# Plant Wise

IOWA STATE UNIVERSITY
University Extension

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## Mother Knows Best (about Poison Ivy!)

By Denise Fikes
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We try to keep our children safe from things that could cause them harm. With three children at home this summer, I felt compelled to warn them about the poison ivy vine growing up a tree at the edge of the woods in our backyard (not that I was really concerned they might get into it – they're more the "stay inside texting friends, playing video games, and watching the NFL channel" types). Nevertheless, the warning had been issued. I had done my duty as a responsible parent.

A few days later, there I was, planting some surprise lilies around the base of said ivy-covered tree. No worries, I had on long sleeves and gloves and I was getting nowhere near the vine. I was so confident that I had gotten away with doing something as intrepid and daring as working in close proximity to poison ivy, that I didn't even bother to use one of the many products on the market designed to wash away the offending oil from skin, tools and clothing.

Two days after my daredevil stunt, the surprise I received was itching on both wrists in that annoyingly exposed space between glove and sleeve. What then ensued was two weeks of extremely uncomfortable itching and oozing. I'll spare you the details, but suffice it to say you do not want this to happen to you (or your children!) In the spirit of "know thy enemy" I did some research on the plant and now feel compelled to pass along some interesting and useful information about poison ivy.

Let's cover some basics first. Poison ivy is often found as three more or less distinct forms: a small under-story plant, a free standing shrub, up to 6-8 feet tall, and as a vine which can be up to 2-4 inches in diameter. The leaves are compound and comprised of three leaflets (remember the "Leaves of three, let it be" rhyming reminder to avoid poison ivy?) The margins of the leaflets may be smooth, toothed, or lobed. The plant produces small, green flowers in June or July. The fruit are small, white berries. The vines form hairy tendrils as they grow up a tree. As the vine grows, it produces branches which are at a noticeable right angle to the main stem of the vine. It reproduces from root sprouts, rhizomes, and from the seeds.

Now that you know how to identify the plant, let's explore the hazards posed by it. The culprit here is the pale yellow oil contained in the plant, called urushiol. This oil is present in all parts of the plant – leaves, stems, roots, and fruit. (Which is why digging in the vicinity of a vine caused me to come into contact with the roots of the plant). The oil can be carried on clothing, tools, pets, and in smoke (NEVER burn poison ivy! The urushiol is carried in the particles of soot, smoke, and dust. Breathing in these particles can cause a particularly dangerous reaction). Furthermore the toxin retains its potency even after the plants have been killed. In the environment, its potency can persist for many years before breaking down.

Poison ivy is responsible for more than 2 million cases of skin poisoning each year. As the toxin is absorbed through the skin, the immune system attacks these foreign structures resulting in the allergic reaction of itching, inflammation, and blistering of the skin. Symptoms usually occur within 12 to 24 hours after contact with the plant, but may be delayed by as many as 2 – 14 days. What determines how soon a person reacts after exposure is how sensitive he or she is to the plant and the number of previous times the person has been exposed to it. Generally a person will become more sensitive with repeated exposures.

Knowing what poison ivy looks like is the first step in avoiding the detrimental effects of the plant. If you can't avoid contact with the plant, wear protective clothing. Wash anything that may have come in contact with the plant before it touches your skin, including your dog or cat. There are several barrier products that are commercially available (one of which sat unused in my cabinet while the urushiol did its thing on my skin). Upon exposure, wash the area as soon as possible, preferably within an hour, with lots of cool running water. Don't use soap unless it contains no oils which will cause the urushiol to spread. Hot or warmer water will open the pores of the skin and allow the toxin to enter more quickly, so the cooler the wash water, the better.

This seems like a good point to dispel a couple of myths about poison ivy; urushiol does not spread through the body. If new areas of reaction occur after the initial symptoms appear, they are most likely from the original exposure or subsequent from handling clothing or tools which were also exposed. The blisters that form are also not "contagious". They do not contain urushiol.

