Branching Out

An Integrated Pest Management Newsletter for Trees and Shrubs

Volume 33 No. 1 April 10, 2026

Contents...

Thank You to Our Scouts and Diagnosticians

Amy Albam, Carol Bradford, Dawn Dailey O'Brien, Don Gabel, Sandra Jensen, Hillary Jufer, Karen Klingenberger, Elizabeth Lamb, Jen Lerner, Jessica O'Callahan, Zaidee Powers, Alice Raimondo, Mina Vescera, Mike Voss, Sandra Vultaggio

Scouting Report Notations:

(#) Numbers in regular type note plate(s) in *Insects that Feed on Trees and Shrubs* (2nd edition) by W.T. Johnson and H.H. Lyon.

(#) Numbers in italics note plate(s) in *Diseases of Trees and Shrubs* (2nd edition) by W.A. Sinclair, H.H. Lyon, and W.T. Johnson.

Welcome to 2026!

Some things to keep in mind for this and future issues:

- **To those who haven't renewed yet: this complimentary issue will be the only one for this season. Don't miss out! Renew now at: https://tinyurl.com/487nvn8p**

- Scouting Reports list chemicals registered for control of specific pests. Recommendations are taken from the 2025 edition of *Pest Management Guide for Commercial Production and Maintenance of Trees and Shrubs*.

- **Recommendations in this guide change yearly and we strongly encourage you to verify registration status, labels and uses approved in your state.**

- Where a specific product is listed after a recommended pesticide, only that product is labeled for that use. Not all products listed are labeled for all uses, so be certain you are getting the right formulation [with the use(s) you want], before you purchase the pesticide.

- Recommendations are not substitutes for pesticide labeling. Changes in pesticide regulations occur constantly; human errors are still possible. Read and follow the label directions before applying any pesticide!

- Growing degree-days (GDD) are valuable guides to predict plant development and pest occurrence, and they've proven to be better indicators of season progression and pest developoment than calendar dates. Our GDD use a 50°F threshold. Note: a lower developmental threshold may apply for some insects.

- Online access to issues will be emailed soon. Questions? Contact Shari Romar, at sr369@cornell.edu.

Scouting Report

Conifers

Cryptomeria Scale—on Douglas-fir Christmas trees in Suffolk Co. Low population with no damage symptoms (yellow blotching) on foliage. More often seen on *Abies* and *Picea*. Crawlers expected around 600-800 GDD with 2nd generation crawlers 1750-2130 GDD.

Cryptomeria scale (Dan Gilrein)

Elongate Hemlock Scale (45)—overwintering adult females on the undersides of hemlock needles in Westchester Co.

European Pine Sawfly (2)—inquiry this past week from Cayuga Co. about preventive actions for landscape pines. Mugo, Scots, jack, red, Japanese red are favorite hosts; other pines (Austrian, eastern white, pitch) may also be attacked. Scout for/remove needles with overwintering eggs. Scan foliage from different angles. Check again early May for early signs of larvae, which feed in groups. Hand-removal is often simplest; spinosad and some other insecticides are also effective for larger populations.

European Pine Sawfly larvae (Marge Witty)

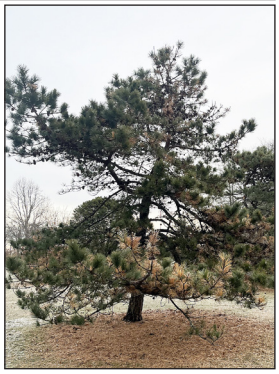
Hemlock Woolly Adelgid (32E)—eggs present and a few crawlers in Rockland

Cornell University Cooperative Extension

Co. Eggs but no crawlers in Westchester Co. First crawlers often present mid-April in Suffolk Co.

HWA egg masses + 1st crawlers, 4/12/26 (Dan Gilrein)

Pine Twig Gall Scale (39)—on pitch pine. This twig gall scale (*Matsucoccus gallicolus*) embeds in bark of twigs and causes flagging (dead) terminals, in Suffolk Co. The related red pine scale, highly damaging to red pine, was found last year in the Lake George region.



