



Green Industry News

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CALENDAR OF EVENTS

- Pond Management Evening Program**
July 24, 2001
- Perennial Plant Symposium**
July 29 - August 4, 2001
- MDA Nutrient Management Certification Test**
August 3, 2001
- Cut Flower Growers Conference**
August 7, 2001
- Cut Flower Growers Tour**
August 8, 2001
- MGGA Conference on Nutrient Management**
November 7, 2001
- Details begin on page 6

CONFERENCE INFO ON-LINE AT
<http://www.agnr.umd.edu/users/ipmnet>

Gypsy Moth - Back With A Vengeance Stanton Gill

Guess what insect is back? The gypsy moth that was such a major problem in the mid to late 1980's has returned and is doing nicely, thank you. Four years ago the Maryland Department of Agriculture's Gypsy Moth Division was treating only 4000 acres in Maryland that were mainly on the Eastern Shore. In 2000, the area that

required treatment expanded to 18,000 acres. This year, 49,000 acres in 14 counties will receive an aerial treatment of either Bt or Dimilin. MDA defines an area with 250 eggs masses per acre as the numeric threshold for treating gypsy moth populations.

Washington and Allegheny counties have the worst population of gypsy moth in 2001. The gypsy moth situation on the Eastern Shore looks pretty good this season with the exception of Dorchester County. Meanwhile in central Maryland we are receiving reports of gypsy moth activity in various parts of Montgomery, Frederick, Carroll, and Prince George's counties.

Besides Bt and Dimilin for the early instars of gypsy moth, what else can be safely used? Confirm by Dow Agro Science (formerly Rohm and Haas) is one of the new low risk pesticides that control later instar

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stages of caterpillars. Conserve also has a label for caterpillar control and has worked well on later instar caterpillars. If you need an update on the life cycle or control options for gypsy moth, write to us and request the MCE fact sheet entitled "Gypsy Moth."



Gypsy moth 1st instar larvae webbing over the top of a spruce tree in Montgomery County.



Larvae of gypsy moth feeding on spruce foliage.

White pine attacked by unusual pest

Stanton Gill

On May 8 we received a sample of new candle growth of white pine from the Gaithersburg, MD area that was being fed on by several small black beetles. My first reaction was "Hey! We finally have pine shot beetle in Central Maryland." Wrong! It was a beetle in the same family but one that has been around for a while. It is called the Pine cone beetle (*Conophthorus coniperda*). These beetles normally feed on pine cones but when pine cones are in short supply they will feed on new emerging candles of pines. We received in a second white pine sample from the Darnestown, Maryland area with the same species of beetle also damaging new growth. Look closely at the tip growth on white pine. If you find that it has been tunneled-out then the pine cone beetle may have been active in May. By this time, the damage has been done and it is not extensive. Control is not necessary.

Winter Damage Still Being Seen

Stanton Gill

A dry October and November followed by a cold, 'snow-impaired' winter has damaged many plants in the landscape in 2001. We are still receiving samples of American holly, foster holly, Leyland cypress, rhododendrons, laurel, and horizontal junipers and shore junipers with browning growth.

A really puzzling problem is the browning of the horizontal junipers and shore junipers. We have received in dozens of samples from landscapers who are seeing whole branches dieback this spring. Several landscapers say the damage looks like injury from the fungus *Kabatina*. David Clement (pathologist at HGIC) has examined several samples but could not find evidence of the fungus *Kabatina*. So far, we are saying this is winter injury on juniper.

Stanton Gill is a regional specialist at the Central Maryland Research and Education Center, Ellicott City, Maryland.

Rose Rosette Disease

Bryan Butler

If you notice bright red foliage on multiflora rosebushes in your travels, it is a good thing. The red coloration is a symptom of Rose Rosette Disease (RRD), which is also known as *witch's broom of rose*. This disease is fatal to multiflora rose and may serve as a biological control for this troublesome weed. This disease has been moving across the country from the west for many years. It has finally moved into western and central Maryland and appears to be gaining a foothold here. This virus disease is transmitted by a small eriophyid mite (*Phyllocoptes fructiphilus*). This four-legged mite is so small that twenty could stand side by side on a pinhead. These small mites build up into large populations on primarily multiflora rose plants, feed on the foliage, and then move out to the edges of the leaves and balloon in the wind to another multiflora rose thus spreading the

disease as they feed. The bright to dark red mosaic pattern begins to develop on the foliage about 30 days after the mites begin to feed. The pattern will usually follow the veins of the leaf but can also be blotchy spots on the leaves. About 90 days after infection the plant will begin to produce numerous lateral shoots. These shoots are bright red and quite long with foliage that is somewhat stunted.

