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# growing guide

## Diseases: Anthracnose

### What it is

Anthracnoses are diseases caused by fungi that affect leaves, flower parts, fruits and stems in many kinds of trees and shrubs. Rarely does a spring occur that we don't see anthracnose to some degree on ash, birch, maple, oak, redbud, sycamore and many other native and exotic landscape plants. Anthracnose alone will not kill a tree.

### Symptoms

The disease overwinters on fallen leaves and stem cankers and is spread by wind and rain in the spring during damp, cool, 50-55° weather. It attacks expanding leaf buds and shoots. Though specific symptoms vary by species infected foliage usually appears scorched, twisted, or curled with brown, dead areas along the leaf vein or leaf edge. When anthracnose is severe some defoliation occurs but plants put on new, uninfected leaves as the season progresses.

Repeated infections may cause cankers, which are dark, sunken areas on the twigs. These are most common on sycamore and white oak in our area.

### Controlling Anthracnose

Control starts with sanitation. Clean up all the fallen infected leaves and twigs. If possible prune out any cankered stems and branches.

Lessen the severity of infections on susceptible species with timely applications of water and fertilizer to maintain the health and vigor of the tree.

If warranted smaller plants can be sprayed with Fertilome Liquid Fungicide. A total of **three sprays** must be applied beginning just before the buds open, again when the leaves are half grown and once more 10 to 14 days later. You cannot miss an application, plants already infected will not be 'cured' and once the leaves show the symptoms there is nothing that needs to be done.

Anthracnose is an early-season nuisance for a lot of plants in our area but it worries the homeowner much more than it bothers the trees.





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# Diseases: Scab Resistant Crab Apple

About the first of July the calls begin coming in to the Garden Shop. "My crabapple is dropping its leaves. What's wrong?"

We ask a few quick questions:  
*Does it do it every year?* **Yes.**  
*Is it pretty much defoliated by mid-August?* **Yes.**  
*Does it come back and bloom the next spring as if nothing happened?* **Yes.**  
*Are you sick and tired of it?* **Yes. Yes. Yes!**

The disease is Apple Scab a fungus and the most common problem in our area for ornamental crabapples. Though apple scab doesn't kill a tree, years of early defoliation weaken it, making it prone to other problems. Spores of the scab overwinter in dead leaves and late winter-early spring rains (when the temperature is above 40°) activates the fungus. Throw in a little breeze to aid in spore dispersal and BAM, another banner year for apple scab.

If you own a tree consistently defoliated by apple scab you have two choices.

One: spray the tree with **Fertilome Systemic Fungicide (Banner)** at the rate of **½ tablespoon per gallon of water** around mid to late March when green begins to show on the buds and three more times every 7 to 10 days up to flowering. You must cover the whole tree and don't miss any of the four applications or it's all for naught. By the time leaves start falling in the summer it's too late to do anything other than pick up and discard the infected leaves.

Second and perhaps best option: to remove your tree and replace it with an apple scab resistant variety such as 'Red Jewel', 'Prairiefire', 'Louisa', or 'Pink Princess'.



## Apple Scab Resistant Cultivars

Name	Flower Color	Fruit Size/Color	Ultimate Height & Width	Notes
Coralburst	rose-pink, double	none produced	15' x 15'	Compact, dense & rounded; coral pink buds. Very ornamental
Donald Wyman	snow white, single	½", bright red, persistent	15' x 15'	Rounded form with dark green leaves; pink buds; heavy bloomer
Guinevere	white, tinted mauve, single	3/8", brilliant red, persistent	10' x 10'	Small, rounded tree with wine colored fall color; deep carmine buds
Lancelot	white, single	3/8", light to medium gold, persistent	10' x 8'	Crisp green leaves; buds rose-pink
Liset	bright rose-red to light crimson, single, 1.5" in diameter	½", maroon-red to dark crimson	15' x 15'	Open form; new leaves red-maroon changing to bronze-green; bright crimson-red buds. Incredible next to Donald Wyman
Pink Princess	rose-pink	¼", deep red	8' x 12'	Low, spreading, bushy form; new purple leaves turn bronze-green
Prairefire	red-purple, single, to 1.6" in diameter	½", deep reddish-purple, persistent	20' x 20'	Upright to rounded form; young leaves red-maroon, later deep green; red-purple buds. An outstanding crab-apple
Red Jewel	white, single	½", bright cherry red, color holds to December, persistent	18' x 12'	Upright, pyramidal form with dark green leaves
Sargent	pure white, single, fragrant	¼", dark red to purple, persistent	8' x 12'	Horizontal, spreading branches; profuse flowering
Sugar Tyme	Pink bud, white flower	½", bright red, holds to spring	18' x 18'	An upright, spreading oval tree. Medium green leaves and persistent red fruit
Tina	white, single	¼", bright red	5' x 6'	A dwarf Sargent with red buds. An excellent specimen plant



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## Diseases: Powdery Mildew

### What Does It Look Like?

This fungal disease is easy to identify because of the characteristic white to light grayish powdery growth, most often on leaves. It can cause stunting, curling of leaves, chlorosis, premature leaf drop and deformation of flower buds but we rarely see anything other than mildewed, dusty looking leaves.

### When Is It a Problem?

Powdery mildew thrives and develops rapidly during warm to hot, humid days followed by cool nights and heavy dew. It needs high humidity (but not rain) for the spores to germinate. It is actually less of a problem during rainy weather.

