



**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,  
and John Speaker, Independent IPM Scout

**January 18, 2008**

**5th Annual Chesapeake Green Horticulture Symposium**  
**February 6 & 7, 2008**  
**Maritime Institute, Linthicum, MD**  
**Contact MNLA at 410-823-8684 for registration information**

**Bulbs**

Brent Heath from Brent and Becky's Bulbs was the guest speaker at the Maryland Cut Flower Growers' meeting this week. He provided some very useful information on planting methods and cultural practices for growing bulbs. For more information you can visit their website at [www.brentandbeckysbulbs.com](http://www.brentandbeckysbulbs.com)

Bulbs root best at 50-60° F. They can go below 50° F, but will not root as well. It takes about two weeks for roots to form at temperatures between 50-60° F. After roots have formed, the bulbs are not susceptible to freezing damage.

Daffodils last much longer when they are picked rather than cut. For longevity the best time to pick daffodils is when they are just beginning to open and have some color. Mass producers often harvest too early when they are in the "pencil" stage. While not the best, picking at the "goose neck" stage is more acceptable. Cut daffodils should be placed in their own water for an hour before combining with other flowers. They do not benefit from adding floral preservative to the water.

Most bulbs perform best in full sun locations. However, some bulbs like Spanish bluebells actually prefer shady woodland areas. Daffodils planted in the shade will look good for the first year and then the blooming will decrease with each passing season.



Brent says that you do not need to dig up your bulbs and divide them every 3-5 years. If you notice a decrease in blooming, it may be an indication that you need to improve your soil. Brent recommends adding 2-3" of compost annually. He uses compost made from peanut shells and pine fines.

Brent lays his bulbs out on top of the 2-3" of compost, spaced 3 times the bulb width apart. He says that it does not matter if the bulbs are planted right side up or not because they will naturally correct themselves. He then covers them with a layer of mulch 3 times as deep as the height of the bulb. Note: tulips should be covered 4 times as deep as the height of the bulb. Lilies and gladiolus bulbs should also be planted deep.



Bulb plants will topple over when they don't receive enough light, or when they don't have enough roots. To keep bulb plants from stretching, give them bottom heat at 70° F and an air temperature between 50-60° F. Placing artificial lighting 1 foot above the plants also works (this will help to keep them straight too). Researchers at Cornell University have found that giving bulbs a 5 % alcohol solution will keep them from stretching as well.

Don't plant spring flowering bulbs when it is too hot. Keep them below 60° F. It is best to plant them in October- November. Be sure to water them after planting because they will not initiate roots in dry soil. Don't plant summer flowering bulbs when it is too hot. Keep them above 60° F. For example, Caladiums should not be planted until the soil temperature reaches 70° F.

You do not need to wait until daffodil foliage turns completely brown to remove it. You may safely cut the leaves off when they begin to yellow- about 6 weeks after blooming. At this point the bulb has stored its food for the following year and is beginning to shut down. Some gardeners like to tie up their daffodil foliage immediately after they have finished blooming. However, this is not recommended because the foliage does not receive the proper amount of sunlight. This practice will reduce the amount of food that is stored in the bulb for the following growing season. Hybridized daffodils won't produce seeds. They 'perennialize', but do not become naturalized.

Bulbs in the Amaryllis family such as daffodils and snowdrops are "critter proof". Deer, rabbits, and voles will leave them alone. Bulbs in the Ranunculus family are "critter resistant".

Brent does not recommend using bone meal on bulbs. In addition to attracting wildlife, he says that it is very high in phosphorus but contains little nitrogen or potassium. Wood ash is good for bulbs, but should not be applied every year because it can raise the pH up too high over time.

Anemones have very long-lasting blooms. Soak the bulbs overnight before planting. They will plump up, making it hard to tell the top from the bottom. Plant them on an angle so the roots will grow down.

Bulbs are prone to *Fusarium* rot and need good drainage, especially during their summer dormancy period. It is best to plant them on raised beds. If you are looking for something that can be grown in a boggy area, try fritillaria bulbs.

