



Arkansas Plant Health Clinic Newsletter

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Daffodil

Daffodils are among the earliest and most reliable spring bloomers. We know spring is just around the corner when we begin to see their cheery flowers. We take their annual bloom for granted; so, 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 at planting, when leaves emerge, and at bloom. One should use a complete fertilizer such as 5-10-10. 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 along 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. A symptom of Narcissus Mosaic Virus includes 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 cut off or blocked from the sun by being tied in bundles until they lose their green and turn yellow. The bulbs need their 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 lifting, dividing, and replanting. 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" (15 cm) deep and 6" (15 cm) 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 undersized and crowded to bloom-Abiotic



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Heuchera

Heuchera, commonly called Coral Bells, are delightful perennial plants for semi-shaded areas of the garden. Some cultivars are grown for their beautifully colored and patterned foliage while others are grown primarily for their spires of pink, white, rose, or red blooms. Heuchera need well-drained neutral soil with plenty of moisture and excellent drainage. They do poorly in hot climates when planted in full sun. They have very few disease problems when their needs are met. The clinic sees Heuchera occasionally with minor leaf spots caused by several fungi and bacteria. Overcrowding and overhead watering are usually at fault.

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Heuchera Rust, caused by *Puccinia heucherae*, is a disfiguring foliar disease found only on members of the Saxifragaceae family. Symptoms begin as small, circular, yellowish, indented spots on the upper surface of the leaves. The indentations become raised bumps that have a corresponding orange-yellow to brown pustule on the undersides of the leaves. Leaves may become puckered and distorted by large numbers of rust pustules. The development of Heuchera Rust is favored by warm, humid conditions. Wind, rain, and water splash from irrigation spreads the spores from the pustules onto adjacent foliage. Overhead irrigation should be avoided. Remove infected leaves and seriously diseased plants and destroy them. Fungicides containing azoxystrobin, or chlorothalonil, or flutolanil, or myclobutanil, or propiconazole, or triadimefon may be applied.

Heuchera Rust-*Puccinia heucherae*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension



Heuchera Rust-*Puccinia heucherae*



Photo by Sherrie Smith, University of Arkansas
Cooperative Extension

Turf

One of the most important diseases of turf is Large Patch, caused by the fungus *Rhizoctonia solani*. Bermuda, Centipede, St. Augustine, and Zoysia are all susceptible. Stolons and basal leaf sheaths develop water-soaked, black to reddish-brown lesions. Irregular circular patches develop that may be from several feet (1 m) to more than 25 feet (7.6 m) in diameter. Sometimes a smoke-colored or orange halo may be observed early in the morning at the margins of the patch. Diseased shoots are easily detached from their points of attachment.

Roots are discolored but not rotted. In the most badly affected turf, entire lawns may be blighted. Symptoms on Bermuda usually occur earlier in the spring than on Zoysia. Symptoms in Zoysia occur two to eight weeks after green up or in the autumn. Sometimes symptoms slowly disappear during the growing season as surviving tillers start filling in the killed spots. Night irrigation, shade, and excessive amounts of nitrogen increase both severity and incidence of patch diseases. Complete fertilizers with time release nitrogen should be used instead of quick release nitrogen. Apply 0.5 pound of nitrogen per thousand square feet (0.24 kg / 100 m²) approximately three weeks after the grass turns green in late May. No more than two pounds (1 kg) of nitrogen total should be applied per growing season to Zoysia. A soil test is useful to see where fertility levels are. Good drainage is essential for a healthy lawn. The turf should be de-thatched if thatch accumulates to more than 0.5" (1.3 cm) thick. De-thatching should be done while grass is actively growing. Fungicides may be applied once in the spring between March 15 and April 15, and again in the fall between September 20 and October 10. Bayleton, Eagle, Heritage, Instrata, and Prostar are labeled for Large Patch. For Large Patch, soil test for pH and nutrients. Avoid night watering. Homeowners may use products labeled for control of *Rhizoctonia* diseases. Products containing azoxystrobin, or flutolanil, or myclobutanil, or triadimefon, or triticonazole have proven effective when applied per label.



Zoysia Large Patch- *Rhizoctonia solani*



Photo by Michelle Mobley, University of Arkansas Cooperative Extension

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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Zoysia Large Patch- *Rhizoctonia solani*



Photo by Jim Robbins, University of Arkansas Cooperative Extension