



# Home, Yard, and Garden Pest Newsletter

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## Twospotted Spider Mites



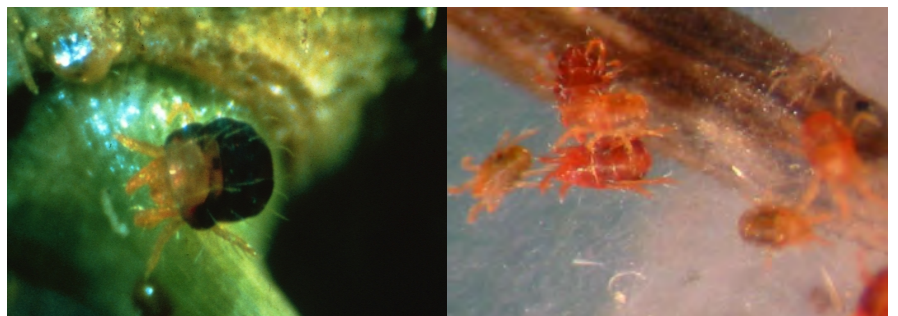
*Twospotted spider mite (Tetranychus urticae), Frank Peairs, Colorado State University, Bugwood.org*

Twospotted spider mites (*Tetranychus urticae*) are herbivorous mites that feed on a broad range of deciduous trees and broadleaf evergreens. In cool or damp weather their populations are controlled naturally by fungi and other pathogens. However, their populations flourish in hot, dry conditions.

Spidermites suck fluids from plants causing yellow speckling on the surface of the leaves called stippling. This can make some leaves look yellow or bronze at a distance. Spider mites also leave fine silk between the leaves and petioles. Heavy infestations can kill plants over time.

When scouting for mites, it's important to identify whether you have predatory or herbivorous mites before applying a treatment. The easiest way to do this is to collect mites onto a sheet of paper and inspect them.

Hold a piece of white paper under a branch and hit the branch with a rake handle. This should knock the mites onto the paper, where they can be seen more easily. Red mites are predatory mites that feed on herbivorous mites. If you find many red mites, don't apply a treatment because it will kill the predators. Green mites are herbivorous mites, feeding on the plant. If you find many green mites and have significant injury, you can apply a treatment to control them. The treatment must be applied when mites are active and present on the tree.



*Left: Spruce spider mite, USDA Forest Service - Northeastern Area, USDA Forest Service, Bugwood.org*  
*Right: Spider mite, Eric Coombs, Oregon Department of Agriculture, Bugwood.org*

When controlling mites, be sure that mites are indicated on the pesticide label, because products labeled for insects may not work on mites. Some treatment options include: abamectin (Avid, Abamectin), acequinocyl (Shuttle), bifenthrin (Onyx, Talstar), etoxazole (TetraSan), fenazaquin (Magus), hexythiazox (Hexygon), spinosad (Entrust), insecticidal soap and summer oil. Repeat treatments may be required to get spider mite populations under control.

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## June 2021 Plant Clinic Sample Summary

The Plant Clinic remains open. We are currently operating with reduced staff and are only in the lab as needed for diagnostics and other lab work. We may not be able to answer or return phone calls in a timely manner; MWF are the best days to contact us due to staffing schedules. You can also email us at [plant-clinic@illinois.edu](mailto:plant-clinic@illinois.edu).

Samples shipped via USPS, UPS, and FedEx are all arriving in a timely manner. We recommend shipping early in the week (Monday-Wednesday) and keeping the tracking number so we can trace the package if needed.

We are receiving more maple and oak samples, while the number of conifer samples is declining. Anthracnose has been found on a number of samples. There are a wide variety of fungi that cause anthracnose diseases on a number of different hosts,

including sycamore, maple, and oak trees, and a wide number of herbaceous ornamental and vegetable and fruit plants. Severity of the disease is dependent on weather; cool, wet weather tends to favor the disease. Anthracnose usually causes large, dark brown lesions on leaf tissue. Heavily infected leaves may drop, and trees will often put out a second flush of leaves if the infection is severe enough.