Putting bleach in the water with cut alliums will help to keep the garlic odor from being too overpowering.

### **New Labor Forms**

As of December 26, 2007 federal regulations now require employers to use new employee I-9 verification forms, and disallow the use of several types of documents to verify worker eligibility. The new I-9 forms, beginning today, are required for all new hires and those workers who need to be verified again. The new form and additional information is available online at [www.uscis.gov](http://www.uscis.gov). There are penalties for failure to use the new form, so make sure you have the info you need before hiring any new workers.

### **Scouting Reports**

Mealybugs are being seen on sage, coleus, kalanchoe, ivy, and myrtle this week. Aphids are showing up on spider plants, ivy, asparagus fern, hibiscus, kalanchoe, hydrangea, ornamental peppers, gerbera daisy, spinach, and kale. Mites were observed on ivy. Whiteflies are being reported on ornamental oregano. Brown soft scale was seen on spider plants and myrtle. Downy mildew was found on hydrangea. Powdery mildew was reported on rosemary.



**Mealybugs on Coleus**



**Longtailed Mealybug on Myrtle**



**Green Peach Aphid on Hydrangea**



**Parasitized Aphid Mummies**



**Wax-covered Cabbage Aphids on Kale**



**Twospotted Spider Mite on Ivy**



**Greenhouse Whitefly Pupa**



**Adult Greenhouse Whitefly**



**Brown Soft Scale on Spider Plant**



**Downy Mildew on Hydrangea**

### **Chemical Guidelines**

The Department of Homeland Security has made changes to their Chemical Guidelines since our last news release went out. The following is from the January 8<sup>th</sup> issue of the AgAnswers newsletter from Perdue and Ohio State. To read the entire article, go to:

<http://www.agriculture.purdue.edu/aganswers/story.asp?storyID=4736>

“The Department of Homeland Security announced a delay that exempts farmers and other agricultural facilities from having to complete a vulnerability screening. This extension applies to crop, fruit, nut and vegetable farms; ranches and rangeland; poultry, dairy, and equine facilities; turfgrass growers; golf courses; nurseries; floriculture operations; and public and private parks. It is important to note agriculture fertilizer dealers and pesticide dealers are not exempt and must complete the vulnerability assessment by the Jan. 22 deadline.”

## Submitting Samples to the Plant Diagnostic Laboratory

Diagnosing plant disorders can be a daunting task. In many cases, specialized equipment or techniques are necessary to determine the presence of infectious plant diseases. The University of Maryland Plant Diagnostic Laboratory (PDL) is here to help. Established in 1979, the PDL has a long, distinguished history of providing plant disease and insect diagnostic services to commercial growers, green industry professionals and Maryland Cooperative Extension educators. The new director, Karen Rane, has many years of experience in plant disease diagnostics in horticultural crops, and aims to continue the excellent tradition established by the previous director, Ethel Dutky.

The laboratory provides plant problem diagnosis for all crops. Most diagnoses are based on microscopic examination of the specimen and visual identification or culture of plant pathogens such as fungi, bacteria and nematodes. Identifications of plants, insects and mites attacking plants are also performed. Some specimens are referred to specialists in other departments or other institutions for diagnosis. Samples requiring nematode analysis are forwarded to the Plant Nematology Laboratory (<http://www.nematology.umd.edu>) which is located next to the PDL.