In the following spring the infected red shoots are very tender and susceptible to frost damage. The foliage on these shoots is stunted and in tight clusters. These clusters will ultimately provide a protected site for the overwintering mites. The disease will take some time to kill the infected plant but it will inevitably die.

RRD can infect some ornamental roses. However, no ornamental rose appears to be as susceptible to the disease as multiflora rose. RRD may cause more problems on antique roses than modern roses.

RRD does not spread rapidly throughout the rose. Likewise, the mite and its offspring don't always balloon from cane to cane. In fact, mites frequently breed in one protected area and their offspring may remain nearby simply because the conditions favor their development. Relatively cool, moist conditions exist with sufficient plant material to provide food for promoting future mite generations.

Therefore, if your rose has several good canes and shows the disease on only one cane, you might be able to stop the spread of the disease by quickly removing the infected cane in its entirety. That means not just the stem or lateral showing the disease, but the entire cane to which it is attached. The remainder of the rose and those roses in the area should be monitored and treated for mites.

It appears that the only pesticide that is effective at controlling *Phyllocoptes fructiphilus* is Dimethoate (Cygon®). Although carbaryl (Sevin®) was also tested, it was only partially effective. This is based on work being done at Texas A & M by Dr. George Philley. Dimethoate or carbaryl should be applied per label directions, despite the fact this pest is "no ordinary mite."

Mites frequently pass between plants by crawling or blowing from one plant to another. Evidence suggests pests and diseases are lessened when intermixing different species of plants.

When purchasing a new plant from an unknown nursery, either directly or through the mail, consider potting it up in a container for a few months to determine if the plant is pest and disease free. The plant should be confined to an area away from other plants, especially if they are from the same genus.

Bryan Butler is an Extension Educator with Maryland Cooperative Extension in Carroll County.

Ornamental Ponds

Ginny Rosenkranz

Ornamental ponds are all the fashion in large and small landscapes. They can range from extremely expensive to fairly affordable, depending on the size and the design of the pond. Usually, the smaller the pond, the more affordable it will be to install. Pool liners - flat pieces of rubber-like material - can be used to create a pond in any size or shape or depth, while a preformed pond is pre-determined in shape and size.

If fish are to be introduced, the pond should have a depth of at least 24 inches so the fish will have the opportunity to be cool in the summer and not freeze in the winter. Create a small 'cave' by setting out two cinder blocks at least one foot apart, and place a flat stone on top of the cinder blocks. This provides a place for fish to hide in case of herons, cats, dogs and other pond pests. Fish add color, movement and mosquito control to a pond, but be sure to add only the number of fish that can live comfortably in the size pond.

Before installing a pond, be sure to consider the following. First, a pond will need to be where it will be enjoyed the most. Place it near or beside a patio or a deck where it can be enjoyed for the sight as well as the sound of the water. If the pond is placed away from the home, be sure that there is easy access to the area, and build a sitting area nearby.

Second, be sure that the area receives at least five to six hours of full sun. Trees will cast shade as well as shed their leaves into the pond, creating more cleanup in the spring and fall. Netting can be spread over the pond in the fall to catch many of the leaves, but that can be a difficult job. The less sunlight a pool has, the less the flowering plants in the pool will bloom.

Third, add a biological filter to the pond. Biological filters can be added as a part of a waterfall or as a way to circulate water from one end of the pond to another. They remove many of the excess nutrients that the fish deliver into the pond - another reason to limit the number of fish. Place the pump for the filter at the opposite side of the pond from the waterfall to achieve the best circulation of water in the pond. There are a number of biological additives that help keep the pond water clear that are available in pond stores, but keep in mind that they have a limited shelf life, and will only work well if they are fresh.

Fourth, and possibly most important, add plants to the pond. Plants provide food and cover for the fish, and provide shade that slows the growth of the algae that turn the water a murky green. If two-thirds of the pond surface is covered with water lily leaves and submerged plant leaves, the water in the pond will stay clear. Brown water is usually caused by muddy sediments at the bottom that are stirred up by fish or by the water filter pump. If there is only a small amount of sediment at the bottom of the pond, a pond product can be added that causes the sediments to sink to the bottom of the pond. The best way to handle brown water is to clean the pond in the spring of all the dead plant debris. Black water is caused by leaves that land in the pond and decompose in the water.