Anthracnose is largely considered an aesthetic disease, though there are exceptions including oak, dogwood, strawberry, and turf anthracnose if the environment is favorable. While the disease can make plants unslightly, it rarely causes lasting damage to otherwise healthy trees. Because of this, chemical management is not recommended (along with the difficulty in getting good coverage in large tree canopies). Management consists of reducing stress on the trees by lightly mulching the base (ideally to the dripline), watering during periods of dryness during the growing season, fertilizing in late fall or early spring with a balanced fertilizer, and pruning out dead branches in dry weather.

We're still seeing needle blights and needle casts on fir, spruce, and pine, along with leaf scorch on deciduous trees as we get into the hotter weather. Woolly aphids were found on a number of different hosts, including ash, elm, and maple.

We've had a few suspected oak wilt samples and one confirmation in Lake County. For more information about this serious disease, see: <http://hyg.ipm.illinois.edu/article.php?id=1163> As a reminder, do not prune oak trees during the growing season!

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## June 2021 Plant Clinic Sample Summary

Host	Pathogens and/or Pests Confirmed (C) or Suspected (S)
Arborvitae	Phyllosticta needle blight (C), spruce spider mite (C)
Ash	Woolly aphids (C)
Boxwood	Volutella blight (C), Fusarium canker (C), Boxwood leafminer (C), boxwood spidermite (S)
Cedar	Tipminer/leafminer (C)
Cherry	Gummosis (C)
Elm	Elmgrass root aphid (C)
Fir	Phyllosticta needle blight (C), environmental stress (S)

## June 2021 Plant Clinic Sample Summary Continued

Host	Pathogens and/or Pests Confirmed (C) or Suspected (S)
Hosta	Hosta Virus X (C)
Hydrangea	Chemical injury (S)
Hyssop	Spidermites (C)
Juniper	Pestalotiopsis needle blight (C), Phyllosticta needle blight (C)
Lavender	Phyllosticta leaf spot (C)
Leatherwood	Rust
Maple	Wooly aphids (C), Anthracnose (C), Leafhoppers (C), Lecanium scales (C)
Oak	Oak twig canker (C), Anthracnose (C), Jumping oak gall (C), Tatters (C), Oak apple gall (C), Oak wilt (C), Environmental stress (S)
Pear	Fire blight (C)
Pecan	Chemical injury (S)
Pine	White pine decline (S), Environmental stress (S)
Spruce	Sudden Needle Drop (SNEED) (C), Rhizosphaera needle cast (C), Sirococcus needle blight (C), Stigmata needle cast (C), Spruce bud scale (C), Spruce spidermite (C), Cytospora canker (S), Environmental stress (S)
Tomato	Fusarium wilt (C), Tomato Spotted Wilt Virus (TSWV) (C)
Turf	Anthracnose (C)
Witchhazel	Fungal canker (S), Environmental Stress (S)

### Weedy Vines Commonly Found (and Confused) in the Landscape

Vining plants are often desirable in the home landscape. They cleverly disguise carefully placed trellises and their form seems to take on a life of its own. Some vines have been known to cover trees, poles, cars, and even slow moving animals I suspect. Quite a few vines are considered weedy by most. Many times, these weeds are successfully controlled and the story ends there. Too often however, an unidentified, cute, little vine is allowed to flower and develop seeds or rhizomes. Fast forward a few years, and its population can be out of control. Perhaps morning glory was intentionally seeded into a site from a pretty, little seed packet. You'll get your money's worth when this annual produces a bounty of seeds for future years! But here again, if (when) these cute plants tend to wear out their welcome, then efforts will be underway to eradicate them.

Proper identification is critical to good weed control as is scouting often for emerging weed issues. Need some help identifying those mystery vines? Here is a brief description of some of the more common weedy vines found in lawns and gardens. Unfortunately, these similar plants are often misidentified resulting in inadequate control. As with all broadleaf weeds, leaf arrangement, flower type and the presence of underground structures such as rhizomes or tubers all play a key role in identification.

