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SLIME MOLDS

Slime molds are highly conspicuous organisms that can "magically" appear overnight on mulch, plants, and turf. The rapid and unexpected appearance of these nuisance organisms is frequently a cause for misdirected alarm. Slime molds have also been the source of countless stories, myths, and colorful names such as the "blob" and the "dog vomit fungus."

Slime molds are classified in the Kingdom Protista (the Protists), despite many years of having been classified as fungi, in the class Myxomycetes. This change in classification resulted from research that yielded new information about their biology and phylogeny. The most common classification system places slime molds in two phyla: Phylum Myxomycota and Phylum Acrasiomycota. The Myxomycota are the true (plasmodial) slime molds and the Acrasiomycota are the cellular slime molds.

DESCRIPTION:
Since there are over 700 different types of slime molds, the shape, structure, and color can be quite variable. They are found on wood chip mulches, lawns, garden beds, on herbaceous and woody ornamental plants, and even creeping up foundation walls of buildings and other structures. Slime molds are most prevalent after periods of wet, moderate temperatures in the fall and spring. Many slime molds on wood chip mulches are brightly colored masses. One of the most common slime molds on mulch is *Fuligo septica*. It can appear as a bright yellow, orange, or creamy, irregular mass, ranging from one inch to several feet in diameter (Figures 1 and 2).

Figure 1. Creamy-colored *Fuligo septica* growing on shredded bark mulch.

In lawns, the presence of a slime mold gives the grass a bluish-gray to purple-brown appearance from a distance. These areas can be patchy and can be as large as several feet in diameter. Upon close inspection, individual grass blades are covered by the

purple-brown mass of the slime mold (Figure 3). One of the common slime molds on turf in Connecticut is *Physarum.*

Figure 2. Yellow *Fuligo septica* growing on s bark mulch.

Slime molds can also be found on woody and herbaceous plants, especially on the portions of the plants that are closest to the ground. It is not unusual to see the lower branches of a rhododendron or juniper coated with the colorful mass of a slime mold.

Figure 3. Slime mold growing on grass blades.

Slime molds are not pathogenic to plants, although they occasionally cause indirect injury. This occurs when they cover and shade plant tissues for extended periods and inhibit photosynthesis. Slime molds have no direct economic importance.

Slime molds are cosmopolitan organisms that feed on bacteria, fungi, protozoa, and other tiny organisms. Their life cycle is similar to those of true fungi. Perhaps this is one of the reasons why they were classified as fungi for many years. A generalized life cycle for the slime molds commonly found in Connecticut consists of two phases. Slime molds reproduce by spores, which can remain dormant in soil for many years. During periods of moderate temperatures and moist conditions, the spores germinate and release small, motile cells. Two of these amoeba-like cells fuse together and form a shapeless, growing mass called a plasmodium. A plasmodium is a multinucleate mass of protoplasm that results from the fusion. Plasmodia can be colorless, gray, cream, bright yellow, or orange. This is a feeding and "creeping" stage of the organism, so when sufficient water is available, slime molds creep or flow over many types of surfaces. They creep at a relatively fast pace and can move several feet in 24 hours. When environment conditions become drier and warmer, they are no longer favorable for this stage of the slime mold. At this point, the slime mold undergoes a remarkable metamorphosis. As it dries up, it transforms from a shapeless plasmodium to an organized structure called a sporangium. This is the more conspicuous and recognizable "blobby" mass previously described. It is during this stage that spores are formed and the cycle starts to repeat.

Growth of slime molds is favored by relatively cool, moist, shady conditions. However, slime molds can readily grow in open, sunny locations. Since moisture and

temperature seem to be the most important factors associated with the occurrence and prevalence of these organisms, slime molds are often more abundant during or after periods of moderately cool, wet weather, especially in spring and autumn. Slime molds have been more prevalent in landscape situations during the past 10 years—this may be associated with weather patterns and the increased popularity and use of wood mulches.

STRATEGIES FOR CONTROL:

Since slime molds are not pathogenic to plants and are considered curiosities and nuisances, proactive control is not necessary. However, these organisms can be quite unsightly, so removal of the structures is often the preferred way of dealing with them. When slime molds develop on mulch, the structures can be removed with a shovel or disturbed by raking. When they grow on plants and turf, slime molds can be removed with a forceful spray of water from a hose. On turf, slime molds can also be effectively removed by mowing. However, if left alone, slime molds will eventually dry up, turn powdery, and disappear.

June 2012 (revised)