



Vermont Forest Health

Insect and Disease Observations—June 2012

Department of Forests, Parks, & Recreation
June 29, 2012 vtforest.com

Weather Events and General Damage

Hail damage became noticeable in Albany following a storm on May 29th. Damage may have become more visible recently, since some of the affected foliage is now browning up, and the shoots which are re-foliating have a red-dish color. Other Vermont towns where hail was reported on May 29th include Alburgh, Benson, Bethel, Colchester, Cornwall, Eden Mills, Enosburg Falls, Highgate Center, Ira, Lowell, Malletts Bay, Middlebury, North Clarendon, Pittsford, Rutland, Sheldon, Shoreham, South Royalton, Springfield, Swanton, West Berkshire, and West Glover. A tornado was confirmed in Glover from that same storm on May 29.



Hail as large as 1 3/4 inches was observed in some locations during the May 29th storm. (photo: K. Burke)



A strong wind event that occurred on June 1 blew leaves off trees and may be a contributing factor to thin crowns and re-foliation. Sugar maples were especially hard hit. This damage was fairly localized to the western slopes of the Green Mountains. Wind gust reports received by the National Weather Service in Burlington included wind speeds of 72 mph in Underhill Center, 56 mph in Jericho, 44 in Underhill, 41 in Bolton, 39 in Huntington, 37 in North Clarendon, 47 on Bread Loaf Mountain in Addison County, and 77 mph on Mt. Mansfield in Stowe.

Hailstones tore and stripped leaves and bruised petioles and twigs at Lowell Mountain in Albany and Lowell, VT. Damaged foliage later browned up and some re-foliation is taking place. (photo: K. Burke)

We are seeing some re-foliation of sugar maples that suffered from the **frost damage** that occurred this spring. New leaves may appear red-dish or off-color.

During a US Forest Service aerial forest damage detection survey over the Green Mountain National Forest on June 14-15, 3,238 acres of hardwood defoliation were mapped. Although the causal agent has not yet been determined, heavy hardwood defoliation elsewhere in the state has been caused by frost, pear thrips, and hail.

Diseases

The US Forest Service, in cooperation with UNH and affected states, continues to investigate the **needle damage to white pine**. This includes studies to narrow down the roles of needlecast fungi and weather, and plots to monitor impacts on tree growth. In one area, which was first evaluated in 2011, the same trees that were diseased last year were also diseased this year. During the aerial survey conducted over the Green Mountain National Forest on June 14 and 15, the US Forest Service mapped 3,494 acres of white pine needle damage. Here's an updated leaflet: http://na.fs.fed.us/pubs/palerts/white_pine/eastern_white_pine.pdf

Fir-fern rust is unusually noticeable throughout the state. Christmas tree growers report that, unlike most years, early and late-budding trees are equally affected. Spores from infected ferns spread to new balsam fir needles shortly after budbreak. The infected needles are now turning yellow, and white spores are being produced in pustules on their undersides. These spores will only infect fern. The disease doesn't spread from one needle to another, so symptoms won't get any worse as the season progresses. In fact, they should look better, since diseased needles are shed by fall.

Diplodia on the hard pines is on the increase in the Champlain valley. (See <http://na.fs.fed.us/spfo/pubs/fidls/diplodia/diplodiafidl.htm>)



*Fruiting bodies of **fir-fern rust** are seen along the lines of the stomata on the undersurface of the needle. (Photo: R. Kelley)*



*Tip blight and dieback are typical of **Diplodia** on pines. (Photo: R. Kelley)*

Flagging branches from **Dutch elm disease** have been quite noticeable. The fungus is supposed to move more readily in tree vessels when the weather is wet, and we've had a number of wet years in a row. This disease is spread by elm bark beetles which feed in tree crotches. The beetles breed in dying elms and recently dead elm wood. Keeping an area free of these reduces the chance of disease spread. If flagging is observed on a specimen tree, it may be possible to save it by proper sanitation pruning and insecticide injection. <http://na.fs.fed.us/fhp/ded/>

Inquiries about **oak defoliation** continue. Much of the damage is from anthracnose on lower branches. Ash anthracnose has also been frequently observed.

New information about **Sudden Oak Death** was shared at a recent science symposium, and made available by the US Forest Service. Although there continue to be no known locations of the causal fungus, *Phytophthora ramorum*, in the northeast, some nurseries in the southeast have persistent infestations. In the infested regions of the west, eradication of outlier infections is the highest priority. The timber industry supports these efforts since logs can only be exported from disease-free areas. Recently, the fungus was found killing Japanese larch in the British Isles. Our native tamarack is also susceptible to the disease.