Specimen Submission Forms are available from the pull-down list at the top of the Lab website, <http://www.plantclinic.umd.edu>. Fill out the form as completely as possible, including the symptoms observed, percent of plants affected, timing of symptom development, and include your contact information. It is important to list the pesticides used on the plants, and the date of application, because fungicides can sometimes interfere with microbial tests. The more information we receive about the crop, the more accurate the diagnosis will be. Entire plants that show a range of symptom development are the best samples for diagnosing disease problems. Place potted plants in plastic bags fastened at the base of the stem, to keep the potting mix contained around the roots and off of the foliage. Wrap plants in dry newspaper, and ship in a crush-proof container with plenty of packing material to keep plants secure and insulated from cold temperatures during shipment. Send samples as soon as possible after collecting – store in a cool place if shipment must be delayed. Use next-day or 2<sup>nd</sup> day carriers, with weekday delivery, to minimize decay of the plant samples during shipment. Send samples to:

UMD Plant Diagnostic Clinic  
Department of Entomology  
4112 Plant Sciences Building  
College Park, MD 20742-4454

Samples can also be dropped off at the laboratory on the College Park campus. The PDL is located in Room 3171 of the Plant Sciences Building. The telephone is 301-405-1611. The FAX is 301-314-9290. Feel free to call or send an email to Karen Rane at [rane@umd.edu](mailto:rane@umd.edu) for more information.

**The staff of the UMD Plant Diagnostic Lab look forward to serving you!**

## “Update Your Nutrient Management Plan”

Have you updated your nutrient management plan for the upcoming cropping season? Do you have questions? Do you need help getting started? Do you need a little software refresher? Maryland Cooperative Extension’s (MCE) Regional Nutrient Management Specialists will be available to assist you with updates to your nutrient management plan and the nutrient management planning software *NuMan Pro*. The sessions will be informal and participants will work at their own pace. You are welcome to arrive at a time that is convenient for you and stay until the end of the session if necessary.

### WHAT SHOULD YOU BRING?

- a copy of your most recent nutrient management plan
- your *NuMan* or *NuMan Pro* file on 3 ½ inch floppy disk or CD-ROM
- soil test results no older than Fall 2005
- a recent manure analysis (if manure is applied to your land)
- knowledge of what crops are planned for the 2008 cropping season
- a record of manure applications made in the 2007 cropping year

### WHAT WILL BE PROVIDED?

Lap top computers equipped with *NuMan Pro* software, printers, and technical support to make the updating process quick and easy.

**REGISTRATION INFORMATION:** Registration is mandatory to ensure an adequate number of computers are available. Each session will be limited to 6 participants so register early. There is no fee to attend these sessions. **Note:** Continuing education credits are not available for these sessions.

<b>Date</b>	<b>Time</b>	<b>Location</b>	<b>Contact Person</b>
Jan 16, 2008	9:30am-1:00pm	Wye Research & Education Center, Queenstown, MD	<b>Heather Hutchinson</b> 301-432-2767 Ext. 339 <a href="mailto:hhutchin@umd.edu">hhutchin@umd.edu</a>
Jan 24, 2008	9:30am-1:00pm	Wye Research & Education Center, Queenstown, MD	Heather Hutchinson
Jan 31, 2008	9:30am-1:00pm	Frederick County MCE office	<b>Lief Eriksen</b> 301-432-2767 Ext. 342 <a href="mailto:geriksen@umd.edu">geriksen@umd.edu</a>
Feb 6, 2008	9:30am-1:00pm	Baltimore County MCE office	Lief Eriksen
Feb 7, 2008 (Snow date is Feb 11, 2008)	9:30am-1:00pm	Charlotte Hall Library, St. Mary’s County, MD	<b>Paul Shipley,</b> 301-405-2563 <a href="mailto:prs@umd.edu">prs@umd.edu</a>
Feb 13, 2008 (Snow date is Feb 29, 2008)	9:30am-1:00pm	Charles County MCE office	Paul Shipley
Feb 19, 2008	9:30am-1:00pm	Washington County MCE office	Lief Eriksen
Feb 20, 2008	9:30am-1:00pm	Carroll County MCE office	Lief Eriksen
Mar 4, 2008	9:30am-1:00pm	Harford County MCE office	Lief Eriksen
Mar 6, 2008	9:30am-1:00pm	Montgomery County MCE office	Lief Eriksen
Mar 12, 2008	9:30am-1:00pm	Garrett County MCE office	Lief Eriksen