Above: Pine Twig Gall Scale chamber beneath bark and small exit holes adjacent (Dan Gilrein); Right: overall damage (Michael Voss)

Rhabdocline Needlecast (*15*)—fruiting bodies starting to swell in Westchester Co.

Salt Injury/Winter Injury (*244-248*)—on arborvitae, juniper, yew and others in Rockland Co.

Spruce Spider Mite (52,53)—low level of damage at base of needles from last year on Douglas-fir Christmas trees in Suffolk Co. No overwintering eggs seen.

Broad-leaved Trees and Shrubs

Chaga (*156*)—birch tree noted in Onondaga Co. with multiple lumpy black galled areas along the trunk, likely caused by infection of *Inonotus obliquus* through wounds. A white-rot fungus that causes a canker rot, it produces outgrowths known as "chaga" and eventually will kill the tree. The birch fungus has been used medicinally in Russia since the 1500s, or even earlier, often used as a tea or smoked. Native Americans also used it as medicine. It is also an excellent tinder. Today chaga is a self-help fad with many products and an equal number of unfounded claims online. To identify, check for a yellow-brown or reddish interior in the chaga candidate. Although the fungus will also grow on beech, alder, hop hornbeam and black cottonwood, there are no health claims for the fungus unless it is growing on birch.

Chaga on birch trunk (Carol Bradford)

Cottony Camellia (Taxus) Scale (164)—on 'Nellie Stevens' holly in Suffolk Co. Heavy sooty mold and white residue from last spring's egg masses with numerous live nymphs seen under leaves. Egg masses appear late May/early June with crawlers soon after. Dormant-stage horticultural oil has worked well for control.

Cottony Camellia (Taxus) scale - nymphs, residue and sooty mold (Dan Gilrein)

Honeylocust Seed Weevil—recent report of 1/8" dia. holes in honeylocust pods from Suffolk Co., characteristic of weevils that feed specifically on honeylocust seeds, including the native *Amblycerus robiniae* and two East Asian *Megabruchidius* spp. not reported from the US. *M. dorsalis* is widespread in Europe and apparently in at least two small areas of Canada. We're holding samples to watch for adults.

Honeylocust Seed Weevil emergence holes (Dan Gilrein)

Japanese Maple Scale—numerous on bark of flowering cherry at a Suffolk Co. landscape and low numbers on holly in a nursery.

Japanese Maple Scale (Dan Gilrein)

Pseudocercospora Leaf Spot (*16*)—dark purple-rimmed spots with tan to ashy gray centers are commonly caused by the fungus *Pseudocercospora kalmiae*, previously a *Cercospora* species. Spotting is not lethal but is very disfiguring. A related but different fungus spots azalea and rhododendron. Keeping leaf surfaces dry is important: avoid planting in heavy shade or in areas where plants are directly hit by irrigation. If fungicides are used, apply them to protect new leaves while they are expanding.

Mountain laurel showing symptoms of Pseudocercospora leaf spot (Jeffrey Colon)

Redheaded Flea Beetle—2025 damage to Japanese holly from a Suffolk Co. nursery. The adults generally start appearing from overwintered container plants after mid-June. *Hydrangea paniculata* and *Itea* are among favorites, with roses, hollies and many other woody and herbaceous perennials also hosts.

Old Redheaded Flea Beetle damage (Dan Gilrein)

Salt Injury/Winter Injury (*244-248*)—on Meserve hollies, cherry laurel and others in Rockland Co. and many

broadleaf evergreens in Suffolk Co., osmanthus, holly, cherry laurel especially. Expect winter injury cases to be high.

Spotted Lanternfly—NYS Dept of Ag. & Markets continues to monitor but requests reports only from new areas. Reports no longer needed from NYC, Dutchess, Nassau, Orange, Putnam, Rockland Suffolk, Sullivan, Ulster,Westchester Cos. Good news: a biocontrol looks promising for possible release in 2027.

