“Working in Harmony with Nature in Your Backyard” was the title of a talk I gave this fall at the Queen Anne’s Co. “Harvest Breakfast”. The take-home message for the audience of farmers and gardeners- all UME supporters and users- was simple: learn something new each day about our natural world and use that knowledge to create healthy and sustainable gardens and landscapes.

I think this captures the essence of the philosophy and information that the Home and Garden Information Center (HGIC) and Master Gardeners (MGs) deliver 24/7 through our classes and demonstration gardens, phone consultations, e-mail answers, and website information.

While our staff and MG volunteers are busy planning for 2011, I think this is a good time to take a quick look at our 2010 accomplishments.

- For just the first 10 months of 2010, our four websites had 380,000 unique visitors and 481,000 user sessions.
- We are on track to answer over 3500 e-mail questions for the year with a database of over 28,000 e-mail questions and answers from the past 10 years that is fully searchable via the HGIC website. Some night when you’re having trouble getting to sleep you can check out last year’s bed bug Q&A (some have juicy photos attached!) Or, maybe you’re having trouble with fireblight on your pear trees. Just type “fireblight” in the keyword search box for answers.
- While our phones continue to be popular, many people are excited about social media tools. 3,000-4,000 people stay connected to us each week through our Facebook and Twitter pages and the Grow It Eat It blog.
- 34 videos were produced in 2010 and a total of 70 videos since June, 2009; 176,000 uploads.
- Around 1500 Master Gardener volunteers taught food gardening, “Bay-Wise” gardening practices and answered tens of thousands of questions.
- Master Gardeners completed over 30,000 hours of continuing education in 2010 to increase their knowledge and skills and better serve the public.
- The Grow It Eat It (GIEI) campaign, started in March 2009, matured into a strong and well-recognized program in 2010. The GIEI Network has almost 7,500 gardeners!
• We responded quickly through our web pages to new threats (e.g. brown marmorated stink bug). We’re dealing with emerging issues, like childhood obesity, with new school garden materials and training.

Our programs are unique and valuable for two very important reasons. 1) We address the big environmental issues of the day with safe and effective solutions that save residents money. 2) Our staff and volunteers continue to provide direct, personalized service and face-to-face teaching to Marylanders, even as we expand our web-based resources. The first bullet above refers to four websites- HGIC, Master Gardener, Grow It Eat It, and Plant Diagnostic. These websites developed separately over the years for many different reasons. A major goal in 2011 is to merge them into a single, searchable website. I will also work to fully integrate all of the successful and complementary programs, represented by these websites, that have their own “brand” but are all part of University of Maryland Extension.

Thanks for your support and patronage in 2010. Please share this newsletter and tell your friends, family members, neighbors and co-workers about us so we can expand our teaching and learning community in 2011.

Gardener Alert! Beware of Herbicide- Contaminated Compost and Manure

Jon Traunfeld, Extension Specialist, Fruits and Vegetables, and State Master Gardener Coordinator

As gardeners know- “it all starts with the soil”. Improving soil quality with organic matter is essential for growing healthy plants. Many of us rely on manure and compost to improve soil structure and add slow-release nutrients. Unfortunately, even these natural materials can become contaminated by human-made products. Clopyralid and aminopyralid are widely used herbicides that kill many species of broadleaf plants growing in golf course turf, grain fields, and roadways. They have made the headlines in recent years when unsuspecting farmers and gardeners have applied compost, manure, and grass clippings contaminated with these herbicides, to soils growing vegetable crops. These herbicides mimic natural plant growth hormones, disrupting cell division and other growth processes. They injure plants at concentrations as low as 3 parts per million and can remain active in the environment for more than two years (which makes them attractive to farmers and land managers). Symptoms include reduced seed germination, distorted and twisted leaves and stems, stunting, low yields, and death. Clopyralid and aminopyralid will damage most vegetable crops, except for those in the cabbage family. Grasses (including sweet corn), tree fruits, berries, and most woody and herbaceous ornamental plants do not seem to be affected.

Manure becomes contaminated when it passes through a farm animal that ingested sprayed plants. Compost becomes contaminated when it’s made with grass and leaves that have been sprayed or when it’s made with contaminated manure. Heat, moisture, air, and microorganisms all help to breakdown most pesticides in the environment. These particular herbicides are simply more resistant to these natural processes. Problems with contaminated compost began to surface in 1999 and 2000 in Washington, California, and Pennsylvania. These herbicides are still widely used in Maryland by farmers and commercial turf and landscape companies and are applied to crop fields, pasture fields, commercial turf, and roads and right-of-ways. They can only be purchased and applied by certified pesticide applicator, and they cannot be applied to residential turf.