To control poison ivy in your landscape, there are a few methods that can be effective in eliminating it from sensitive areas. Keep in mind that full-scale eradication would be detrimental to many wildlife species. Many birds utilize the persistent fruit during the winter and browsers, such as rabbit and deer will eat the twigs during the winter months. But for areas which you (or your children) may be inclined to enter, by all means – eradicate away. Your options are mechanical removal or with herbicides. Hand pulling is most successful when the soil is moist. The roots can be dug and pulled out in long pieces. Small plants can be controlled by completely removing the root system. Care should be taken to remove the entire root system as the plant can re-sprout from sections of root left in the ground.

For vines, sever the vine and carefully treat with Roundup or Tordon RTU; this treatment is best if done from July to November. Other herbicides are available that provide effective control of poison ivy. When treating an area for poison ivy, care should be used when applying any herbicide to ensure they do not come in contact with desirable plants growing in the vicinity of the poison ivy. Several repeat applications may be necessary. It is safe to spray vines climbing on trees as long as only the bark of the desirable tree is contacted. Always read and follow label directions for any pesticide!

I will leave you with just a couple of additional and disturbing facts about poison ivy: ¼ oz. of urushiol is all that would be needed to cause a rash in every person on earth! If you think you are immune to the allergic reaction caused by poison ivy, think again. Sensitivity can develop at anytime – even if you've never had a problem before.

Have a great summer and remember, mother knows best – stay away from poison ivy!

## Enjoy the Light of the Firefly

By Donald Lewis
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*The light emitted by fireflies helps males and females find and recognize each other.*

One of the pleasures of warm summer evenings in Iowa is the "fireworks" show the lightningbugs put on for free. The flashing of thousands of tiny lights above a field or prairie makes you glad to be here.

"Lightningbug" and "firefly" are two different names for the same thing. They are beetles in a specific family called the Lampyridae. There are 124 species of fireflies in the United States and Canada, mostly in the East and South. Like all beetles, the fireflies have a complete life cycle consisting of four stages: egg, larva, pupa and adult.

The adults we see now live for one to two weeks. They may feed on nectar and pollen or other insects, but most of the time is spent in the process of reproduction. The flashing lights are an integral part of the process. The lights help the males and females of the different species find and recognize each other.

After mating, the adult females lay their eggs in moist places such as in tall grass and under mulch and leaf litter. The eggs hatch yet this summer and the larvae live until next summer when they complete the transformation to the adult stage.

Lightningbug larvae are found in moist areas such as under the loose bark of dead trees, under mulch and debris and within moist, loose soil. The elongate, worm–like larvae are flattened and the segments on the top side of the back are expanded into shield–like plates that protrude slightly to the sides and to the back, overlapping the next segment. Larvae have six legs and are usually brown. The full-grown length is about 3/4 inch. The larvae possess light organs similar to those of the adults, and their luminescence often attracts the attention of gardeners. Lightningbug larvae are active at night and are predacious; they feed on small insects, worms, snails and slugs.

Lightningbug larvae and adults produce light by an interesting reaction of chemicals and enzymes. The light produced is a "cold" light. That is, the chemical reaction produces nearly all light and very little heat. The light flashing is regulated according to a genetically fixed pattern and is used by the adults for courtship. Each species has a distinctive pattern of flashes, varying in flash number, duration, interval between flashes, motion accomplished during the flash, height of the flash above ground and so forth. The males and females recognize

their own species' flash and get together as a result of the illumination. The light-producing organs are on the underside of the last two segments of the abdomen.

As spectacular and special as fireflies seem to us, they are not the only organisms capable of producing light. Another group of beetles called the glowworms produce light at several small dots along the sides of the abdomen. Light also is produced by certain bacteria, marine plankton or algae, krill and even fish.

As great as glowing algae might be, I would rather watch fireflies over an Iowa field. The show doesn't last long, so enjoy it while you can.

## Apple Scab Causes Naked Crabapple Trees

By Christine Engelbrecht
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Iowa State University
Extension

Across Iowa, many crabapple trees drop their leaves every summer. What causes these attractive trees to drop their leaves mid-summer? The answer is a fungal disease called apple scab.

