



Arkansas Plant Health Clinic Newsletter

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Tulip

Tulip Fire, caused by the fungus *Botrytis tulipae*, affects tulips only. Leaves newly emerging from the soil may be distorted and twisted and wither. If leaves survive emergence, they may have brown lesions that under wet environmental conditions enlarge to large blighted scorched areas, hence the common name "Tulip Fire." Small oval spots may appear on flowers. During wet weather damaged leaves, stems, and flowers will become covered with a fuzzy, grey mycelial mat. Eventually, small black sclerotia, (seed-like structures) form on the dead tissue. These are the survival stage of the fungus and can persist for long periods in the soil and on debris. Tulips should not be planted for at least three years in a site where the disease has occurred. All bulbs should be checked carefully for signs of decay and the small black sclerotia. This is a very difficult disease to control, and chemicals are not always effective. It is more effective to plant in a different location. Do not save bulbs from an infected crop.

Tulip Fire-*Botrytis tulipae*



Photo by Sandra Jensen, Cornell University, Bugwood.org

Tulip Fire-*Botrytis tulipae*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Tulip Fire leaf lesions-*Botrytis tulipae*



Photo by 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 promote 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 fail to bloom is an early heat wave that may shut down bulb replenishment too soon. The Plant Health Clinic occasionally receives a sample of Daffodils with what is known as Bud Blast. Extreme environmental conditions such as a hard freeze or hot spell at a critical time may cause the buds to dry out and turn brown before opening. Drought conditions during the growing period may contribute to the problem. Slow-release fertilizers rich in potassium applied in the fall helps with preventing Bud Blast. If this becomes a chronic problem in your garden, look for daffodils which are resistant to blast, such as: 'Tahiti', 'Unique', 'Sir Winston Churchill' and others. Occasionally, we hear complaints of Daffodils failing to set buds altogether. This occurs when bulbs are set too shallowly. Shallow planting encourages the bulb to offset small bulblets that are too small

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to flower. Daffodils should be planted 6-9 inches deep and covered with several inches of mulch to protect against ground heaving during freezes. 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 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 6-9" 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 Bud Blast-Abiotic



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Daffodil Bulbs too crowded to bloom-Abiotic



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Hellebore

One of the easiest and most rewarding of shade perennials is Hellebore. Hellebores, also known as Lenten roses, are a long-lived shade perennial. They have the advantage of being deer and vole resistant and blooming in late winter to early spring when little else is in flower. Hellebore requires moist, shady, locations with plenty of organic matter. They bloom in shades of white, red, plum, rose, black, and green. Some cultivars have double blooms. Although hellebores have few disease problems in general, we recently received a sample infected with a virus known as Hellebore Net Necrosis Virus (HeNNV), sometimes referred to as Black Death. This virus belongs to the Carlavirus group of viruses.

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Symptoms are usually noticed on older, well-established plants. Blackened dark brown to black streaks on petioles and flower bracts, and brittle, stunted brown to new black growth. There may be black rings spots or black streaks following leaf veins. This virus may be transmitted by aphids. As with all viruses, there is no treatment or cure. Affected plants should be removed from the planting and destroyed.

Hellebore Net Necrosis Virus (HeNNV)-Carlavirus



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Hellebore Net Necrosis Virus (HeNNV)-Carlavirus



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Hellebore Net Necrosis Virus (HeNNV)-Carlavirus



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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.

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