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Forest & Shade Tree - Insect & Disease Conditions for Maine
September 14, 2007

This will be the last *Insect and Disease Conditions Report* for the season. The summer has quickly gone by, and with the approaching fall and winter months, some standard recommendations are in order with respect to maintaining tree health through the dormant seasons.

Fall is a good time to transplant small trees and shrubs. The beginning of leaf color changes and natural leaf drop indicates that trees are beginning to slow or stop in shoot and cambial growth. However, root growth will still continue through the fall, as long as the soil remains unfrozen, which will allow fall-transplanted trees to become established before winter. Fall is also a good time to assess the potential for rodent damage. High grass or other heavy weed layers at the base of small trees can sometimes act as protection for mice, squirrels, and rabbits, which can then gnaw and damage bark through the winter months. Fruit trees are especially favored, and can be protected with wire mesh tree guards. Finally, we have been fortunate to have reasonable amounts of moisture throughout this season. Good moisture levels should be maintained throughout the fall months with watering if little natural rainfall occurs. This is especially so for evergreen trees in landscape settings which are susceptible to winter drying and browning. Wrapping susceptible evergreens in burlap can also help reduce effects from winter drying.

Have a safe and comfortable winter!

State Offers Free Disposal of Banned, Unusable Pesticides in October

Hundreds of Maine citizens live unaware of a quiet crisis lurking in or near their homes. In barns, basements, sheds, or garages throughout the state reside tons of banned and unusable pesticides: old chemicals with infamous names like DDT, lead arsenate, 2,4,5-T, and chlordane. Often, new owners of older homes or farms discover they have inherited hazardous waste. When they do, citizens face a dilemma: hire an expensive hazardous waste disposal service or dump the chemicals illegally, inviting harm to the environment and public health.

Fortunately, there's a third option that's both legal and responsible. Even better, it's free, simply by contacting the Maine Board of Pesticides Control (BPC). During the first week of October 2007, the state regulatory agency will dispose of banned pesticides or pesticides that have become caked, frozen, or otherwise rendered unusable. And, again, there is no cost to homeowners. "We urge people holding these chemicals to contact us immediately to register," says Paul Schlein, BPC Public Information Officer. "There will be four sites throughout the state where folks will be able to bring their obsolete pesticides."

The collected chemicals go to out-of-state disposal facilities licensed by the US EPA where they are incinerated or reprocessed. "While offering free obsolete pesticide disposal is expensive for us," notes Schlein, "it's a bargain, compared to the cost of cleaning up contaminated soil or water. However, it's worth noting that future funding is not guaranteed, so be sure to take advantage of this year's collection while you can."

To register, find out collection dates and locations, and learn important information about the temporary storage and transportation of obsolete pesticides, call the BPC at 287-2731, or go to the BPC Web site at **http://www.maine.gov/agriculture/pesticides/public/obsolete.htm**

Insects

Insects in Firewood - We will say it again, if you store your winter's worth of firewood inside the house, expect insects to come in with the wood. Most of these hitchhikers are just annoying but there is the potential to bring in powderpost beetles or other wood boring insects that could infest the beams, floor boards, furniture etc. in your house. It is better to store wood outside under cover and bring a week's worth in at a time.

Maple Trumpet Skeletonizer (*Epinota aceriella*) and **Oak Trumpet Skeletonizer (*Epinota timidella*) -** Both these late season insects have been noticeable this year. Although they make the leaves look odd by folding them up the amount of feeding they do is insignificant.

Overwintering Insects - Some insects come just for the summer, others want to spend the winter but seek shelter in our homes. Some of the insects that come inside in the winter include **Cluster Flies (*Pollenia rudis*), Multicolored Asian Lady Beetles (*Harmonia axyridis*)** and **Western Conifer Seed Bugs (*Leptoglossus occidentalis*).** All these insects are "from away" and are looking for a sheltered place to overwinter. They are attracted particularly to the warm south side of buildings where they then squeeze through cracks and crevices to get into wall voids, attics and crawlspaces - unheated but protected locations. The insects then go in to a dormant state until the warmth of the house draws them inside or in the spring they head outside.

Tightening up your house by repairing screens, applying weather stripping and caulking cracks is a start to reducing the numbers of insects that enter your house. In extreme cases the exterior of the house can be fogged with pyretheroids to prevent the insects from entering.

Spruce Bark Beetle (*Dendroctonus rufipennis*) - The spruce beetle has raised its ugly head again in Bar Harbor. Spruce trees that are mature, mostly ones that escaped the fire of 1947, and over 18" in diameter are being attacked by the bark beetles. The beetles have also been found in red pine, where they are heavily encased in pitch with minor damage, and also in white pine adjacent to heavily infested spruce. The beetle is native to North America and attacks stressed trees. It has been a problem along the coast of Maine for the past 15 years attacking trees that are overmature for the site that then experience periods of drought.