Clean out the dead leaves in the fall or early spring. Some water lilies give off an oily film as their leaves die and decay. The oil can be removed by adding a sheet of newspaper to the surface, and pulling it off after a few seconds. Ponds should be cleaned out in the early spring while the water is still cold and the plants are dormant. If an early spring cleaning is not possible, take

a few precautions. Place water lilies and other plants in large tubs of water and place the tubs in the shade. Pump out some of the water into another large tub for the fish, and place a screen on top to keep the fish from jumping out. Pump the rest of the water out of the pond until only the sediment is left. With a soft broom or brush, sweep the sediments into a pile and remove from the pond. With a hose, wash and scrub the sides and bottom of the pool, and pump out that water. Clean out all the parts of the biological filter and clean the rocks and waterfall. When the pond is clean, add fresh water and place the plants back in their spots while the pond is filling up. If the water has chlorine in it, let the pond sit for 24 hours before adding the fish. Plug in the water pump, sit back and enjoy the beautiful pond!

For more information on ponds, call your local Extension office and ask for H&G Mimeo #17, *Aquatic Gardening: Construction and Maintenance*.

Ginny Rosenkranz is an Extension Educator with Maryland Cooperative Extension for Wicomico, Worcester and Somerset counties.

POND MANAGEMENT SEMINAR

JULY 24, 2001 from 4:00 to 8:30

at the

Central MD Research & Education Center
11975 Homewood Road
Ellicott City MD 21042

Topics: New ornamental pond insect control options
Fish care for ornamental ponds; Dealing with mosquitoes in small ponds; Controlling submerged vegetation and algae; Alternative methods for controlling algae; Using plants effectively

Pesticide recertification credit for aquatics in MD, DC, DE, WV, VA and PA

Fee: \$20 for MNLA, LCA and FALCAN members; \$25 for non-members

For more information:

Suzanne Klick at 301-596-9413

Production/ Postproduction Factors For Alstroemeria

Thomas M. Blessington, David L. Clement, and Susan
M. Tater

Introduction

- Scientific name: *Alstroemeria*
- C Common names: Peruvian lily, Incan lily, Alstroemeria
- C Native to South America
- C Has become a major cut flower
- C Also used as a potted flowering plant for interior environments and as a herbaceous landscape plant in mild climates
- C Flowers are simple or compound
- C Color range is white to dark yellow, to various pinks, violets, purples, and reds with intricate throat markings

Growth and Development

- C Flowering is controlled by the temperature of the rhizome
- C Plants will flower for extended periods at different temperatures if the growing substrate is kept at a temperature of 60EF
- C Forcing temperature should be a steady 55EF
- C Flower shoots are initiated at temperatures of 48-55EF
- C At 70EF, rhizomes were found to be devernalized, and only vegetative roots were produced
- C Greenhouse night temperature range is 50-55EF, day temperature range in the winter is 60-65EF
- C During the summer, substrate mulches should be used to reduce substrate temperature
- C Monitor substrate temperatures and apply mist to cool substrate down
- C Responses to temperature and light vary with cultivar
- C Photoperiodic incandescent light has been shown to induce early flowering
- C Long day photoperiods have decreased flower production

- C Provide 600 foot candles (fc) in a 16 hour photoperiod
- C Grow plants with low substrate moisture
- C Too much water will cause root rot
- C Avoid overhead watering
- C Perimeter irrigation is the most common form for cut flowers
- C Potted plants can be irrigated in a variety of automatized forms
- C Rhizomes should be planted in a loose well-drained substrate for both potted and cut flower production
- C For cut flower production, the substrate should contain peat, perlite, sand, calcine clays, and organic and inorganic amendments
- C Sterilize sand to eliminate pathogens
- C Beds are 12-16" or more deep
- C For cut flower production plants are spaced 5-24"
- C Pinching and disbudding are not needed
- C A minimum of three to four layers of support netting are required for cut flower production
- C For cut flower production, plants can be planted in spring, summer, and fall
- C The date selected for planting depends on the cultivar and the production schedule
- C Potted plants are grown in 6-7" pots
- C Plants flower from 90-120 days after planting
- C Apply 20-10-20 at 200 ppm N at each watering

Propagation

- C Grown from division using rhizomes, seeds, and tissue culture
- C Rhizome division is more common for cut flower production
- C Tissue culture can be used for potted plants and cut flowers
- C Replant every 2-4 years

