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Slime Molds: Myxomycetes

Introduction

Slime molds are fungus-like organisms that have previously been classified as fungi, but they are no longer classified as fungi. Depending on the sources, there are now two or three different groups of slime molds, one of which is the Myxomycetes. These now fall under the broader category of eukarya.

In general however, slime molds are characterized by the production of relatively large, single-celled, multinucleate bodies called plasmodia (singular = plasmodium). Plasmodia are the feeding stages of slime molds, and they are frequently seen on lawns, small plants, mulch, and decaying wood in late summer.

Figure 1: Yellow slime mold on mulch (provided by **Dr. George W. Hudler, Cornell University)**

Symptoms and Signs

Slime molds are frequently observed when they form large colonies on mulch around trees or shrubs. They may initially appear as a slimy mound or mass, come in a variety of colors, and are often unsightly. Although slime molds are not plant parasites, they may injure plants by covering and shading them.

Figure 2: Slime mold on mulch (provided by **Dr. George W. Hudler, Cornell University)**

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Life Cycle

Slime molds in the phylum Myxomycota are similar to fungi in that they reproduce by spores. When the spores are moistened, they germinate and give rise to microscopic amoeba-like organisms that either "flow" or swim in thin films of water. These organisms are larger than bacterial cells and will engulf and digest bacteria as they are encountered. Eventually several of the amoebae-like organisms fuse, and when this happens, growth of the plasmodium begins.
The plasmodium also preys upon bacteria and must have a moist substrate on which to move. The plasmodium moves "relatively rapidly", and may transverse a distance of several feet a day. If

conditions are favorable and food is plentiful, a circular plasmodium may grow to 2 feet or more in diameter. In most cases however, the plasmodium is smaller than that and forms a delicate net of brown, yellow, pink or white slime across the surface of the substrate.

When substrates (logs, turf, mulch, etc.) dry and conditions for growth are no longer favorable, plasmodia aggregate to form spore-producing structures that resemble miniature puffballs. These "puffballs" may or may not be on stalks, their colors range from chocolate-brown to bluish grey to yellow to white, and their intricate beauty has attracted the interest of many naturalists.* A new crop of spores then forms within these structures, and these spores are blown away by the wind to eventually settle in new locations and start new colonies.

Management Strategies

Slime molds will disappear if left alone, but their unsightly appearance may cause some homeowners to desire a more rapid method of removal. There are no home garden pesticide products registered in New York State to manage slime molds on mulch. Individual colonies can be raked or turned under, or scoop up the colony and the mulch on which it is developing with a shovel, bag it, and place it in the garbage. Some slime molds can also be broken up or washed away with a forceful spray from a garden hose, but it is important to note that if conditions for the slime mold to develop are still present, and a food source is available, they may re-appear.

Reference:

* Lee, Douglas, and Paul Zaul. 1981. Slime Molds. National Geographic 160 (1):131-136.

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READ THE LABEL BEFORE APPLYING ANY PESTICIDE! Changes in pesticide regulations occur constantly. All pesticides distributed, sold, and/or applied in New York State must be registered with the New York State Department of Environmental Conservation (DEC). Questions concerning the legality and/or registration status for pesticide use in New York State should be directed to the appropriate Cornell Cooperative Extension Specialist or your regional DEC office.

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