

Geranium Rust

Geraniums are popular plants for a multitude of reasons, including that they do not have very many pest problems. Although they can be somewhat sensitive to changing light and can have root rot problems like any pot-grown plant, they are relatively worry-free.

Biology

One foliar disease that they are susceptible to is a rust fungus, simply called geranium rust. This organism, *Puccinia pelargonii-zonalis*, affects most plants in the *Pelargonium* genus, including cultivated geraniums. It is entirely a foliar disease, and its symptoms are visible first as small yellow spots, which develops a rust-colored pustule in the center of the spot on the underside of the leaf. This pustule is the spore-containing portion of the fungus. Soon after the initial pustule forms, concentric rings of many more pinhead-sized pustules form around the initial one. See the picture, which was taken from a sample brought in to our office within the last month, on this page to see what they look like. Each infection spot can form literally hundreds of spores that are spread extremely easily. The leaf eventually yellows and drops off the plant.

Geranium rust is an unusual rust in that it lives out its entire life cycle on a single species, or even a single plant. Most rusts have two host species on which it needs to complete its life cycle, a good example around here is the white pine blister rust, which has two stages of its life on white pines and two others on *Rabies* species such as currants.

This fact may seem trivial, but it is actually an extremely important point you need to remember when trying to control the disease. With most rusts, an easy control point is to simply eradicate all the plants of the alternate host, especially in an indoor situation. However, with geranium rust, that doesn't work. Further, rust spores can be spread very easily from an infected leaf to a non-infected leaf or plant. Spread can occur on air currents (wind or fan or even lower-speed flow), via splashing of water onto the leaves, via pets, via watering spouts, or simply on us.

Management

Knowing the ease of spread, one of the keys to controlling this disease is to prevent it from getting started. A key point to this is to thoroughly inspect any new plants before you buy them and expose them to your other geranium plants. Also, watch your plants and inspect them at watering to see if there are any pustule rings present. If you find pustule rings, remove those leaves immediately and monitor that plant and neighboring plants even more closely. If you catch the first leaves that get an initial infection, you can often get ahead of the disease. If you don't catch it right away, you are probably simply better off starting over, either by completely throwing the plant, by cutting it back to barely nothing and letting it re-start, or by taking cuttings of carefully inspected portions of the plant that have no yellow spots or rings on them. In reality, this is the only method of control available indoors.

Along the prevention line of thinking, rust-resistant cultivars are available and you should select these cultivars if you have had trouble with this disease, especially in a greenhouse situation. The spores do not overwinter well in our climate, so outdoor-grown plants are not at high risk of getting the disease from last year's infected leaves, but it is always a good practice to remove those materials if you have noticed any signs of problems. Outdoors or in greenhouses, there are two fungicide active ingredients that can be used as preventive applications, Bayleton or chlorothalonil (Daconil 2787). However, fungicides alone will not keep the disease from spreading if an infected plant is shedding spores, so plant inspection and leaf removal is still a vital step.

If you have any questions about this disease, or any other plant pest, contact Scott or Linda at the UWEX office, 715-732-7510.