Some Maryland cases

I have encountered this issue in backyard and community gardens on several occasions. In one case, well-decomposed horse manure from a very old and large pile was incorporated into a Master Gardener demonstration garden and damage symptoms (stunting, reduced germination) were observed for the next two years on vegetable crops. In another case, customers of a garden center purchased contaminated compost which led to much frustration and disappointing gardens.
Distortion of tomato leaves caused by clopyralid

In the summer of 2004 I was called out to the Friends House Retirement Community in Sandy Spring, MD. Their community garden received a large supply of free grass clippings dumped next to their garden plots last spring for use as mulch. The clippings looked perfectly fine and were spread thickly by the gardeners throughout much of the garden. Within 2 weeks time, gardeners began noticing severe stunting, twisting, and distortion of foliage in tomato, pepper, squash, and bean crops. The garden leader determined that the clippings had come from a golf course sprayed with an herbicide containing clopyralid. Symptoms did lessen after the mulch was removed but the affected plants did not resume normal growth and produced few fruits. (Washington State University experts claim that the compound does not travel into the fruits of vegetable plants grown in contaminated soils, making them safe to eat.)

What's a gardener to do?

- Grass clippings can make a wonderful organic mulch and addition to the compost pile. Just be certain that the clippings you use were not sprayed with any herbicides. Don't use neighborhood yard waste unless you're sure it's free of herbicides.
- Herbicide-contaminated compost and manure do not look or smell unusual. Most farmers who sell or give manure away may or may not know if their animals grazed on grasses or ate hay sprayed with aminopyralid or clopyralid. Ask commercial compost suppliers if their products are free of herbicide contaminants. Maryland Environmental Service (MES) is the producer of Leafgro, a very popular yardwaste compost available at garden centers throughout Maryland. MES has Leafgro tested regularly by an independent lab and have not detected aminopyralid or clopyralid.
- Bioassay test- this is the best way to test for possible contamination. You just mix some of the suspect material (hay, grass clippings, manure, compost) with a soil-less growing mix, dump it in a nursery pot, plant pea or bean seeds and observe what happens. Contamination is indicated if the seeds don't germinate or seedlings emerge that are twisted and deformed.

Leave the leaves: Fallen tree leaves that have been run over with a mulching mower make a great protective cover for bare garden soils. They can be turned under in the spring or left in place as a mulch.

General tips on using manure in home and community gardens

- Composted manure (that has reached 130 °F. for 3 consecutive days) can be incorporated into the soil in spring or fall.
- Un-composted manure should only be incorporated in the fall.
- No top-dressing or side-dressing of vegetable crops with un-composted manure.
- Wash all produce thoroughly after harvest.
- Never use dog or cat manure in your vegetable garden. They can be high in human pathogens.
- Do not make compost teas from animal manures. Only use plant-based composts for making compost tea.
- Horse manure is notorious for spreading weed seeds into gardens. Composting kills most of the weed seeds.

Forget to Plant Your Bulbs?

Ray Bosmans, Professor Emeritus, University of Maryland Extension

Did you buy an assortment of bulbs earlier this fall but never got them planted? Well, don’t throw them away. They are still good and will survive and bloom in the spring if planted ASAP. Bulbs are a very good investment, most individual bulbs live a long time of 3-6 years. By the time the original bulbs are finished many new bulbs are produced thus making them seem to live indefinitely. Some tulips and hyacinths are short lived in our region. They decline and should be replaced with new bulbs every year or two.

Bulbs are relatively inexpensive and are not difficult to plant. Just a single hole made with a bulb planter is usually all you need. Unfortunately, there is no immediate reward when planting bulbs. The anticipation of how beautiful your yard will be next spring is your reward for now. There are different ways to plant bulbs. Some people prefer them to be arranged in a formal pattern of straight lines in beds, tulips are often done this way. Others prefer bulbs in naturalistic formations with graceful gentle curves. Other gardeners like to use bulbs as a colorful accent at an entrance way, around trees, in front of foundation plantings, in containers, window boxes, and sometimes even in hanging baskets. No matter how they are used, they always add joy and cheerfulness.

Soil Preparation: You will always get the best growth and flowering results by preparing the planting site with organic matter. Excellent drainage is a must for all types of bulbs. If possible, incorporate backyard compost, chopped leaves, peat moss or composted manure throughout the area prior to planting. This works well for flower beds but is not very practical in a field or woodland setting where bulbs will be naturalized.

