



Orange Rust: *Gymnoconia* sp. and *Arthuriomyces* sp.

Introduction

Orange rust is a disease of black berry and black raspberry. Purple raspberry may also become infected, but red raspberry is resistant. This rust occurs in two different forms with very similar symptoms. One form has a long cycle and affects mainly black raspberry, and the other has a short cycle and affects mainly blackberry. *Gymnoconia peckiana* was the name originally given to the fungus that causes orange rust, but some morphological differences were eventually identified between the two forms, and now separate scientific names have



Figure 1: Symptoms on upper leaf surface of black raspberry (provided by S. Jensen, Cornell University)

been assigned to them. The form on black raspberry is caused by a fungus known as *Arthuriomyces peckianus*, while the form more common on blackberry is known as *Gymnoconia nitens*. Orange rust is one of the more serious diseases of susceptible brambles in the Northeast. It should not be confused with the late leaf rust disease of red raspberries.



Figure 2: Sporulation on lower leaf surface of black raspberry (June in New York) (provided by S. Jensen, Cornell University)

Symptoms and Signs

Lower leaf surfaces become covered with blister-like masses of yellow-orange spores by late May or early June. These spores serve to spread the disease to other

plants. In addition, heavily infected leaves may die, and infected shoots will be weak, spindly and have very few, if any thorns.

Disease Cycle

Orange rust is autoecious, meaning that it lacks an alternate host and completes all of its life stages on one host, in this case *Rubus* spp. Orange rust invades the entire plant reducing blossoming and fruit set. Although orange rust does not kill plants, it is systemic in the plant and heavily infected plants are of no value. They will not recover and unless destroyed, will persist as a source of inoculum that may spread the disease to additional plants.

Management Strategies

To control orange rust begin by planting only healthy black raspberry and blackberry stock. Eradicate infected wild blackberries and black raspberries near your raspberry patch. As the rust becomes systemic in the host, remove and destroy infected plants as soon as they appear in the spring. Thin healthy canes and keep weeds down to promote good air circulation which helps prevent spore germination and infection. There are no effective fungicides for control of orange rust at this time.

Created KLS 8/99: Updated SLJ 2/15

READ THE LABEL BEFORE APPLYING ANY PESTICIDE! Changes in pesticide regulations occur constantly. All pesticides distributed, sold, and/or applied in New York State must be registered with the New York State Department of Environmental Conservation (DEC). Questions concerning the legality and/or registration status for pesticide use in New York State should be directed to the appropriate Cornell Cooperative Extension Specialist or your regional DEC office.

The Plant Disease Diagnostic Clinic

Phone: 607-255-7850

Fax: 607-255-4471

Email: kls13@cornell.edu or slj2@cornell.edu

Web: plantclinic.cornell.edu

