Watch for These Pests of Garden Mums

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Garden mum production is still an important activity for many greenhouse growers. Growers can help prevent pest problems on mums by inspecting the young cuttings as they arrive and providing the proper cultural care.

Bacterial leaf spot on chrysanthemum, caused by *Pseudomonas cichorii* often becomes more prevalent after heavy summer rains. Because this disease may be introduced on cuttings, growers need to inspect the incoming cuttings for any symptoms of bacterial leaf spot. The serpentine leafminer, *Liriomyza trifolii*, may help transmit the bacterium from infected to noninfected chrysanthemums. Wounds made by the leafminers were shown to promote disease development. (The serpentine leafminer is primarily of concern during cutting production in the greenhouse and is less of a concern in the outdoor production of garden mums.)

Symptoms of bacterial leaf spot include dark brown to black spots that may cover half the leaf. Expanding lesions are irregularly shaped but older spots may have a concentric line pattern. Concentric line patterns tend to be more characteristic of fungal diseases than bacterial diseases. As the infected leaves dry, lesions may become brittle. Pseudomonas may spread from the leaf petiole to the stem, causing a canker. Symptoms may spread upwards on one side of the plant. Pseudomonas may attack the flower buds, the sepals become brown to black and several inches of the pedicels (flower stem) may be killed.

After planting, growers should inspect the crop and rogue any infected plants. Bacterial leaf spot is favored by hot

humid weather conditions and heavy summer rains. High humidity levels, high temperatures and use of susceptible cultivars favor the development of bacterial leaf spot. Growers may consider the use of copper hydroxide (Kocide) on the more susceptible cultivars of garden mums.

Septoria leaf spot, caused by the fungus, *Septoria chrysanthemella*, may be of concern to growers. Symptoms include small yellowish spots that later turn dark brown to black. These lesions may coalesce into blotches. Leaves may turn yellow and drop prematurely from the plant or the leaves may hang from the stems. The fungal spores are splashed from plant to plant with rainfall, overhead watering or on tools. With a 10 x hand lens, growers may see the small black fruiting bodies of the fungus within a lesion. Symptoms of septoria leaf spot may be confused with damage from foliar nematodes that use a film of moisture to crawl up the plant, enter the plant through the stomata and then feed within plant tissues. Nematode damaged leaves have angular brown wedges.

Keeping the foliage dry by watering early in the day will help to minimize disease spread. Daconil 2787 is labeled for septoria leaf spot.

A clean and weed-free production area will help minimize both insect and disease problems. Growers may use sticky cards to monitor population levels of thrips and to evaluate treatment effectiveness.

Many different species of aphids feed on mums including green peach aphids, melon aphids and chrysanthemum aphids. To detect aphid activity, inspect plants for the shedded white aphid skins, honeydew and sooty mold. The presence of sooty mold may make plants unsalable.

Certain caterpillars may be potential pests including the yellow woolybear, variegated cutworm, cabbage looper and beet armyworm. Growers should also look for symptoms of the european corn borer (*Ostrina hubalis*) that injures the stems and flowers of chrysanthemums. The pale yellow to light brown adult female corn borer lays egg masses of twenty to thirty eggs that are covered with a shiny waxy substance. Growers will find the egg masses on the underside

of leaves. After hatching, the small larvae feed on leaves causing "pinholing." The larvae has a black head and pale yellow body with brown spots. When stems are invaded, growers may see frass and silk near the entrance holes. Permethrin or *Bacillus thuringiensis* subsp. *kurstaki* (*B.t.*) can be used to control European corn borer. Timing of applications is important. Begin treatments about five days after the first egg masses are detected.

Detect pest problems early to ensure a healthy and saleable mum crop this year.

References

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