

## Ash rust

The fungus *Puccinia sparganioides* causes ash rust.



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### **Host plants:**

Near coastal areas, *Puccinia sparganioides* infects several ash (*Fraxinus*) species including: white, green, and occasionally, black ash. The alternate hosts are several species of cordgrass (*Spartina* species) and a marsh grass (*Distichlis spicata*).

### **Description:**

In late spring, yellow spots appear on the upper surface of ash leaves, as well as on petioles and green twigs. Within 10-14 days, orange fruiting structures form on the petioles, green twigs, and the underside of leaves.



**Ash rust fruiting on leaves and petioles**

Photos: Edward L. Barnard, Florida Department of Agriculture and Consumer Services. [www.forestryimages.org](http://www.forestryimages.org)



**Close-up of fruiting structures on petioles**

Infected leaves are discolored and misshapen, petioles bend, and twigs develop both swollen galls and canker lesions. Extensive infections cause brown foliage and early leaf loss.

### **Disease cycle:**

*Puccinia* survives the winter on cordgrass and marsh grass as resting spores. During warm wet springs, the resting spores germinate and produce infectious spores that blow in the wind. If these spores land on wet ash leaves, petioles and green shoots, they germinate and infect the ash trees. Within a couple of weeks, fruiting structures form on swollen petioles and twigs, as well as on the underside of ash leaves. The wind carries spores from the rust infected ash to nearby marshes where *Puccinia* infects wetted cordgrass and marsh grass plants. By July elongate, blister-like fruiting structures appear on the grass leaves. For the rest of the summer these fruiting structures release spores that repeatedly infect cord or marsh grass. These fruiting structures eventually transform into another type of fruiting body that produces the resting spores that overwinter on the grasses.

### **Management strategies:**

Generally, ash rust disfigures and defoliates trees but it does not seriously threaten their health. Nevertheless, near wetlands where cordgrass and marsh grass grow, repeated ash rust infections weakens ash trees. This makes them more susceptible to winter damage and branch dieback due to opportunistic diseases. Protect valuable trees from these severe infections with timely fungicide treatments. During wet springs, begin the fungicide applications as the buds break open and repeat them at labeled intervals while the foliage develops.

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