Maple with bark removal by squirrel(s) (John Mitchell)

Squirrel Damage (241)—unusually severe debarking by squirrel(s) from eastern Suffolk Co. Damage may be related to the lack of other nearby food source at this site.

White Prunicola Scales (mostly immature females) (Dan Gilrein)

White Prunicola Scale (188)—mostly pre-adult males and females on privet in Suffolk Co. Plants were under protective cover over winter so development is somewhat advanced. Horticultural oil or pyriproxyfen (Distance or generic) can be used to target crawlers. Holly also has low level of Japanese maple scale. Many scales are easily removed with a jet of water.

Under the Scope:
Reports from Diagnostic Labs

Crapemyrtle Bark Scale—samples from eastern Suffolk Co. had low numbers of live nymphs but also many dead nymphs and eggs. Temperatures near zero in late January/early February may be responsible for the mortality. I (DG) was not expecting to find crawlers present, many partly hidden in lichen, inside cases of dead parents, and under bark scales. A dormant-stage oil or other treatment (pyriproxyfen, e.g.) may be helpful before they start producing their protective covering. After milder years treat after eggs have hatched, possibly early to mid-May. Include a wetting agent or low rate of insecticidal soap to enhance coverage/wetting.

Crapemyrtle overwintered "cases" with eggs; inset: dead eggs (Dan Gilrein)

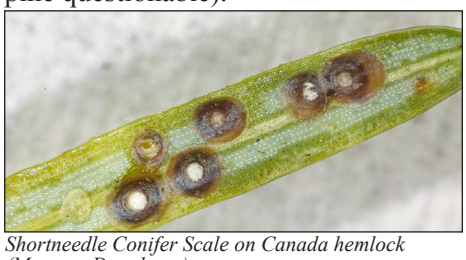
Gymnosporangium Rust (*129-133*)—extremely wet weather may be jump-starting the gall bloom in Tompkins Co. Close-up views show telial horns beginning to emerge from overwintering cedar galls. More wet weather over the coming weeks will promote the fully-formed and characteristic bright orange gelatinous tendrils.

Gymnosporangium Rust gall (Karen Snover-Clift)

Sapsucker/ Woodpecker Damage (241)—many recent reports from Suffolk Co. Several species responsible. Yellow-bellied sapsucker makes two kinds of holes: deep round xylem wells in bark when trees are in leaf and rectangular phloem wells not as deep later when leaves are gone which may be continually enlarged and can kill trees. Holes often in lines. Netting or burlap covering can be used to prevent further damage. "Blonding" on ash also made by woodpeckers flailing off bark to locate emerald ash borer larvae beneath; holes have rough, irregular outline unlike the neat D-shaped beetle exits. Recently discovered in orchard apple trees, woodpeckers made largish holes in trunks to feed on leopard moth larvae within and appear to have done a good job reducing the infestation.

Sapsucker damage to viburnum (Tom Golon)

Shortneedle Conifer Scale (44D,F)—very similar in appearance and biology to hemlock scale. 2nd instars overwinter, near-adult females were found late March on Canada hemlock in Suffolk Co. 1st generation crawlers should be present in late May/early June. Other hosts include *Abies*, *Picea*, *Taxus* and several other conifers. Similar hemlock scale has a narrower host range (*Tsuga*, *Abies*, *Picea*, *Pseudotsuga*; report on pine questionable).



Shortneedle Conifer Scale on Canada hemlock (Margery Daughtrey)

Twig Galling—on weeping European Beech due to suspect triclopyr or other picolinic acid herbicide exposure in Suffolk Co.

Twig galls from herbicide injury (Dan Gilrein)

Volutella Blight—this fungal leaf blight and canker disease is showing up on boxwood in a number of locations in Suffolk Co. this year. Snow load is one of the possible causes of wounding that allows the fungus to enter the plant—and there was plenty of snow this winter. Whole sections of the canopy turn pale tan, with leaves remaining attached to the stem. Injury can be pruned out, as this is a stress-related disease that requires wounding caused by leaf miners, drought, snow breakage, pruning, etc. Boxwood blight caused by *Calonectria pseudonaviculata*, in contrast, typically includes defoliation.