*Red oak leaves deformed by **anthracnose**. (Photo: C. Stone)*



Unusual and unexpected **Balsam fir Christmas tree dieback and decline** have been reported throughout the state. Although 80% of growers reported the worst damage on younger trees, 57% reported some losses to larger trees. Nearly half of growers reported the worst damage on heavy or wet soils, and 15% reported limited root systems. 23% observed no contributing factors. Paul Schaberg, Plant Physiologist, US Forest Service, theorized that the fir opened their stomata during the unusually warm winter, and lost too much water through unseasonably large amounts of transpiration. Armillaria root rot, streaking/phytophthora and pine sawyer injury were also reported. The problem is complex and will require more follow-up.

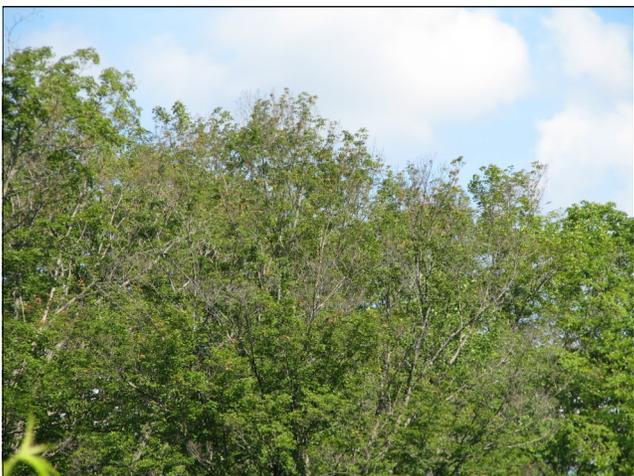
***Balsam fir Christmas tree losses** are significant for some growers this spring. (Photo: B. Burns)*

Insects

Though we are not seeing any significant damage from the common defoliators, **gypsy moth caterpillars** have been observed in scattered locations throughout the state. **Forest tent caterpillar** and **spruce budworm** pheromone traps have been deployed as part of our annual survey and detection program.



Over 500 food plants have been recorded for **gypsy moth caterpillars**.
(Photo: R. Kelley)



The results of **pear thrips** feeding is still obvious in some locations. The combined effects of weather (frost and hail damage), disease (e.g., anthracnose) and feeding by thrips has made some trees look ragged, even as they refoliate.

Japanese beetles, Asiatic garden Beetles and rose chafers are active. Though we often associated these beetles with perennial flower beds, vegetables and berries, all three scarabs have numerous hosts, including many trees. Immature stages feed on roots. (See http://www.aphis.usda.gov/plant_health/plant_pest_info/jb/index.shtml, <http://www.uvm.edu/pss/ppp/pubs/el247.htm>, http://ipm.ncsu.edu/AG189/html/Rose_Chafer.HTML.)

Damage caused **by pear thrips** in Dummerston. (Photo: B. Burns)



There were several reports in June of great numbers of dark green red-legged **blister beetles** on locusts and lupine. (See <http://sci.windwolf.org/crex/bug/beetle/cmobLyttaS.htm>)

We are seeing new larch mortality as well as areas of defoliation from **larch casebearer**.

Pine leaf adelgid (sometimes known as the pine leaf chermid) was observed on red spruce in Stowe. (See <http://www.maine.gov/agriculture/pesticides/gotpests/bugs/pine-leaf-adelgid.htm>.)



Pine leaf adelgid causes cone-shaped galls on spruce twigs in the spring. (Photo: R. Toolan)

Blister beetles like these on locust are episodic and usually common locally for only a short time. (Photo: M. Gilley)

A **Vermont Bumblebee Survey** is underway that aims to document the relative abundance and distribution of bumblebees across Vermont. Check it out at <http://www.vtecostudies.org/vtbees/>.



For more information, contact the Forest Biology Laboratory at 802-879-5687 or:

Windsor & Windham Counties.....
Bennington & Rutland Counties.....
Addison, Chittenden, Franklin & Grand Isle Counties.....
Lamoille, Orange & Washington Counties
Caledonia, Orleans & Essex Counties.....

Springfield (802) 885-8845
Rutland (802) 786-0060
Essex Junction (802) 879-6565
Barre (802) 476-0170
St. Johnsbury (802) 751-0110

Forest health programs in the Vermont Department of Forests, Parks, and Recreation are supported, in part, by the US Forest Service, State and Private Forestry, and conducted in partnership with the Vermont Agency of Agriculture, Food, and Markets, USDA-APHIS, the University of Vermont, cooperating landowners, resource managers, and citizen volunteers. Photos were taken by FPR staff, including former staff specialist, Ron Kelley, and by Kevin Burke and Molly Gilley.