#### Honeyvine milkweed (*Ampelamus albidus* or *Cynanchum laeve*)

Honeyvine milkweed is a perennial vine that spreads by seed and long spreading roots. The leaves are heart-shaped on long petioles and opposite on the stem. Flowers are small, whitish, and borne in clusters. It forms a smooth, green seed pod that is similar to that of common milkweed. Up to 50 pods can be produced from one plant. Pods persist into winter and can then be spotted easily in the landscape when evergreens are the backdrop. The presence of the pod is a dead giveaway for identifying this weed.



This non-Asclepias species is in the milkweed family and is suitable for monarchs. Plants are reported to contain a possible neurotoxin. Other names for this plant include Bluevine and Sandvine.



Honeyvine milkweed, Michelle Wiesbrook, University of Illinois

### Hedge bindweed (*Calystegia sepium*)

Hedge bindweed is a perennial vine that spreads by rhizomes. The leaves are alternate on the stem and are distinctly triangular in shape with a pointy tip. The leaf base is cut squarely. The flowers are white to pink, and funnel-shaped like that of morningglory, another vine I will discuss in a bit. Bindweed is often mistaken for morningglory which is an annual weed. Initially, it may not be perceived as much of a problem, although, the rhizomes can help this vine to spread quickly.



Hedge bindweed, Michelle Wiesbrook, University of Illinois

### Field bindweed (*Convolvulus arvensis*)

Field bindweed is similar to hedge bindweed except the leaves are arrowhead shaped with a rounded tip. Also, the leaves are smaller and the leaf bases are rounded with outwardly divergent lobes. I try to keep the two straight by thinking “hedges have edges”. Field bindweed is a rhizomatous perennial as well. Bindweeds are difficult to manage.



Field bindweed, Michelle Wiesbrook, University of Illinois

### Wild buckwheat (*Polygonum convolvulus*)

Wild buckwheat is similar also, but the lobes at the base of the leaf point backwards toward the petiole and it has an ochrea which is the easiest way to differentiate between these species. An ochrea is a papery sheath that encircles the stem where the petiole attaches to the stem. It is indicative of the smartweed family for which it is a member. Also, the flowers are greenish white and inconspicuous. They are clustered on long white racemes. Leaves are alternately arranged. Wild buckwheat is an annual so there are no rhizomes like the bindweeds have. Don't let this fool you; it is still considered a “serious weed” according to the book *Weeds of the North Central States*.



Wild buckwheat, Michelle Wiesbrook, University of Illinois

## Morningglories (*Ipomoea* spp.)

Morningglories are often confused with bindweed and wild buckwheat too except the leaf shape is quite different. Depending on the species, leaves are either heart shaped or 3-lobed (ivy like). The cotyledons are butterfly-shaped. Most of the morningglories found in Illinois are summer annuals so reproduction is by seed. Bigroot morningglory or wild sweet potato as it's also called (*I. pandurata*) is a perennial found across the state. Both bigroot and tall morningglory have heart shaped leaves like honeyvine milkweed, however, the leaves are alternate on the stem. Bigroot morningglory can be distinguished by its reddish purple centered white flowers and large underground tubers.



*Ivyleaf morningglory, Michelle Wiesbrook, University of Illinois*

Controls for vines include repeated pulling or cutting back, mowing, mulching, and herbicides. In a turf situation, grass should be properly maintained and mowed as high as possible. These vines have a difficult time growing in thick, lush turfgrass. Postemergent herbicides that provide at least some control of these vines include but are not limited to the following: 2,4-D, carfentrazone, quinclorac, dicamba, oxyfluorfen, and triclopyr. Glyphosate may also be used for spot applications as it is a non-selective herbicide. If vines are growing within other plants, extra caution should be taken. Protect plants by covering them with plastic. Glyphosate or triclopyr may be carefully painted or dabbed onto the leaves so that the application is precise. Be sure

to carefully read and follow all label directions. Repeated applications may be necessary. Summer annual weeds are most susceptible to treatment in the spring or early summer when they are young. For perennials such as the bindweeds, fall applications may be most effective.

Beauty is in the eye of the beholder, you know. As I snapped a picture of field bindweed in flower, an innocent bystander said that she thought the flowers were so pretty. She's right. They *are* pretty – *up close*. But when I see this vine cover a shrub, I can't think of it being anything other than a weed.