Orange sporulation of a Pseudonectria species causing Volutella blight (Margery Daughtrey)

Miscellany

Birds & Bees Act: Arborists continuing to use dinotefuran in the landscape for hemlock woolly adelgid, emerald ash borer and/or spotted lanternfly must

Branching Out
Plant Pathology and Plant-Microbe Biology
Cornell University
334 Plant Science Building
Ithaca, NY 14853

complete the Neonicotinoid course (about 30 minutes, 0.5 NYS DEC applicator recert. credit) annually & retain record of completion. See https://tinyurl.com/NYNeonicCourse. Imidacloprid & acetamiprid will be included in 2027 restrictions.

Cornell Guidelines: No 2026 *Cornell Guidelines of Trees and Shrubs* this year as production is paused to restructure and streamline the publication and others in the series. 2025 editions remain for sale at https://tinyurl.com/3nkze84k

Insect Webinars: Two great recordings on often overlooked and beautiful insects! *The Endless Diversity of Leaf-Mining Moths* at https://tinyurl.com/EisemanLeafminersFMNH and *Moths: An Unseen Majority* at https://tinyurl.com/e8f9zcuu

CleanSweepNY: Western NY spring collection of pesticides, fertilizers, paints, chemicals, May 5 - 8 Details & registration: https://tinyurl.com/mumaxuky

Phenology by County

Monroe: bloodroot, glory-of-the-snow; late bloom red & silver maple

Onondaga: various witchhazels, forsythia, Cornelian cherry, winter honeysuckle

Rockland: alder, American elm, early flowering cherry/plum, Kwanzan cherry, heather, Japanese andromeda, various magnolias, red/silver maple, various willows, Japanese yew

Suffolk: witchhazel (late bloom), Cornelian cherry, red maple, *Viburnum* x *bodnantense*, forsythia, white forsythia, Japanese andromeda, star magnolia (early bloom)

Tompkins: pussy willow, Cornelian cherry, forsythia

Westchester: forsythia, Japanese andromeda, Cornelian cherry

Dan Gilrein, Karen Snover-Clift, Margery Daughtrey & Shari Romar, editors

Growing Degree Days

As of April 7, 2026

Station	GDD_{50}	Station	GDD_{50}
Albany	43	Ithaca	40
Binghamton	64	New Brunswick,NJ	132
Boston, MA	31	Poughkeepsie.	74
Bridgeport, CT	30	Riverhead	52
Buffalo	33	Rochester	62
Central Park	134	Syracuse	62
Farmingdale	43	Watertown	14
Hartford, CT	62	Westchester	74
		Worcester, MA	28

Our Financial Supporters

We thank our supporters for their generous gifts:

- New York State Turfgrass Association
- New York State Arborists-ISA Chapter
- The Orentreich Family Foundation
- Almstead Tree & Shrub Care Co.
- Bartlett Tree Experts
- Michael Bellantoni
- Long Island Arboricultural Association
- Stephen Raimondo
- K. Biene Schaefer / Atlantic Nurseries
- Shreiner Tree Care
- Michael Sperber / Nature's Guardian, Inc.
- Edward Wade / Wade Tree Care, Inc.
- David Fernandez / Cayuga Landscape Co.
- TB Tree Care & Associates
- Urban Arborists
- Bayport Flower Houses, Inc.
- Tim & Gail Blenk

Mitigating Salt Contamination in Urban Landscapes

Glynn Percival, Senior Arboricultural Research Manager, Bartlet Tree Experts (all images courtesy of the author)

Introduction

Salt (NaCl) contamination in urban landscapes is a well-documented and significant source of physiological stress for trees and shrubs. Sensitive plant species, particularly those located near heavily salted transportation corridors, are at greatest risk. Salt contamination also arises from irrigation with reclaimed water as well as weathering of urban infrastructure. Elevated salt concentrations disrupt soil structure, inhibit nutrient uptake, reduce osmotic potential, and impair root function.