### What Does It Attack?

Powdery mildew infects woody and herbaceous plants, ornamental, vegetable and turfgrass. We see it every year on Hybrid Lilac, Bluegrass, Garden Phlox, and Bee Balm, and Zinnias, but it can attack almost any plant in the garden. It is most severe on crowded plants, in shady locations or where air circulation is poor.

### What To Do

Though unsightly, the disease does no permanent damage so no chemical controls are required or worth the effort. Good sanitation is important.

Thorough removal of diseased foliage and stems at the end of the growing season significantly reduces the overwintering spores. Some cultivars are somewhat resistant, not immune, to powdery mildew; look for them first when choosing plants. Try to increase the air circulation around the affected plants by thinning the bed a bit or selectively pruning any low hanging trees or shrubs.



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## Diseases: Iron Chlorosis

Yellowing, or chlorosis, of a leaf can be caused by many factors. For the pin oak, sweetgum, and a few others, lack of available iron in the soil is the most common cause of chlorosis. Since this is a non-infectious disease it cannot be passed from one plant to another. It can be treated, though an older seriously affected plant may not respond to treatment and continue declining.

In the early stages the foliage will be lighter green; as it progresses the leaves become yellow with the veins remaining green. Eventually, the foliage becomes dwarfed, may turn rust to orange, appear scorched along the margins, and develop brown spots between the veins. Normally the leaves in the upper most branches, or younger foliage, will be affected first. In addition to pin oak and sweetgum, other more commonly affected plants include azalea, baldcypress, birch, rhododendron, tuliptree, and blueberry.

To alleviate this problem, iron must be applied to the plant. This is most effectively achieved either by trunk implants or soil treatments; either option can be accomplished by the homeowner. Soil treatments can be used for any size tree; trunk implants are restricted to trees measuring 3" DBH (3 inch trunk diameter at breast height or larger).

Using Medicap FE0 systemic iron implants will give a fast acting treatment which can last from 1 to 3 years. Drilling holes into the trunk could lead to some infection, although it is unlikely. Having to drill holes

for implants several times over a period of years could weaken the tree seriously. It is wise to alternate implants with soil treatments.

With soil treatments there is no physical damage to the tree itself.

Properly applied a soil treatment can be effective for up to four years. Using a 1 1/2 to 2 inch soil auger, drill 6"-8" uniformly deep holes under the tree. Beginning 2 feet to 4 feet from the trunk (on large trees) extend your holes 3' beyond the outermost branch tips. Following a grid pattern, space rows 2 feet apart and space the holes 2 to 3 feet apart within each row. Combine the following: 20lb Ferti-lome Tree Food, 4 lb Sequestar iron 6%, and 4 lb Iron Sulphate Copperas. Apply at the rate of 1 pound per inch of trunk diameter. After determining the total needed for the tree, divide this quantity by the number of holes and place an equal amount in each hole. Water immediately with 1/2 to 1 inch of water. Soil treatment is best done in April, May or early June.

**Treat no more than twice a year.**

After treating your plant with iron, if it does not respond within 30 days, consider the severity and whether another issue such as poor drainage or soil saturated with water may be the problem.

Trees are valuable to your property for so many reasons, it is important to be attentive to their health.

*See chart below for products.*



<b>Chlorosis Remedy for Pin Oak, Birch, Sweet Gum, etc.</b>
<b>Purchased as a package Kit SKU 34091</b>
1-20# Bag of Ferti-lome Tree & Shrub food SKU 1710
1-4# Container of Sequestar iron 6% SKU 31714
1-4# Bag of Copperas SKU 1729

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## Diseases: Apple Scab

### What Is It?

Apple Scab is a disease that affects the leaves, buds, and fruits of apple and crabapple trees. Though apple scab doesn't kill a tree, years of early defoliation weaken it, making it prone to other problems. It also causes apple trees to produce fewer leaves, and less fruit.

### What Causes It?

The fungus overwinters on dead leaves, and its spores are spread to other parts of the tree in the spring through rainfall and wind. When temperatures reach 40°F, the fungus becomes activated, and begins to infect the tree again. This cycle continues throughout the summer, until the leaves and fruit fall from the tree at the onset of winter.

### What Does It Look Like?

Scab infections are usually noticed first on leaves, which may become twisted or puckered and have black or olive green, circular spots on the upper surface. Severely affected leaves then turn yellow and drop. Later in the season, scabby spots may be found on fruit, eventually causing distortion and cracking.



### How Can I Control It?

To prevent apple scab from affecting your crabapple trees, select a scab resistant variety, such as 'Red Jewel', 'Prairiefire', 'Louisa', or 'Pink Princess'.

For crabapple trees already infected with Apple Scab, apply a fungicide like **Fertilome Systemic Fungicide (Banner)** at the rate of  $\frac{1}{2}$  **tablespoon per gallon of water**. Start applications when buds begin to appear around mid to late March. Apply once every two weeks for a total of six weeks. For the best results, cover the whole tree thoroughly, and don't skip any applications.

For fruit bearing apple trees, follow the above spray schedule, and also apply a fruit tree spray for maximum control.

If the leaves still fall in the summer, collect and discard them, and plan on applying another application of fungicide next spring. In the fall, add some fertilizer to your apple or crabapple trees to increase their vigor.



## Apple Crab Resistant Cultivars

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