterfly bush and pyracantha to name a few. The damage to the fruit or plant results from the feeding stylets of the insect. Once the insect feeds, the surrounding tissue becomes necrotic. Fruit becomes unsellable and reduced yields occur in agriculture crops from the damage of BMSB. Plant Protection and Weed Control has submitted a work plan for funding from U.S. Department of Agriculture for the trapping of BSMB during the summer in 2012.

New Weed Specialist

Plant Protection and Weed Control has a new weed specialist. His name is Scott Marsh and he started at the end of January. Although Scott is a native Michigander, he comes to us from the Nevada Department of Agriculture where he was the Noxious Weed Program Coordinator (same job, different title). He has Bachelor of Science in Forestry, as well as experience in Wildlife Management and noxious weeds.

He has already been on the road giving presentations on noxious and invasive weeds to a few groups. He has set ambitious goals of getting out to every county in the state this year to meet the County Weed Directors, landowners and others. He is interested in getting to know Weed Directors and finding out how the state can help out in their efforts to assist landowners in controlling the noxious weeds on their lands.

New Southeast Area Staff

Jeremy Maples is our new southeast area staff person. His field office is in Redfield. He is originally from the Joplin area, and received his Horticulture degree from Missouri State in Springfield, Mo. Also while in Missouri, he spent some time teaching horticulture classes at the junior college. From there, he spent ten years in the nursery industry, first managing a large operation in the Tulsa area and then working as an Oklahoma nursery inspector. In his free time, he enjoys fishing and bird hunting. Having grown up bird hunting in Kansas most of his life he is familiar with most of this beautiful state.

Trapping and Survey Programs

The national trapping survey for Emerald Ash Borer in 2012 will consist of 362 traps being set in Kansas. Of these, 100 will be set by the state and 262 will be set by USDA-APHIS-PPQ. We will be trapping Cherokee, Crawford, Douglas, Franklin, Graham, Harvey, Labette, Montgomery, Morris, Neosho, Norton, Osage, Osborne, Phillips, Pottawatomie, Riley, Rooks, Sedgwick, Smith, Sumner, Wabaunsee and Wilson counties. The traps will be put up in USDA pre-planned areas which are not necessarily campgrounds as in years past. The traps will be set at the end of March through September. For information on the Emerald Ash Borer go to:

www.emeraldashborer.info

Also in 2012, an oak pest commodity survey will be taking place. This detection survey is planned for three years and will gather data to determine the status of

exotic oak pests in Kansas. For 2012, (was planned for in 2011 but funding was not received in time) the northeast to north central will be surveyed with 50 sites trapped. The second year, (also for 2012 if the funding is received in time) the southeast to south central will be surveyed with 50 sites trapped and the third year (2013) for the central to western half of the state surveyed with 30 sites being trapped. Areas in and around the priority resource area for oak will be selected (Figure A & B). Kansas has a high population of oak in the eastern part of the state and other large areas throughout the state. The potential loss could be substantial to the ecosystem, agriculture, the lumber and nursery industry and communities if these pests are not detected early.

We will be trapping high risk areas for the Rosy Gypsy Moth, False Codling Moth, Summer Fruit Tortrix, Green Oak Tortrix, Variegated Golden Tortrix, Asian Gypsy Moth and European Gypsy Moth.

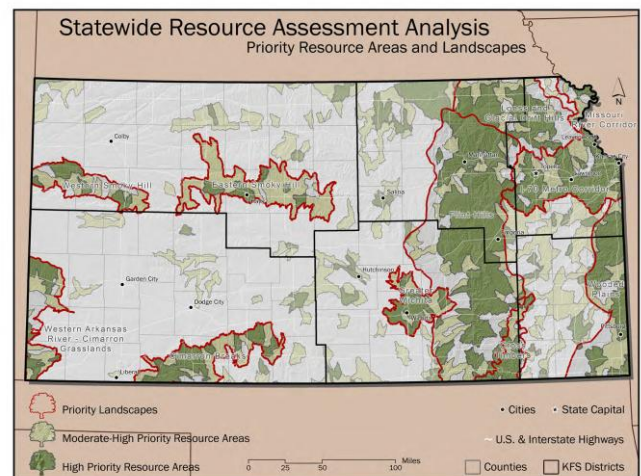


Figure A

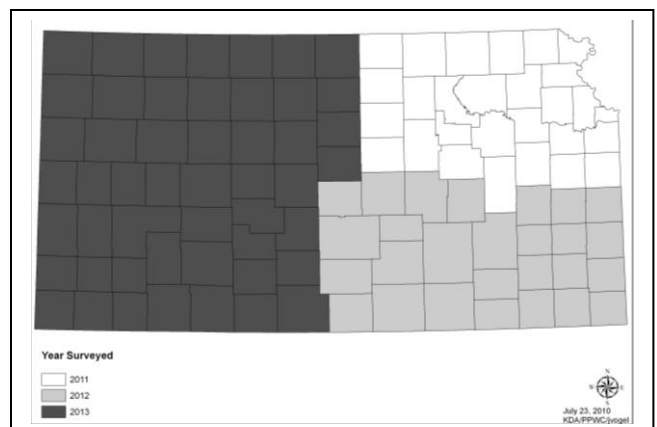


Figure B

We always appreciate the live plant dealers who let us put traps on their property. This type of work is of great importance in protecting Kansas. Early detection will improve the odds of eradication and containment success if the pests are found.

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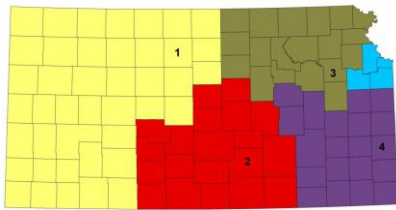
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