

Q: I live in the Lafayette/Orinda area and have a problem on the leaves of my pear trees. The leaves have growths that have appeared on the backs of the leaves, brick-red in color and with what appears to be tubes descending from them. The top of the leaf is yellow and rust in color across from the growths. The trees produced poorly.

A: You have fungus called *Gymnosporangium fuscum*, or Pear Trellis Rust (Pear Juniper Rust). This disease has been found in British Columbia since the 1960's, in Washington State since 1997; in 1960 the Agriculture Department diagnosed it in one county in California, Contra Costa, in a 4 square mile area in Lafayette/Orinda. The disease originated in Europe, where it causes significant damage to pears grown in proximity to junipers. The fungus affects the growth and the fruit set of heavily infected pears, causing leaves to abscise (drop off) early, and attacking the ripening fruit. The symptoms on pear leaves are one or more irregular yellow to rust colored splotches appearing on the upper and lower leaf surfaces. Pycnia (small black fungal bodies), and Aecia, (light brown to reddish acorn shaped growths), can be seen on infected leaves, twigs and fruit.

This disease moves between *Juniperus Sabina* var. *tamariscifolia*, Tam Junipers, and pears. On the Juniper, telia, spindle-shaped growths appear on the twigs and branches. These produce basidiospores (reproductive structures) that are blown by the wind onto young pear leaves, spreading as far as approximately 300 meters (~1000 feet). Infections appears as yellow blotches on the leaf surface within 13-17 days. The 'growths' (aecia) appear later in the summer on the back sides of the leaves, producing aeciospores that are then spread by the wind back to the juniper plants, starting the cycle over again. The infected areas on the juniper may not be obvious until the second year, when the telia appear. The cycle goes > Juniper- infection, telia formation, basidiospores > Pear, pycnia on leaves and twigs, aecia, aeciospores> Junipers.

The only realistic method of control is to remove the junipers surrounding your infected trees. In a suburban area, this may require talking to many of your neighbors.

If you think you might have this fungus, bring a sample of your leaves to the Master Gardener office in Pleasant Hill for diagnosis. The Master Gardeners staff the hot-line office from 9-12pm Monday through Friday. Many thanks to UCCE Farm advisor Janet Caprile and to the Department of Agriculture in Contra Costa for their help identifying this problem.