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## Common Spruce Diseases

As Diane Plewa noted in her June 2021 Plant Clinic Sample Summary, the U of I Plant Clinic continues to receive numerous evergreen samples infected with needle blight and needle cast diseases. These types of samples, and reports of sick/dying spruce trees are common occurrences each growing season. The following are the most frequently diagnosed spruce diseases by the plant clinic:

### Rhizosphaera Needle Cast

Rhizosphaera needle cast is a fungal disease capable of infecting several conifer species. Spruce species, especially blue Colorado spruce (*Picea pungens* var *glauca*), tend to be the most susceptible, while Norway spruce has some resistance.

Most infections occur during a roughly 2-month period following bud-break. Symptoms, however, do not appear until fall, and are most evident the following spring. Diseased needles will initially be yellow, but then transition to purple or brown color before dropping from the tree (normal, healthy needles remain attached for several years). Premature defoliation results in a thin canopy and branches with tufts of new needles on the branch ends. Rhizosphaera will generally start low in the tree and advances upward through the canopy. With the aid of a hand lens or microscope, look for fungal fruiting bodies protruding from the needle pores. Fruiting bodies have smooth edges and develop in perfectly aligned rows on the needles. Be aware, the disease symptoms and



fruiting bodies can easily be confused with *Stigmina* needle blight. Several consecutive years of severe *Rhizosphaera* infections cause the lower branches to die.



*Black fruiting bodies of Rhizosphaera. Note the smooth margins.*

To manage this disease, plant less susceptible spruce and evergreen species. Promote good air circulation with adequate plant spacing, pruning lower limbs, and weed management. Some formulations of chlorothalonil, mancozeb, and copper hydroxide are labeled to control *Rhizosphaera* and other needle cast diseases. Fungicides protect new growth from infection and may help restore moderately infected trees to a good appearance. At least two years of fungicide applications are required. Read the labels carefully. Some chlorothalonil formulations have label restrictions that advise “DO NOT use on blue spruce.” I suspect the product may cause the needles to lose their desirable blue color.

### Stigmina Needle Blight

*Stigmina lautii* is another fungal organism that we have seen a lot of during the last several years. Unfortunately, there has not been a lot of research on this fungus, so it is not known if it is a disease pathogen or an opportunistic fungus infecting stressed plants. The symptoms and fungal fruiting bodies of *Stigmina* are similar to those listed for *Rhizosphaera* needle cast. One difference is that the fruiting bodies of *Stigmina* appear to have tendrils giving them a spider or mite-like appearance (may require a bit of imagination). If your spruce is diagnosed with this *Stigmina*, you should try to relieve any potential tree stresses. Conflicting reports have indicated limited success with fungicides for control of the *Stigmina*.



*Black fruiting bodies of Stigmina needle blight. Note the fringed or tendrill-like margins.*

### SNEED (Sudden Needle Drop)

(SNEED) Sudden Needle Drop (also sometimes called Spruce Needle Drop) has been found on Norway, white (Black Hills) and blue Colorado spruce trees. The fungus *Setomelanomma holmii* has been found associated with symptoms of sudden needle drop, but it has not been proven that this fungus is the cause of the SNEED. Symptoms of SNEED are yellowing and the eventual browning of older needles. Affected branches may be scattered through the canopy. By autumn, all of the needles on the affected branches fall off except the newest needles on the tips of the branches. Eventually, the canopy of the tree thins, sometimes leaving bare branches. SNEED is nearly impossible to diagnose without the aid of a plant diagnostic lab. This is because it can only be identified by looking at the spores under a compound microscope. The fungus produces small, black, round spore-producing structures on the stems and bud scales of affected spruce. However, other harmless fungi growing on spruce trees also produce similar small black structures on spruce branches.