At the whole-tree level, visual symptoms include marginal leaf burn, chlorosis and premature leaf drop, conifer needle browning, twig dieback, and bark discoloration with sunken lesions. Prolonged exposure or high salt concentrations can ultimately result in tree mortality. Consequently, effective and sustainable salt mitigation strategies are essential for maintaining urban tree health.

Existing Salt Mitigation Strategies

A range of technical guidance documents and government recommendations address salt remediation in soils. One common strategy is the use of tree guards to reduce salt spray onto stems and buds. Plant selection is also critical. Salt-tolerant species, i.e. those exhibiting halophytic traits can exclude or excrete salt, compartmentalize ions within vacuoles, adjust cellular osmotic balance, and possess thick cuticles that limit salt penetration. Mangrove and cottonwood trees display such traits, as do smaller woody plants including groundsel bush, marsh elder, wax myrtle, beach plum, and inkberry.

Top: salt damaged conifers. Above: dead tree as a result of soil salt contamination.

Mulching is another widely adopted approach. Applying a 2–4" layer of woodchip mulch around the base of trees and shrubs creates a physical barrier that reduces salt splash, spray, and runoff contact with the soil surface. Increasing mulch depth further enhances protection.

Chemical remediation using calcium-based fertilizers are also effective. Products such as gypsum (calcium sulfate) and chelated calcium formulations displace sodium ions from soil cation exchange sites. The displaced sodium forms soluble sodium sulfate, which can then be leached from the soil profile. Research indicates that calcium sulfate applications can reduce salt damage by 40–60%.

Water management is equally important. The VA Cooperative Extension recommends applying approximately 2" of water over a 2–3 hour period following salt contamination, stopping if runoff occurs and repeating the treatment after three days if salt levels remain elevated. To address foliar salt deposition, trees and shrubs should be rinsed after storms and high winds to remove salt residues from buds and leaves. The University of Arizona proposes leaching guidelines based on soil electrical conductivity (EC).

Biostimulation: An Emerging Strategy for Salt Remediation

Biostimulation involves enhancing the activity and efficiency of indigenous soil microorganisms through the addition of organic amendments, carbon sources, or specific nutrients, as well as by remediating soil physical conditions such as compaction. Salt plays a critical metabolic role for soil microorganisms, supporting enzyme activity, membrane transport, osmotic regulation, and energy transfer.

As microbial activity increases, so too does biological salt uptake and transformation through metabolic processes. Biostimulation has been widely used to accelerate the degradation of hydrocarbons, fuels, and herbicides in contaminated soils. Despite this success, relatively little research has examined its application for restoring soil function following salt contamination.

Biochar as a Foundation for Biostimulation

Biochar is a carbon-rich material produced through the pyrolysis of biomass under low-oxygen conditions. Numerous studies demonstrate that biochar improves plant productivity in saline environments by modifying soil physicochemical properties and altering microbial community composition. Synergistic biochar–microbe interactions further enhance nutrient retention and promote beneficial microbial processes involved in soil remediation. Biochar's microporous structure (<2nm) creates a stable microenvironment for microbial colonization under saline stress.

Organic Matter as Microbial Stimulants

Organic matter such as compost or woodchip mulch supplies labile carbon that fuels microbial metabolism. Rapid microbial utilization of carbohydrates stimulates production of extracellular polymeric substances (EPS), which improve soil aggregation and reduce salt mobility. Enhanced aggregation can physically buffer roots from high-salinity microsites and improve soil aeration and infiltration.

Organic matter also contributes to increased cation exchange capacity, allowing soils to retain essential nutrients rather than sodium or chloride ions. During decomposition, microbes release organic acids and binding agents that can immobilize sodium or form complexes that reduce salt phytotoxicity.

