



This bulletin from the Cooperative Extension Plant Health Clinic (Plant Disease Clinic) is an electronic update about diseases and other problems observed in our lab each month. Input from everybody interested in plants is welcome and appreciated.

Hawthorn

Hawthorns are delightful additions to the garden. Bird lovers will appreciate their dense spreading growth which provides safe nesting places for many species of birds. Attractive berries provide winter food for migrating species of birds such as waxwings and thrushes. Attractive flowers, fragrance, and the showy berries make hawthorns desirable specimen trees, or hedges in the home landscape. Depending on species, hawthorn grows into small trees or large shrubs from 5-14 ft tall. They are not particular about soil, but require good drainage and full sun to thrive. The most common problem we see in Hawthorn is fungal leaf spot caused by *Entomosporium mespili*. *Entomosporium* leaf spot also attacks Photinia, Pyracantha, quince, loquat, crabapple, pear, peach, and mountain ash among others. Symptoms are numerous, small, reddish-purple spots that develop on leaves and fruit. As the season progresses the entire leaf surface may become discolored with large patches of purplish-brown blotches. Tiny black structures resembling pimples may be seen inside the lesions. Heavy infections cause the leaves to turn yellow and drop prematurely. Highly susceptible varieties may completely defoliate. The fungus overwinters on plant debris such as fallen leaves, and twigs. Rainfall in the spring splashes the spores onto new foliage. Repeat cycles of spore production keep the infection active throughout the growing season. Cultural controls include raking up and disposal of fallen leaves, avoiding overhead irrigation, and adequate spacing to ensure good air circulation. Ornamental fungicides such as Rose Spray or Daconil should be applied as soon as plants begin to leaf out and continued through the season. The best line of defense is to plant resistant cultivars. The Cockspur Hawthorn, Washington Hawthorn, Dwarf Yedda, Indian Princess, and Olivia have been found to have good resistance. Highly susceptible varieties such as Pinkie, Harbinger of Spring, Heather, Enchantress, White Enchantress, Spring Rapture, and Springtime should be avoided.

Hawthorn *Entomosporium* leaf spot-*Entomosporium mespili*



Sherrie Smith University of Arkansas Cooperative Extension



**Hawthorn Entomosporium leaf
spot-*Entomosporium mespili***



Sherrie Smith University of Arkansas Cooperative Extension

**Photinia Entomosporium leaf
spot-*Entomosporium mespili***



Sherrie Smith University of Arkansas Cooperative Extension

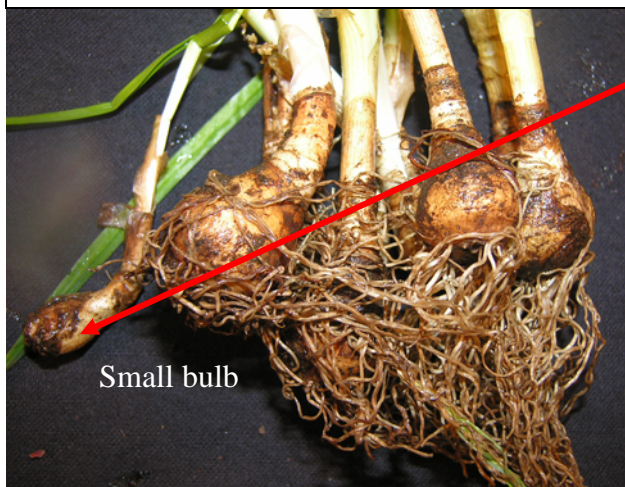
Daffodil

Daffodils are among the earliest spring bloomers. We know spring is just around the corner when we begin to see their cheery flowers. It is frustrating when they fail to bloom. There are many possible reasons for failure to set flowers. Improper fertilization or no fertilization for several years may prevent bloom. Daffodils need to be Fertilized, using a complete fertilizer such as 5-10-10 at planting, when leaves emerge, and at bloom. High nitrogen fertilizers should be avoided as they encourage leaf production at the expense of flowers. Too much shade also inhibits bloom. Daffodils need at least six hours of full sun for best bloom. In crowded plantings, the bulbs may not be able to compete for available water and food with aggressively growing species. Soggy soil conditions promotes bulb rots, hence no flowers, followed eventually by death of the plant. Viruses can also be a problem. Narcissus Yellow Stripe Virus and Narcissus Mosaic Virus will weaken the plant, causing loss of vigor and bloom. Symptoms of Yellow Stripe Virus are fine streaks of yellow the length of the leaves. Infected plants of most daffodil cultivars show yellow stripes on leaves and flower stalks, reduced bulb size, and eventually, severe stunting; the chlorosis (yellowing)



in some cultivars is less conspicuous than in others. Symptoms of Narcissus Mosaic Virus are white blotches on the yellow flowers. Viruses are not curable. Any plants with virus symptoms should be dug up and thrown away. Daffodils may also fail to bloom the first year after being transplanted as the bulbs are re-growing roots and trying to establish themselves. Another reason daffodils may fail to bloom is an early heat wave that may shut down bulb replenishment too soon. Many people buy a pot of blooming daffodils in the spring and leave them in the pot all year without proper fertilization, and exposed to extremes of heat and cold. By far, the most common cause of failure to bloom is cutting the leaves of the daffodils off too soon. The leaves should not be blocked from the sun by being tied in bundles or cut off until they lose their green and turn yellow. The bulbs need the foliage for about six weeks after bloom in order to replenish the bulb. Finally, bulbs that have been growing in the same spot for many years need lifted, divided, and replanted. The time for dividing and replanting is after the foliage has yellowed in the spring. Separate the clumps into individual bulbs and replant them 6" deep and 6" apart. Don't water them until fall if you replant immediately, as this can cause bulb rot. If you can't replant them immediately, dry the bulbs in the shade, store in mesh bags, and replant in the fall.

Daffodil bulbs too crowded to bloom



Sherrie Smith University of Arkansas Cooperative Extension

Daffodil bulb too small to bloom



Sherrie Smith University of Arkansas Cooperative Extension

Herbicide damage

The Plant Health Clinic is seeing a lot of herbicide damage to trees, shrubs, vegetables, and ornamentals. Homeowners must take great care with glyphosate products such as Roundup, and phenoxy based herbicides such as 2,4-D and Grazon. Grazon is a pasture herbicide that doesn't harm horses and cattle, but passes through them in their manure, and has a long residual. Never use manure from a pasture that has been sprayed with Grazon.



**Blackberry cane with 2,4-D
herbicide damage**



Sherrie Smith University of Arkansas Cooperative Extension

**Bradford pear with Roundup
damage**



Sherrie Smith University of Arkansas Cooperative Extension

Tomato with Roundup damage



Sherrie Smith University of Arkansas Cooperative Extension



Potato with 2,4-D damage



Sherrie Smith University of Arkansas Cooperative Extension