A fungus called Venturia inaequalis infects crabapple leaves early in the spring. As the fungus grows in the developing leaves, it causes purplish-brown spots, often clustered along the leaf veins. The spots can grow up to a half inch in diameter, with feathery margins when young and more distinct margins as they mature. Most people don't notice the disease, though, until these infected leaves turn yellow and fall off the tree. Some people rake the fallen leaves out of their yards daily for weeks, until the tree is almost completely bare by midsummer. The crabapple that was spectacular while blooming in spring has become an eyesore by August.

The apple scab fungus spends the winter in the fallen leaves, and in the spring it produces spores that can infect the new crop of leaves. Besides crabapple, the disease also affects apple, pear, hawthorn and mountain ash. Apple scab is the most economically important disease of commercial apple orchards.

Why do some crabapple trees get hit with scab every year, while others seem to be unharmed most years? Crabapple cultivars vary greatly in their ability to fend off the apple scab fungus. Some popular cultivars, such as "Spring Snow", are very susceptible to apple scab, and they lose their leaves nearly every year. Other cultivars, such as "Prairiefire" are resistant. Even a resistant variety can get apple scab if the weather is very favorable for disease, but in most years it will be disease-free.

The severity of many plant diseases is largely dependent on the weather. Apple scab is favored by cool, wet weather in the spring, when the fungus infect the new leaves.

Although naked trees in summer are ugly, apple scab does not kill crabapples and usually does not seriously hurt them. But we plant crabapples to be pretty, so what can we do to manage apple scab? First, choose a resistant cultivar when planting a new crabapple tree. There are many choices of resistant cultivars with beautiful spring blossoms. Realize that resistance is relative, and a "resistant" cultivar can still become diseased under some conditions—but it will have fewer disease problems than a susceptible cultivar.

Since the apple scab fungus survives the winter in fallen leaves, raking up and destroying those leaves at the end of the season can help to minimize problems next year. Keeping trees well spaced and pruned to promote airflow through the canopy can also help. Sometimes fungicide sprays are used to prevent infection of susceptible cultivars in the spring. However, the sprays must be repeated, and they are ineffective once symptoms appear.

Starting with a resistant cultivar is the best way to ensure that your crabapple stays beautiful and leafy throughout the summer.

## The Not So Sweet Pest of Sweet Corn

By Donald Lewis
Entomology Department
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One of the quintessential joys of summertime in Iowa is eating sweet corn fresh from the garden or farmers market. To the dismay of gardeners, growers and sweet corn aficionados, however, there is the matter of an occasional pest to consider. The most important and best known insect pest of sweet corn in Iowa is the pudgy, hairless "worm" found at the tip of an infested ear, the corn earworm.

Corn earworms come in a variety of colors, ranging from light green, to tan, brown, pink or nearly black. The caterpillar's body is marked with light and dark stripes running lengthwise and the skin texture is coarse due to

microscopic spines that cover the surface. Earworms are only in the ear for three to four weeks but during that short time they grow to nearly 1 .5 inches in length. Infestations may be present throughout the summer but are generally worse in late summer.

Unlike hardy residents of the state the corn earworm does not survive Iowa winters. Instead moths that lived and grew in southern states on either corn or cotton last year are blown here during May and June each year to reinfest the state.

These recent-arrival-moths fly after sunset and reproduce by depositing their eggs on the fresh, green silks of the sweet corn ear. These eggs hatch in two to six days and within an hour the tiny, young larvae crawl into the silk channel and move to the tip of the developing ear. The larvae feed on the silk and developing kernels and foul the ear with excrement. About three weeks after silking the sweet corn is ready to harvest and eat, and there, waiting for you at the end of the ear is the much-grown earworm caterpillar.

The amount of corn earworms in the sweet corn crop varies from place to place, from year to year and with the time of the year. Mostly the damage is determined by the number of moths in the vicinity which depends on the weather and other factors. Some varieties of sweet corn are more or less susceptible to earworm attack, and genetically modified varieties are available that produce their own defense against caterpillar attack.

Growers and gardeners who want “clean” sweet corn must work to prevent the earworms from getting into the silks. If the caterpillars are already crawling toward the ear tip it is too late to stop them. A typical preventive management strategy is to spray insecticide on the corn ears throughout the entire period when green silks are present.