*Small black fruiting structures of SNEED on spruce branches. Diane Plewa University of Illinois*

## Cytospora (Leucostoma) Canker

Cytospora canker is a fungal disease on stressed spruce trees. The disease is most damaging to blue Colorado spruce. The first noticeable symptom is sporadic branch dieback. Closer examination of symptomatic branches often reveals bark with small, white patches of dried sap and resin. Cankered areas may be close to the base of tree limbs. These cankered areas eventually girdle the branch and cause branch death. Unfortunately, there are no effective chemical controls for cytospora canker. Management for this disease starts with sanitation. Prune out infected branches in late winter or during periods of dry weather. Sanitation may require several years of pruning and monitoring for new canker development. Other control options focus on alleviating any tree stress and improving tree vitality. Water during drought. Apply an organic mulch under the full spread of the branches



*Resin and dried sap on cankered spruce branch*

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## Not Your Household Vinegar

Do you find that social media opens up a lot of “how to’s” or DIY’s on weed control? Vinegar comes up often as an herbicide. In truth, vinegar does work as a herbicide, but not your average household vinegar. Most household vinegar solutions are at 5% acetic acid, where a herbicidal vinegar will have a range of 10-30% acetic acid. These higher percentages are more effective in controlling new seedlings and growing points than the household vinegar.

## What is Vinegar?

If we look up the definition of vinegar, we find that it is an aqueous solution of acetic acid. (Basically water with acetic acid) Acetic acid is a colorless, clear, liquid with a pungent odor. This pungent odor is how we identify the smell associated with vinegar. The basic process of which vinegar is made is through anaerobic fermentation.

## How does it work?

Vinegar is a nonselective herbicide that can rupture plant cells therefore damaging plant material. Desirable plants need to be protected from potential spray drift. Acetic acid destroys cell membranes that can result in the desiccation of the plant tissue and eventual death of the plant. Unfortunately, it is not a systemic herbicide, and so coverage is critical and complete application of growing points is a must in order for it to have the most efficacy. It is a fast-acting herbicide, where damage can be seen as early as 4 hours after application. There is also no residual activity with acetic acid, so multiple applications may be necessary.

Acetic acid has been found to be more effective on seedlings and annuals than more mature plants or perennials. It even has had effectiveness on plants like palmer amaranth that have been found to be resistant to many other classes of herbicides. Studies have shown that for vinegar to be most effective, the percent of acetic acid should be 10 to 30%. It can provide 80-100% control of weed species depending on the weed’s size, maturity, or life cycle.

Be sure to check out these studies on Acetic Acid herbicides.

<https://ecommons.cornell.edu/handle/1813/46234>

<https://pdfs.semanticscholar.org/7ef8/b8090d-113716b3635a1e4183e20fc71e9232.pdf>

[https://journals.pan.pl/Content/114662/PDF/OA\\_10\\_JPPR\\_59\\_4\\_385\\_RI-Metwally.pdf](https://journals.pan.pl/Content/114662/PDF/OA_10_JPPR_59_4_385_RI-Metwally.pdf)

<https://www.cambridge.org/core/journals/weed-technology/article/abs/integration-of-vinegar-for-inrow-weed-control-in-transplanted-bell-pepper-and-broccoli/43068DA3775AC0CB-4B1287C043B82DFD>

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Even though it is nonselective herbicide some species differ in susceptibility. Broadleaf plants tend to be more susceptible than grasses. This can be due to the fact that the growing point is above ground vs under the ground. The waxier the cuticle more applications will be necessary, which is why it is important to treat plants as seedlings or with no more than 2-4 leaves.

We might want to think that vinegar isn't harmful since we use vinegar on our salads and it is considered organic. However, stronger forms of vinegar can be hazardous to humans. Acetic acid concentrations over 11% can cause burns upon skin contact. In fact, eye contact can result in severe burns and permanent corneal injury. This is why reading and following the label is so important. Acetic acid is toxic and can be hazardous if used without taking

precautions. It's important to note that unless the product you are using for weed control is registered with the EPA as a herbicide, its use is illegal and a violation of FIFRA. Registered herbicides come with label directions, including use rate and required PPE (personal protective equipment). For more information, consult with the product label.

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#### Resources

<http://msuinvasiveplants.org/extension/monthly-weed-posts/2021-june-does-vinegar-kill-weeds.html>

<http://hyg.ipm.illinois.edu/pastpest/200714f.html>

<https://newcropsorganics.ces.ncsu.edu/2013/08/ace-tic-acid-vinegar-as-an-herbicide/>



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