

# RUST Control Strategies



## Background:

All species of Rusts are part of the order Pucciniales. White Rust on Chrysanthemums (*Puccinia horiana*) is one of the most well known Rusts. Rusts infect a number of ornamentals and are dependent on a live plant for growth and development. They usually do not kill the host plant but they do lower the health, vigor, flower production and look of the plant.

## Symptoms:

Rust usually first appears as chlorosis on the upper side of leaves. It then produces colored spores in bubbles that are usually on the lower side of the leaf, sometimes they can be on the upper side as well. The bubbles are usually yellow, orange, purple, black or brown in color. When the bubbles die there are large dead areas on the leaf and the leaf becomes distorted and then it usually dies.

## Favorable Development Conditions/Disease Cycle:

The conditions needed for the development of Rust are mild temperatures and moist conditions. The spores are spread by wind and water from an infected plant to another. The spores need a wet leaf surface to cause infection and then spread. The disease cycle for Rust is complicated. Some species of Rust need one host to complete its life cycle, others need 2 hosts. The Rusts that require 2 hosts, the hosts usually have to be less than a mile apart. Some Rusts have as many as 5 different spore stages in their disease cycle. It can take anywhere from 14 to 28 days for Rust to get from infection to spore development.

## Cultural Control:

One way to control the occurrence of Rust is to watch overhead watering. Try to water overhead early in the day so the plants are not wet going into night. Drip irrigation would be a way to go as well. Air circulation around the plants is also a way to keep the leaves drier and less prone to infection. If there is an infection make sure to clean up all infected plants and leaves from the crop when it is gone and then disinfect the area. Crop rotation would be another way to help control Rust as many species are host specific.

## Chemical Control:

There are a number of fungicides that are labeled and are effective for Rust.

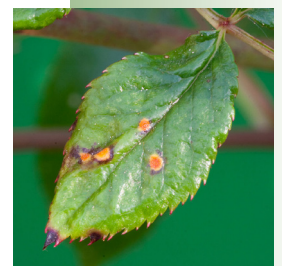


*Always read and follow label directions before applying any pesticide and follow state and local regulations*

*See back for more information...*

**For more information or to place an order**

Please contact your BFG Sales Representative or our Customer Service Team!





## **Heritage** 1lb SYN74240 6lb SYN74818



(Azoxystrobin) Group 11. Caution. 4hr REI. Rate: 1-4oz/100gal. Systemic. Labeled for use in the greenhouse and nursery as well as vegetables and herbs. Do not apply to crabapple, flowering cherry, leatherleaf fern or privet.



## **OHP 6672 4.5F** 2.5gal OHP986125



(Thiophanate methyl) Group 1. Caution. 12hr REI. Rate: 10.75-20oz/100gal. Systemic. Labeled for use in the greenhouse and nursery. Do not use on Swedish Ivy, Boston Fern or Easter Cactus.



## **Banner Maxx II** 1gal SYN39961



(Propiconazole) Group 3. Caution. 12hr REI. Rate: 2-24oz/100gal. Systemic. Labeled for use in the nursery.



## **Eagle 20EW** 16oz DOW173917 1gal DOW19-2505B



(Myclobutanil) Group 3. Caution. 24hr REI. Rate: 6-12oz/100gal. Systemic. Labeled for use in the greenhouse and nursery. Special directions for use on mums. Control may be enhanced with the addition of an adjuvant. Do not apply to Carrotwood.



## **Milstop** 5lb BW1M17B04 25lb BW1M17A06



(Potassium bicarbonate) No Group. Caution. 1hr REI. Rate: 1.25-5lbs/100gal. Contact. Labeled for use in the greenhouse and nursery as well as on vegetables and herbs. Special directions for use on poinsettia, impatiens and pansy.



## **Cease** 1gal BW300100 2.5gal BW1C19A24



(Bacillus subtilis) Group 44. Caution. 4hr REI. Rate: 2-8qts/100gal. Contact. Labeled for use in the greenhouse and nursery as well as vegetables.



## **Daconil Ultrex** 5lb SYN31215



(Chlorothalonil) Group M05. Danger. 12hr REI. Rate: 1.4lb/100gal. Contact. Labeled for use in the greenhouse and nursery. Do not use on Ferns, Schefflera or green or variegated Pittosporum.



## **Pageant Intrinsic** 1lb BAS59012349 12lb BAS59012429



(Boscalid, Pyraclostrobin) Group 7,11. Caution. 12hr REI. Rate: 6-18oz/100gal. Contact. Labeled for use in the greenhouse and nursery as well as tomatoes.