Insecticides for the home gardener include azadirachtin (Neem), Bacillus thuringiensis, carbaryl (Sevin), or permethrin. Spray at the first sign of silk emergence (one or two days after tassels appear) and again two days later after silks have elongated. For complete protection, especially in later plantings, spray a third time three days after the second spray. After the silks turn brown there is no benefit to spraying.

Admittedly, this is an extensive amount of insecticide but it is currently the most practical method for assuring worm-free sweet corn. The alternative is to not treat at all. Instead, cut off the damaged tip of infested ears and enjoy the remainder of the ear.

# Upcoming Horticulture Events of Interest:

### *Glenwood Lake Park Farmers Market*

Wednesdays, June 1 to Sept. 7 4:00 PM – 7:00 PM

Vendors offering locally-grown garden and orchard produce, baked goods, eggs, crafts, plants, etc.

Mills County Master Gardeners will usually have a question/answer table to help solve your garden problems.

### *Silver City Farmers Market*

Saturdays throughout the summer beginning on June 4

Time: 8:00 AM – 11:30 AM
Located in the Silver City Park

Mills County Master Gardeners on hand to answer all your gardening questions!

### *3rd Annual All Horticulture Field Day*

Date: Tuesday, July 19
Time: Registration 8:00 AM - Program 9 AM – 2 PM
Location: ISU Horticulture Research Station
Gilbert, IA (3 miles north of Ames on Hwy. 69)
Cost: $30 per person

Registration form:
http://www.hort.iastate.edu/news/docs/RegistrationFormParticipants2011.docx

A fun day showcasing the variety of research, teaching and extension projects happening at the farm.

For more information, contact Barb Osborn
Email: baosborn@iastate.edu Phone: 515-294-5624

### *Mills County Fair*

Saturday, July 16
Open Class Floriculture & Agriculture
Entries received at the Mills County Fairgrounds
8:00 AM – 12:00 Noon

***Enter your Flowers and Vegetables!***

Open Class fair books are available at area banks, libraries, and the Extension Office in Malvern.

Call 624-8616 for more information

# Ask the ISU Extension Gardening Expert

**My crabapple has begun to drop some of its leaves. Why?**

The leaf drop is probably due to apple scab. Apple scab is a fungal disease caused by the fungus *Venturia inaequalis*. Cool, wet weather in spring favors apple scab development. Crabapple varieties differ in their susceptibility to apple scab. Some varieties are very susceptible to the disease, while others are resistant to apple scab.

Apple scab appears as velvety, olive-green to black spots on the crabapple leaves. Heavily infected leaves turn yellow and fall from the tree. Highly susceptible crabapple varieties may lose a large percentage of their leaves by mid-summer. Fortunately, apple scab does not kill affected trees. The damage is mainly aesthetic.

Apple scab can be prevented by applying fungicides from bud break through mid-June. For most home gardeners, however, controlling apple scab with fungicides is not practical. Sanitation also plays a role in controlling apple scab. Raking and destroying the leaves as soon as they fall should help reduce the severity of the infection next season. However, the best way to prevent apple scab is to plant scab-resistant crabapple varieties.

**The leaves on my peach tree are puckered and reddish in color. What is the problem?**

The symptoms are those of peach leaf curl. Peach leaf curl is a fungal disease. The disease is caused by the fungus*Taphrina deformans*. Infections occur as the peach tree buds begin to swell in spring.

A single fungicide application will control peach leaf curl. Fungicides, such as lime sulfur, Bordeaux mixture or chlorothalonil, should be applied in fall after leaf drop or in late March before the buds begin to swell. To achieve control, all branches and twigs must be thoroughly sprayed.

**Why are the leaves on my pin oak yellow-green?**

In Iowa, the foliage of the pin oak (*Quercus palustris*) often turns a sickly yellow-green. The yellow-green foliage is due to a deficiency of iron. The problem is referred to as iron chlorosis. (A close examination of chlorotic leaves will show that while most of the leaf is yellow-green, the tissue around the major veins is a darker green.) Most soils in Iowa contain sufficient amounts of iron. However, in alkaline soils (those with a pH above 7.0), the pin oak is unable to absorb adequate amounts of iron because much of it is in an insoluble form. Since many soils in Iowa are alkaline, chlorotic pin oaks are common in Iowa. Wet soil conditions make absorption of iron even more difficult.

