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Mark Keaton's Extension News: Cedar-apple rust appears

For those not familiar with cedar-apple rust, you can see it on apple tree leaves now as small, pale yellow-orange spots which develop on the upper leaf surface shortly after bloom. These spots enlarge and turn orange, thus the name rust.

The chief damage by this disease on apple trees is early leaf drop and poor quality fruit. This can be a significant problem to commercial apple growers, it but also harms the appearance of ornamental crabapples in the home landscape.

The symptoms first appear as small green-yellow leaf or fruit spots that gradually enlarge to become a yellow-orange color. On the upper leaf surface of these spots, the fungus produces specialized fruiting bodies called spermagonia. On the lower leaf surface —and sometimes on fruit — raised hair-like fruiting bodies called aecia appear as microscopic cup-shaped structures.

Wet, rainy weather conditions favor severe infection of the apple. The fungus forms large galls on cedar trees in the spring, but these structures do not greatly harm native red cedar and ornamental cedar, although some twig dieback may occur.

The life cycle is complex and involves two plants (apple and cedar) and their fruiting structures (telia, aecia and pycnia). The pathogen requires two years to complete its life cycle. The fungus overwinters in reddish-brown galls on the cedar tree. In the wet spring, the galls extrude gelatinous tendrils consisting of two-celled teliospores. Air currents carry the teliospores to the apple tree, where they infect within four hours under favorable conditions. In July and August, windborne aeciospores from apple trees infect cedar leaves. Rust lesions develop in one to three weeks.

The galls mature the second year after infection.

Resistant varieties of apple and crabapple are the best method of control. Because it is impractical to keep enough distance between native cedar trees and cultivated apples or crabapples in the state, fungicides can be used to protect apples against infection.

Several fungicides are highly effective against rust diseases; however, it is too late to spray this year. Fungicides should be applied regularly from the pink stage of bud development to the third cover spray to protect the emerging leaves and developing fruit. Fungicides such as myclobutanil, Ferbam, mancozeb, Thiram, Bayleton, Funginex and Rubigan will control rust; Captan will not do as good a job.

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