There is little that can be done to save trees once they have large numbers of bark beetles in them. Trees that have been heavily attacked should be cut and removed from the site or debarked and the bark chipped, burned or buried. Cutting the trees and removing the bark will help reduce the number of beetles that can infest other trees. This work is best performed in late fall and winter to reduce the spread of beetles during the removal process. Work should be completed before May when the adult beetles begin to emerge from the trees and search for new hosts.

The beetles feed in the cambium layer just under the bark and can complete their life cycle even if the tree has been cut down. The wood can be salvaged but the bark from the trunk of the tree needs to be destroyed by chipping, burning or burying. These bark beetles only attack the bole of the tree so branches and tops of trees less then four inches can safely be chipped on site.

Managing forest stands can reduce the potential for spruce beetle outbreaks. High value specimen spruce trees can be helped through droughty times by properly watering them, although this takes forethought long before there is a beetle problem.

Diseases and Injuries

Tar Leaf Spot of Maples (*Rhytisma* spp.) – Several samples of tar leaf spot of maples have been received during the past two weeks. Tar leaf spot is usually an incidental leaf disease because it causes damage so late in the season, and because under normal weather conditions infections are usually very low. The samples received this year have all come from Norway maples from the towns of Auburn, Rockland, and North Yarmouth. The fungus infects the leaves early in the spring, but the black fruiting structures (the "tar spots") don't form until late summer. Raking and removing leaves will help to reduce the inoculum (the spores that will infect the new leaves next year), but complete control is difficult, if not impossible. Disease incidence is controlled far more by weather, with rainy, cool spring conditions favoring disease development. In most cases, no chemical control is warranted.

Shoestring Root Rot (*Armillaria mellea)* – The fungus *Armillaria mellea* is a root pathogen of a wide variety of woody plants, and is distributed in forests as well as in suburban and urban areas throughout North America. The fungus survives in forest soils as mycelial cords called rhizomorphs or "shoestrings", and in decaying woody litter on the forest floor. As a pathogen, *A. mellea* can cause wood decay, growth reduction, and mortality to infected conifer and broadleaved trees. The principal method of tree-to-tree spread is through rhizomorphs that grow from infected roots through the soil to adjacent trees. However, it is considered weakly parasitic in that it usually only infects trees that are weakened by other factors such as insect defoliation, drought, or mechanical injuries.

Conditions for the development of the mushrooms, or fruiting stage, of *A. mellea* are ideal from late August through mid-November, depending on rainfall and soil moisture. For this reason, fall is a good time to survey for the pathogen, to determine if individual trees or groups of trees may be affected, without having to dig roots or remove bark to examine for mycelial fans and rhizomorphs. After rains, mushrooms appear in clusters, usually at the base of infected trees or along the major roots. The mushrooms are typically honey yellow in color (but variable) with the smooth caps, or with a few tiny, dark scales clustered near the cap center. The caps are between 1 to 4 or 5 inches in diameter. The gills of the mushroom are attached to the stem, and the stems are between 2 and 4 inches tall and tapering at the base, due to the clustered growth pattern. The spores are white, and often mushroom caps that have been overtopped by others in the cluster will appear covered with white "dust'.

Appearance of the mushrooms will not always indicate tree damage; remember, the fungus can exist as a saprophyte and decompose dead wood. However, if abundant mushrooms are found, trees and stands should be assessed to determine if other conditions or damaging agents are present and resulting in weakened trees.

Fall Shedding of Branches - This time of year we often receive calls on fall color expectations, and on suspicious leaf and needle loss. While everyone is familiar with broadleaf trees shedding leaves, some still don't recognize that conifers shed needles on a regular basis also. Spruces and firs can hold needles for five to

eight years or longer, but will naturally shed the oldest needles annually. Most species of pine will hold needles for three to five years also. The naturally-shed needles of white pine are more easily noticeable because of their length, and because the needle fascicles will catch on other needles and branches, giving the shedding trees a brown cast for a short period of time in the fall.

Some trees will naturally shed small branchlets in the fall. This branch-shedding process is called cladoptosis. Northern white cedar will form an abscission layer at the base of small twigs, and will shed entire twigs. Many species of poplar will also form an abscission layer at the junction of small branchlets, and shed entire twigs. Occasionally other tree species have been known to shed branchlets in the fall. Last year, many hemlock in the central and southern regions of the state naturally shed small branchlets. In the case of the hemlocks, the triggering mechanism is unknown. The phenomenon apparently occurs infrequently, unlike the regular annual abscission layer formation in the poplars and in northern white cedar.

In any case, be aware that natural shedding processes are an integral part of woody plant development. Excessive browning of foliage or loss of branchlets, especially in the fall, is not always associated with or caused by insect pests or plant diseases.

Information on any entry preceded by an (*) may be available on our website or can be requested by calling or writing to the Insect and Disease Laboratory, 50 Hospital Street, Augusta, Maine 04330-6514, Phone (207) 287-2431, Fax (207) 287-2432.

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