Disorders

- C **Common problems**
 - Flower abortion occurs when light levels are low

- C **Diseases**
 - Botrytis can become a problem when air movement is reduced and plants remain moist after irrigation
 - Alstroemeria mosaic virus
 - Destroy infected plants
- C **Pests**
 - Aphids, Slugs, and Thrips

Consumer Care

- C Fertilize with 20-10-20 at 50-100 ppm N once a month
 - C Preservatives with high sugar content may cause foliage yellowing
 - C Potted plants should be harvested when one or two flowers open
 - C Plants can be safely shipped for 4 days at 50EF
 - C Under normal interior light, plants last 16-19 days
 - C Flowers are sensitive to ethylene
 - C Recut stems upon arrival
 - C Frequent contact with plant sap may cause skin rash
- Thomas Blessington and David Clement are regional specialists and Susan Tater is a technician at the Central Maryland Research and Education Center, University of Maryland, in Ellicott City, MD.*

Calendar of Events

July 24, 2001

Pond Management Evening Program

Co-sponsored with Maryland Nursery and Landscape Association, Landscape Contractors' Association and FALCAN

Location: CMREC, Ellicott City, Maryland

Fee: \$20 for members of MNLA, LCA and FALCAN; \$25 for non-members.

Contact: Suzanne Klick, 301-596-9413

July 29 - August 4, 2001

Perennial Plant Association (PPA) Symposium

Location: Hyatt Regency, Crystal City, VA

Contact: PPA at 614-771-8431

August 7 and 8, 2001

Cut Flower Growers Conference and Tour

Co-sponsored by the Maryland Greenhouse Growers Association (MGGA) and the Association of Specialty Cut Flower Growers (ASCFG)

Location: The August 7th conference will be held at the Timonium Fairgrounds. Buses for the tours will leave from the Timonium Fairgrounds on the 8th.

Contact: Suzanne Klick at 301-596-9413

August 7th Agenda:

- Native & herbaceous perennials for cut flowers
- Deciding whether to direct seed or use plugs for summer crops: What has performed well for us
- Planting methods to reduce losses for cut flower annual production
- Cut flowers species that have outstanding fragrance
- How and when to divide herbaceous perennials for cut flowers
- Bulbs and other crops usually done in a greenhouse that can be done in the field
- Nutrient management plan for cut flower growers how one was done
- High tunnel production to extend the cutting season
- Contract growing for cut flowers
- Marketing cut flowers

Conference Registration fee (Lunch included):\$25

for members of MGGA and ASCFG; \$30 for non-members; \$35 for everyone after August 1, 2001 (*Lunch is not guaranteed after deadline*)

August 8th Cut Flower Tours: Flowers by Bauers,

Watercolor Lavender Farm and Foxborough Nursery

Tour Fee: \$40 for members of MGGA and ASCFG; \$45 for non-members. The registration deadline is August 1, 2001.

Make checks payable to: University of Maryland

Send to: Cut Flower Programs, 11975 Homewood Road, Ellicott City, MD 21042

November 7, 2001

MGGA Nutrient Management Seminar

Location: To Be Determined

Contact: Hank Doong, 301-249-1700

MDA 2001 Pesticide Container Recycling

Collection Dates and Locations

9:00 a.m. to 3:00 p.m.

Nicholson Transfer Facility on Earl Nicholson RD

July 9, August 6, September 4

MidShore Regional Solid Waste Facility on

Barker's Landing Road - July 13, August 10, September 7

Wicomico County Landfill on Brick Kiln Road July

20, August 17, September 14

Scarboro Landfill, 3241 Scarboro Road - July 17,

August 14, September 11

USDA Research Center, Bldg. 302, Visitor Center

on Powder Mill Road - July 27, August 24, September 21

St. Andrew's Landfill, Rt. 4 (St. Andrew's Church

Road) - July 2, August 1, September 6

Frederick County Landfill, 9031 Reich's Ford RD

July 24, August 21, September 18

Southern States Oakland Coop., 1862 Maryland

Highway - July 23, August 20, September 17

Martin's Elevator, 13219 Maugansville Road

July 10, August 7, September 4

Please Note:

Because of legal restraints only residents from Caroline, Kent, Queen Anne's and Talbot Counties are able to use the collection site at Easton. Lower shore residents must use the collection site in Salisbury.

Frederick County has agreed to allow residents from outside Frederick County to submit empty pesticide containers for recycling, but **NO TRASH** from outside of the county will be accepted at the landfill under any terms.

The information given herein is supplied with the understanding that no discrimination is intended and no endorsement by Maryland Cooperative Extension is implied.

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