



Chrysanthemum White Rust Alert

Margery Daughtrey, Cornell University

Elizabeth Lamb, New York State Integrated Pest Management Program

Chrysanthemum white rust (CWR) is a fungal disease of chrysanthemums caused by *Puccinia horiana* that can cause severe damage, including complete crop loss due to direct effects of the disease or to quarantine procedures. Pot mums, garden mums and mums grown for cut flowers are all susceptible to the disease. The characteristic symptoms are small white to yellow spots on the upper leaf surface corresponding to pinkish to white pustules on the lower leaf surface. Early infestations may be hard to identify. Train workers how to identify CWR so that any outbreaks can be identified early before they spread through the crop. The disease is very contagious within a mum planting, and can be spread to other plantings by the wind during rainy weather.

For more information on identifying and preventing chrysanthemum white rust, additional references are available at:

<https://nysipm.cornell.edu/agriculture/ornamental-crops/pest-alerts/chrysanthemum-white-rust>

Prevention is the best method of control. Buy cuttings from a reliable source. Inspect them when they come in and regularly thereafter for symptoms of white rust. Water with drip tapes or individual emitters if possible to avoid splashing spread via overhead irrigation. Do not keep any decorative plantings of chrysanthemum on your property from year to year.

Infected plants may not show symptoms until the plants are in the proper environment. Cool weather (**40-73 F**), high humidity (**over 75%**) and wet foliage for at least 5 hours promote the development of CWR. If temperatures stay above **73 F** and no rainfall is predicted, no treatment is necessary. If rainfall is predicted for a 24-hour or longer period and the temperatures are expected to be near or below **73 F**, **preventive** fungicide treatment is prudent even on crops that appear healthy.

Many weather websites provide temperature and precipitation forecasts based on your zipcode or a nearby airport. Some options are:

- Network for Environment and Weather Applications (NEWA) - <http://newa.cornell.edu/>
- Local weather forecast- <http://www.accuweather.com/>
- National and local weather forecast - www.weather.com/

When using rust fungicides preventively, rotate among active ingredients and FRAC codes. Use contact (e.g. chlorothalonil and mancozeb) as well as systemic (strobilurin and DMI) materials within the rotation. Follow all label precautions regarding whether treatments are recommended for plants in flower.

Preventative treatments for CWR include the following:

Active Ingredients	Examples of products	Activity against rust	FRAC code
azoxystrobin	Heritage	systemic	11
azoxystrobin+benzovindiflupyr	Mural**	systemic	11 + 7
boscalid+pyraclostrobin	Pageant Intrinsic	systemic	7 + 11
chlorothalonil	Daconil	contact	M5
chlorothalonil+thiophanate-methyl	Spectro	contact+systemic	M5 + 1
fluoxastrobin	Fame SC*	systemic	11
trifloxystrobin+triadimefon	Trigo	systemic	11 + 3
mancozeb	Dithane, Protect	contact	M3
myclobutanil	Eagle*	systemic	3
propiconazole	BannerMAXX	systemic	3
pyraclostrobin+fluxapyroxad	Orkestra*	systemic	11 + 7
triadimefon	Strike	systemic	3
triflumizole	Terraguard	systemic	3

*not labeled for use in Nassau and Suffolk Counties, Long Island

** not labeled for use in NY

For additional information on fungicides for rust management, check the following publication: **2017-2018 Cornell Guide for the Integrated Management of Greenhouse Crops Herbaceous Ornamentals. Chapter 4: Biology & Management of Diseases of Greenhouse Crops (Rusts)** - <https://store.cornell.edu/c-875-pmep-guidelines.aspx>

Remember to check the label for specifics of use.

Because chrysanthemum white rust is a Federally regulated pest, you must contact your state horticulture Inspector if you suspect your plants are infected.

Early symptoms on top of leaf



Early symptoms on bottom of leaf

