



Greenhouse TPM/IPM Weekly Report
University of Maryland Cooperative Extension
Central Maryland Research and Education Center

From: Stanton Gill, Regional Specialist and Karen Rane, Plant Pathologist
Ginny Rosenkranz, Chuck Schuster and Brian Clark, Extension Educators
Suzanne Klick and Shannon Wadkins, Technicians, Maryland Cooperative Extension
John Speaker, Independent IPM Scout

July 11, 2008

Specialty Cut Flower Summer Tour
July 29, 2008
Harman's Farm & Brad's Produce
Churchville, MD

**Topics include: Insect Identification and Control,
Raised Bed Preparation, and Irrigation Installation**

**Program goes from 8:00-12:00 Cost per person is
\$10**

For registration information call 301-596-9413

Chrysanthemum White Rust, *Puccinia horiana*

The Society of American Florists and the American Nursery and Landscape Association have designed a training session on Chrysanthemum white rust (CWR). It includes **excellent photographs** of symptoms and offers important advice on how to avoid CWR in your 2008 crop. The presentation is available on SAF's website, www.safnow.org on the top right hand corner under Grower Alert, and on ANLA's website, www.anla.org.

The following information was found in the presentation prepared by Jane Trolinger, Ph.D. Yoder Brothers, Inc.

Chrysanthemum White Rust is not established in the US or Canada, and is considered a quarantine significant disease in both countries. If you find CWR, you are required to inform USDA, CFIA, state, or county regulatory officials. Maryland has reported outbreaks in two to three years since 1977.



Photo courtesy of the Maryland Department of Agriculture

The host range covers 12 species of chrysanthemums including susceptible pot mums, garden mums, and cut mums. One probable source of CWR is imported chrysanthemum cut flowers. Imported flowers should never be handled in or near mum-growing facilities because they can be infected and not show symptoms or signs.

The first symptoms are yellow spots on upper leaf surfaces. These are followed by pustules which commonly develop on the undersides of young leaves. The pustules start out pinkish and turn a waxy white. Do not confuse this disease with Brown Rust or Chrysanthemum Rust (*Puccinia tanacetii*) which causes chocolate colored pustules. Brown Rust can be found in the U.S. and rarely causes heavy losses.

Chrysanthemum White Rust is spread by spores which float through the air, or are carried by humans or by water, from an infected plant or flower to a new plant or flower. There are two kinds of spores, teliospores and basidiospores:

- **Teliospores** are produced in the pustules and remain there unless aggressively brushed off. They can last for 8 weeks on dried leaves. Produce the basidiospores when conditions are moist for 3 hours (optimum temperature is 63°F).
- **Basidiospores** can be spread from plant to plant by splashing water and human handling. They can cause an epidemic if the conditions are right. Infection can occur in 2 hours at optimum temperature of 63°F. You must have film of water on the plant surface for infection.

Preventative fungicides include: Heritage (azoxystrobin), Daconil Ultrex (chlorothalonil), Cygnus (kresoxim-methyl), Dithane 75 DF (mancozeb), Strike (triadimefon), and Terraguard (triflumizole).

Cold Temperature Poinsettia Production

Ecke Ranch held a web seminar last week on *Energy Efficient Poinsettia Culture*. A summary of this presentation including specific production guidelines can be found on their website at www.ecke.com

Here are some of the highlights...

This method offers growers the ability to reduce production costs and increase profitability. Ecke varieties grown cool over traditional programs realized a savings of 21% in an energy efficient greenhouse.



In addition to reduced energy requirements, there are other benefits to producing poinsettias cold: less growth regulation is necessary, bracts are tighter with enhanced color, cyathia are larger and retained longer, and the plants can better withstand shipping.

Crop scheduling and variety selection are crucial. Choose varieties that initiate early, are naturally vigorous, and have large bracts. **Ecke's recommended varieties for cold production include:**

- Advent™ Red
- Early Joy™ Red and Pink
- Freedom™ Early Red, White, Pink, and Marble
- Jester™ Red, White, Pink, Marble, and Jingle
- Freedom™ Red, White, Pink, Marble, Salmon, Peppermint, and Jingle Bells
- Festival™ Red, White, Pink, and Rose
- Prestige™ Early Red
- Autumn Red™
- Red Velvet™

Colder finishing temperatures can cause a 1-3 week delay in finishing times. **Schedule crops to plant and pinch 1-2 weeks earlier than normal.** The slower growth rate will affect nutrient and moisture uptake. All cultural aspects of production will need to be adjusted accordingly. Soil moisture and pH and EC levels should be monitored very closely.

Scouting Reports

We have been seeing lots of leafminer activity this year on a wide variety of crops including rudbeckia, marigolds, dahlias, and cleome. This week scouts are reporting leafminers on sweet basil and Magellan zinnias.

Remove leaves containing larvae as soon as possible to reduce the population of egg-laying adults that will emerge. If you let this chore go, activity will escalate dramatically and the leaf-picking will only take longer.

Controls include: Avid (abamectin), Azatin (azadirachtin), Safari (dinotefuran), Orthene (acephate), TriStar (acetamiprid), Astro (permethrin)



Leafminer on Basil

Scouts are also reporting smartweed caterpillars, *Acrionicta oblinita* (Noctuidae family) on peonies; Geometridae larvae (loopers and inchworms) on zinnias and dahlias; and high populations of thrips- especially on impatiens, gazanias, and verbena.



Smartweed Caterpillar on Peony



Geometridae Larva on Dahlia

2008 ASFG Trap Plant Trial

We are seeing a lot of insect activity in the cut flower plots here at CMREC including saltmarsh caterpillars, grasshoppers, and Japanese beetles on zinnias; lacebugs on sunflowers; leafhoppers on zinnias and sunflowers; and tarnished plant bugs on snapdragons and cleome. Brian Clark, Extension Educator in Prince George's County, also sent in a photo of yellowstriped armyworm (*Spodoptera ornithogalli*) from his trial plots down in Clinton.



Yellowstriped Armyworm
Photo Courtesy of Brian Clark



Tarnished Plant Bug on Cleome



Lace Bug on Sunflower



Saltmarsh Caterpillar on Zinnia



Leafhopper on Sunflower

Hemipteran Pests of Cut Flowers

We are continuing to see *Cosmopepla lintneriana*, also known as the twice-stabbed stink bug, on the snapdragons and cleome in our cut flower plots. Don't confuse this red and black Hemipteran with the harlequin bug, *Murgantia histrionica*, another pest of snapdragons and cleome. Harlequin bugs should be showing up soon- we have seen one adult so far. Look for their white and black striped barrel-shaped eggs on the undersides of the leaves.



Cosmopepla lintneriana



Adult Harlequin Bug



Harlequin Bug Eggs