Correcting an iron chlorosis problem is difficult. Applying additional iron to the soil usually doesn't help. The soil already contains sufficient amounts of iron. Adding more iron doesn't overcome the problem. Lowering the soil pH to 6.0 to 6.5 would allow the roots of the pin oak to more readily absorb iron in the soil. Unfortunately, lowering the soil pH is extremely difficult, if not impossible. As a result, homeowner efforts to treat iron chlorosis are often unsuccessful.

One strategy that sometimes works is to have an arborist or other tree care professional inject an iron containing compound directly into the trunks of chlorotic pin oak trees. The effects of a trunk injection may last three or four years.

**My vegetable garden was recently flooded. Can I eat the vegetables?**

Some fruits and vegetables are more susceptible than others to bacterial contamination. Leafy vegetables (such as lettuce, cabbage, mustard, kale, collards, spinach and Swiss Chard), fleshy vegetables (such as tomatoes, summer squash and peppers) and berry fruits (such as strawberries) are highly susceptible to bacterial contamination. Silt and other contaminants may be imbedded in the leaves, petioles, stems or other natural openings of fleshy structures and can be difficult to remove. Do not use leafy and fleshy vegetables if mature when flooded. In the case of strawberries, do not use any fruit that is set on, regardless of maturity.

Root crops (such as beets, carrots and potatoes) are less susceptible to bacterial contamination. Scrub, peel and cook them before eating. Because radishes and green onions are not cooked, they should not be used. Green onions can be left to grow into mature bulbs for later use.

Vegetables with a protective shell, skin or husk (such as peas, winter squash and sweet corn) should be washed thoroughly before the protective structures are removed. After removing the shells, skins or husks, cook before eating.

In general, fruits and vegetables that were immature at the time of flooding should be safe to eat by the time they are ready to harvest. This would include vegetables in the blossom or pre-blossom stage. For additional safety, wash thoroughly and cook before eating.

# JULY GARDENING TO D0 LIST

- Help control mosquitos by eliminating all sources of stagnant water in the landscape.
- Certain pesticides have a waiting period of several days between the time of last spray and harvest. Read and follow directions on all pesticide labels before applying them to vegetable crops. Wash all produce thoroughly before use.
- Moisten and turn your compost pile on a regular basis.
- Continue deadheading plants to prolong bloom, prevent unwanted seedlings, and improve the overall appearance.
- Water tomatoes consistently to avoid problems with splitting and blossom-end rot.
- Divide and replant bearded irises every 3 to 5 years. Dig the clumps carefully. Discard any diseased or damaged rhizomes and the old center portion. Cut back the leaves to 6 inches. Then replant.
- Harvest herbs for drying before they flower.
- Continue deadheading plants to prolong bloom, prevent unwanted seedlings, and improve the overall appearance.
- Raise the mower blade to prevent injury to the grass during summer heat.
- Remove canes of summer-bearing red raspberries after last harvest.
- Remove cool-season vegetables, before they start to bolt, or form seed stalks, during hot, dry weather.

## Resources for Horticulture information

ISU's Hortline at (515) 294-3108
(Monday-Friday, 10 a.m.-noon, 1-4:30 p.m)

ISU/Mills County Extension: 712-624-8616
www.extension.iastate.edu/mills/yardgarden.htm

## Iowa State University Publications

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| NCR 0025 | Lawn Weeds and Their Control ($7.25) |
| PM 773 | Weed Control – Poison Ivy |
| PM 1814 | Crabapples for Midwestern Landscapes |
| RG 601 | Gardening for Butterflies |
| PM 0819 | Planting a Home Vegetable Garden |
| PM 534 | Planting & Harvesting Times for Garden Vegetables (Free) |
| PM 1891 | Sweet Corn |

**HorticulturePublications on-line**
**https://www.extension.iastate.edu/store/ListCategories**