Combining biochar with compost creates synergistic effects. Biochar adsorbs soluble salts and improves soil moisture dynamics, while organic carbon inputs stimulate microbial populations capable of stabilizing or immobilizing salt ions. Although most soil biostimulation research focuses on hydrocarbons and heavy metal decontamination, the underlying mechanisms are directly applicable to salinity remediation.

Bartlett Tree Research Laboratory Trials

A field study was conducted at the Bartlett Tree Research Laboratory in Charlotte, North Carolina. Seven treatments were established in 4×4m plots with 1m spacing:

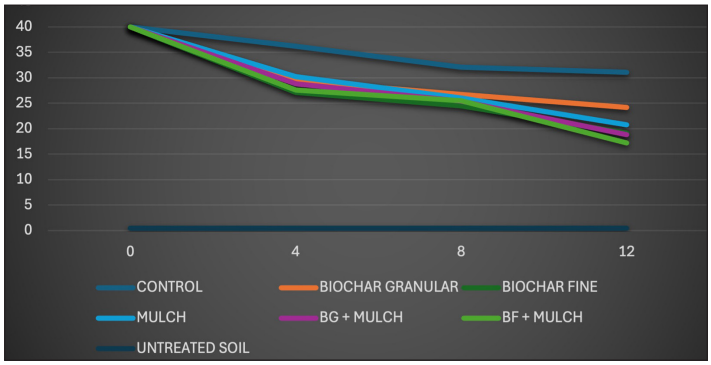
1. Control (no amendment)
2. Woodchip mulch (WCM; 5 cm depth)
3. Granular biochar (BG) at 5% by soil volume
4. Micronized biochar (BF) at 5% by soil volume
5. BG + WCM
6. BF + WCM

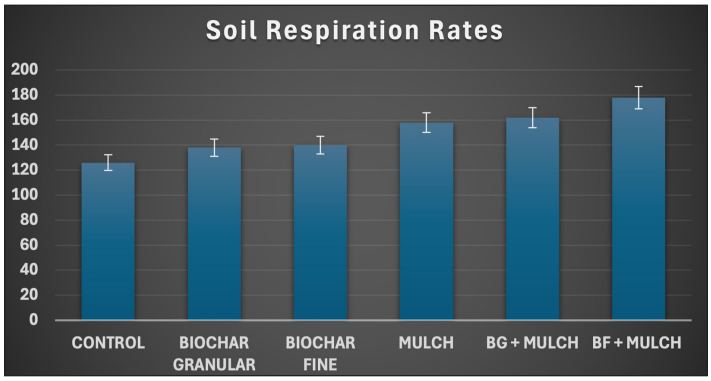
Woodchip mulch was produced from 5–8cm diameter American sycamore branches, chipped into 4–6cm segments and applied within 48 hours of processing. All amendments were applied during tree dormancy (Feb. 2024). Each plot was then treated with a 4% NaCl solution, applied at 16 liters per plot (equivalent to 1 liter per square meter).

Salt degradation rates were monitored over a 12-month period, with soil sampling conducted every three months. Results (Graph 1) showed higher salt degradation rates in

Biostimulation field trial using biochar and mulch.

soils amended with biochar and woodchip mulch compared to untreated controls. After 12 months, salt content in biochar- and mulch-amended soils was 25–48% lower than in control plots, although differences among amended treatments were relatively small until month 8. Graph 2 shows that respiration rates as a measure of biological activity were higher in biochar and mulched soil.





Top: Graph 1. Above: Graph 2

Conclusion

Mitigating salt contamination in urban landscapes requires approaches that restore soil functionality. Biostimulation through amendments such as biochar and woodchip mulch offers a sustainable strategy grounded in enhancing soil microbial ecology. Research consistently shows that biochar improves soil structure and enhances plant productivity in saline conditions, while organic carbon inputs fuel microbial processes that stabilize salts and rebuild soil health. When applied together, these amendments form a synergistic system with potential for restoring salt-affected urban soils.