MULCH CORNER

MULCHING PITFALLS

By John Ferguson

This week we continue with gardening issues associated with mulch.

Remember that many types of mulch develop various types of fungus on its surface as it decays. A few common types are artillery fungus, bird's nest fungus, slime molds, puff balls, toadstools, mushrooms and others. Visible signs of fungus are often the fruiting spores and are beneficial to the soil and plant health.

For example, fungi known as the Stinkhorn Fungus (*Phallus impudicus*) is often found growing on low quality mulches with a high carbon to nitrogen ratio (e.g. mulches that or dyed red or black and ashen mulches). It may start as an egg shaped mass to a stalk covered with slime coated head. This fungus deserves its name as it often has a strong odor similar to that of rotten meat. The fungi produce this strong odor to attract flies and other insects. As the insects crawl on the slime they pick up fungal spores that they carry and spread to other locations. This fungus is most often found during warm moist conditions in the summer and is actually hard at work breaking down the organic matter in the mulch into a form that plants and other microbes can use.

In rare cases large amounts of organic matter may actually increase disease rather than suppress it. The process in which this occurs is not fully understood. The soil environment is changed by the organic material, a rapid growth of the microbial population occurs using up all the available oxygen (O) and producing large amounts of carbon dioxide (CO_2) in the process. This happens when the material is compressed (compacted) or so saturated with water that air movement is restricted. Under these conditions disease organisms would have an advantage for a short while.

Pitfalls of Mulching

As the popularity and benefits of mulch have become better known, mulched landscapes are very common. However, using mulch is a science; not an automatic guarantee of successful gardening. Misuse of mulch, ranging from improper mulch choices to misapplication, may lead to problems. Problems using mulches may occur when recommended horticultural practices and procedures are not followed.

A question we often hear is, "What really happens if I use cheap or bad mulch?" Another statement we often hear is, "I do not see any difference, why should I pay more?" or "I can get it cheaper down the street at your competitor." At the same time, we often here these same people complain about all the weeds they have and the excessive time they spent weeding, or how much money and time they spent at the doctor's office for illness or allergic reaction related to the herbicides they used to spray the weeds or other chemicals that may be present in the mulch.

The following guidelines will help to ensure success:

Mulch choices and practices vary depending on many factors like climate, plant species, age of plants, soil type, location, watering practices and others. These factors vary regionally (state to state) but can also vary in a single backyard.

Heavy mulch around certain plant species, during extreme wet conditions can hold too much moisture. This adverse condition typically occurs in plants adapted to dry conditions (cactus, mesquite, etc.).

If mulch is applied against the bark at the base of some woody plants it can lead to stem rot. Some people recommend that for Hosta's, mulch should be applied right up to the crowns but not over them or touching them (allow a small gap for air to circulate). Remember that in a forest, the leaf and twig litter (i.e. mulch) is thick under the leaf canopy but becomes very thin at the base of the trunk, hence this is how mulch is to be applied (i.e. copy nature).

Covering the soil with mulch too early in the season with certain vegetable species can hold them back by keeping the soil too cool (it helps other species grow faster and produce more).

When using any soil amendment (compost, mulch, fertilizer, etc.) one must understand the cultural requirement of the species of plant being grown to get the best results.

If some types of mulches are applied deeper than 4", feeder roots often grow into the mulch layer. Later, a disturbance of the mulch or drying out of coarse mulch layers may injure or kill these feeder roots.

Always go look at mulch before you order. Sometimes people have a visual image in their mind about what they want, and very frequently they use terminology incorrectly. Also in different areas of the country words and terminology are used differently. As a result consumers will place an order, only to be disappointed in the results when it is delivered.

Also many dealers and producers will use incorrect or misleading terminology. Some suppliers/dirt yards sell products that use words like "Black" and "Humus" in their names. These products are often made from fresh pine bark fines, do not contain any humus, and are chemically burned to turn it black by adding very alkaline chemicals (i.e. it is mixed with boiler ash which is very alkaline and contains high levels of salts). Other dealers will grind up old pallets, scrap wood, trees, etc. and mix it with fly ash or bottom ash then sell it as a black hardwood mulch, humus mulch, etc. These type products are very poor mulch choices and are often toxic to many plants. People use them, but when the plants get sick and die, they think "I just do not have a green thumb." People buy them because they are often sold at bargain prices...but they are not very cost effective.