

# Fact sheet

## Orange rust

### What is Orange rust?

Orange rust is a systemic fungal disease that affects blackberry, black raspberry, dewberry and purple raspberry. The disease does not usually kill plants, however it weakens and stunts them severely, leading to little or no fruit production. Once infected, plants have the disease for life.

The disease occurs in two different forms with very similar symptoms. One form has a short life cycle and is caused by *Gymnoconia nitens*, while the other form has a long life cycle and is caused by *Arthuriomyces peckianus*. The short-cycled form is most common on blackberry and dewberry while the long-cycled form is most common on black raspberry. The disease is not known to affect red raspberry.

### What should I look for?

Look for the characteristic bright orange spores on the undersides of leaves in spring. These are blister like and waxy at first but soon turn powdery and bright orange. Newly emerging leaves are often stunted, deformed and pale green or yellowish. Heavily infected leaves wither and drop in late spring/early summer. Newly formed infected shoots may appear healthy but are weak and spindly (lack spines). Later in the season, infected canes become bushy with the growth of many short, upright and spindly shoots from the base of the plant that produce little or no fruit.

### What can it be confused with?

Orange rust could be confused with other leaf rusts present in Australia including Blackberry orange rust (*Kuehneola uredinis*) and Blackberry leaf rust (*Phragmidium violaceum*). Blackberry orange rust produces yellow/orange spores on the stems and undersides of leaves. It can be distinguished from Orange rust by the pin-point size of spores and by the fact they also appear on stems and older blackberry leaves in late summer/autumn rather



Bright orange spore-producing fruiting bodies on the undersides of black raspberry leaves

Sandra Jensen, Cornell University, Bugwood.org



Blackberry shoots infected with Orange rust (right) compared to healthy shoots (left)

John Hartman, University of Kentucky, Bugwood.org



Wild blackberry infected with Orange rust showing spindly, elongated and thornless canes

Marc Kummel



Andrew K

Undersides of leaves covered in spore-producing fruiting bodies



Bruce Watt, University of Maine, Bugwood.org

Orange rust fruiting bodies on underside of leaf

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1800 084 881**

than spring. Blackberry leaf rust can be distinguished from Orange rust by the characteristic purple-brown blotches on the upper surface of the leaf with corresponding yellow or black powdery spores on the lower surface of the leaf.

### How does it spread?

Orange rust spread is favoured by cool, wet conditions. In mid-spring, wind and rain-splash spread spores from infected leaves to the leaf surfaces of nearby uninfected plants. In late summer/autumn, a second kind of spore is produced that is black/dark brown. These are also spread by wind and can cause additional infections of shoot tips and buds on rooting cane tips. Leaf, shoot tip, and bud infections eventually lead to permanent infection of the entire plant. Newly infected plants seldom show symptoms until the following spring.

### Where is it now?

*Arthuriomyces peckianus* and *Gymnoconia nitens* are present in Asia, Europe, the United States and Canada.

### How can I protect my farm from Orange rust?

Source plant material from clean, accredited suppliers and preferably material that is certified. Check your farm frequently for the presence of new pests and unusual symptoms. Make sure you are familiar with common caneberry diseases so you can tell if you see something different.

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