Japanese Maple Scale

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Insect damages of Japanese Maple Scale were confirmed on a Chinese Holly and a Kwanzan cherry tree that were submitted to The MU Plant Diagnostic Clinic. Contrary to the name, Japanese maple scale has a wide range of hosts and can cause damages on trunk, branches, and leaves of many landscape and nursey plants in the United States.

Figure 1. Japanese Maple Scales on the branch of Kwanzan cherry tree Photo: Morgan Goodnight

Name: *Lopholeucaspis japonica* (Cockerell)

Morphology: Japanese maple scale belongs to the armored scale family (Hemiptera: Diaspididae). The armor is called test that is covered with a white wax and can protect the soft body from the environment. Japanese maple scale is about 1 to 2 mm long. The males and females look almost identical, except that the females are slightly larger. The bodies of male and female scales and eggs are purple in color underneath the test.

Figure 2. Purple colored eggs under female cover Photo: Maryland Extension FS-967

Figure 3. Newly emerged crawlers seeking feeding site Photo: Maryland Extension FS-967

Life Cycle: The climate is the determining factor of how long their life cycle could be. The warmer weather in the southern states causes the Japanese maple scale to remain active throughout the year, while in cooler states the process is greatly slowed. Japanese maple scale overwinters in the test and remains inactive until the warmer weather starts. The females lay about 25 eggs underneath her armor in the spring and the eggs hatch about 7 to 21 days afterwards, depending on the weather (Figure 2). This stage is referred to as the "crawler" stage when the Japanese maple scale crawlers look for soft plant tissue to attach to and begin feeding on the host (Figure 3). Once they settle down at this stage, they create their own armor and insecticides are seemingly ineffective.

Host range and damage: Japanese maple scale has a wide host range. In Missouri, hosts can be anywhere from red maples, dogwood, and redbuds, to pears, crabapples, and cherries. Normally these scales stick to branches and trunks of trees, but they have been known to migrate to the leaves in high

infestations (Figure 1). The scales can also cause symptoms of dieback, thinning of the leaves, and decline of the entire tree. If the host tree is not well established or is stressed due to the environment, this disease can turn deadly for the tree. Given that Japanese maple scale has one to several generations every year in different areas of the United States, and the period of egg laying and crawler emergence can extend over long periods of time, it is very challenging to monitor and control this pest.

Disease management:

1. **Maintain a healthy plant.** A healthy plant will not be as infected by the scales as one that has suffered environmental stress. This can be done by proper care including watering, fertilizing, providing a well-draining soil medium, adequate lighting, and air circulation.
2. **Trim off infested branches.** Removing these branches will reduce the scale population and promote new growth of un-infested shoots.
3. **Remove scale manually.** This can be done by rubbing them off the plant using your hand, a toothbrush or a high-pressure water spray. For houseplants, use a cotton swab and rubbing alcohol instead.
4. **Let natural enemies control the population.** Biological control agents such as some species of parasitoid wasps, lacewings, lady beetles, and predacious flies may be used to maintain a low population of the scales.
5. **Spray with pesticide.** In cooler climates, the spring is the best time to apply pesticides when the scales are in the crawler stage. Ornamental oils and insecticidal soaps are effective in smothering the insect and breaking down cell membranes, both adults and crawlers with less impact on natural predators of scales. Insect growth regulator, such as pyriproxyfen (Distance) or buprofezin (Talus) can be applied to prevent the crawlers from developing, resulting in death of the insect. Systemic insecticides such as imidacloprid has been shown effective with combination of other treatment types. Be sure to follow the label and check the type of scale and the host plant that are listed on the label before using any insecticide.

References:

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