Planting time: Ideally, narcissus (a.k.a. daffodil) bulbs are the first to be planted in the fall beginning in September through late November. Tulips are planted later in October and November. Planting in September often results in them coming up too soon and possibly being damaged in the winter. If the bulbs don’t get planted at the recommended time they will still bloom and grow in the spring. After reading this article if you don't get your bulbs planted immediately you can still put them in as long as the ground is workable - as late as February and March. Unfortunately, most of the bulbs stored this long will have deteriorated. Select only the healthy ones and plant them as soon as the ground is workable. If they were stored in a cold place they should bloom in the spring. If not, they will still grow but will not flower until the next year. Late planted bulbs bloom much later than others in their first spring, thus extending the season of bloom-almost like having two springs.

Popular Bulbs

<table>
<thead>
<tr>
<th>February-March Bloom</th>
<th>April Bloom</th>
<th>May Bloom</th>
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</thead>
<tbody>
<tr>
<td>Snow Drop</td>
<td>Dutch iris</td>
<td>Narcissus (later types)</td>
</tr>
<tr>
<td>Scilla</td>
<td>Muscari</td>
<td>Muscari</td>
</tr>
<tr>
<td>Crocus (actually a corm)</td>
<td>Hyacinth</td>
<td>Tulip</td>
</tr>
<tr>
<td>Dutch iris</td>
<td>Tulip</td>
<td>Fritillaria</td>
</tr>
<tr>
<td>Tulips (species types)</td>
<td>Allium</td>
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</tbody>
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Pink daffodils
**Planting Depth:** The recommended planting depth is based on the size of the bulb. Most large bulbs should be planted at a depth of three to four times the height of the bulb. This depth will protect the bulb from extremes in soil moisture and heat and permit you to plant annuals over top of them. A large bulb planted too shallow puts its energy in producing new bulbs that become crowded eventually resulting in decreased bulb vigor.

- Medium-sized bulbs 1-2 inches in diameter should be planted at a depth of 3-6 inches
- Small bulbs ½ inch to 1 inch in diameter should be planted only 2-3 inches deep. Small bulbs that are planted too deep will often decline and die out.

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**Don’t you have enough bugs in your house, especially the Brown Marmorated Stink Bugs? Keep the firewood outside until you need it!**

Mary Kay Malinoski, University of Maryland Extension Specialist, Entomology

There are plenty of beetles that can emerge from firewood and fly around your house making you crazy! Firewood that is stored indoors warms up and the beetles think it’s spring and time to emerge and get on to bigger and better things. Bark beetles are little guys, 1/4 inch or less, cylindrical in shape and red, black or brown in color. They may be found around windows, lamps or woodpiles near the fireplace, especially during the winter. Check firewood logs for small, round holes in the bark.

The larger beetles can be a bit unnerving just because they are a lot bigger than the harmless looking little bark beetles. They also think it’s spring if the logs are stored in the house. They may be metallic wood borers (two-lined chestnut borer, approximately 1/2 inch long, narrow, variously colored, with short antennae) or long-horned beetles (redheaded ash borer, 1/2 inch or longer, narrow, variously colored, long antennae and legs, not metallic). Sawdust may be found under the firewood and oval or D-shaped exit holes may be present in the bark of logs. Any of these beetles may emerge from firewood that has been stored indoors for several days or more. As the wood warms, beetles emerge to fly around the house or congregate in windows. Vacuum and dispose of the beetles outdoors. Unless you want some extra company on those cold nights, only store enough firewood for a day or two to prevent emergence of the beetles.
Winter Indoor House Plant Woes

David Clement, University of Maryland Extension Specialist, Plant Pathology

Watering

Despite their best intentions many beginning gardeners have trouble with their indoor house plants during the winter months. The number one reason for dying plants is usually overwatering. Overwatering will lead to root rots and plant death. Depending on how much light the plants receive and how warm the room is it can be very tricky for people to judge just how much water their plants need indoors. Too many people assume that watering once a week is the right interval between waterings. Here is where accurate monitoring of the moisture around the root zone becomes critical.

Most plastic pots will dry out from the top down. Clay pots will lose moisture from the sides as well as the top. Visual clues that the soil has dried out at the top include shrinking which will leave a gap around the pot perimeter. With practice, experienced gardeners can tell by the weight of the pot how much remaining water the plant has left before rewatering. Practice your skills by holding pots just after thorough watering to feel how heavy the plant is when freshly soaked. Then repeat the hand weighing process over the course of the next week to see how much lighter the pot becomes after the plant uses the water and the soil dries. Finally on small pots check your estimates after a week by carefully releasing the plant from its pot and inspecting the root system visually. With larger plants slip a stick or ruler down beside a stem inside the pot until it reaches the bottom and then pull it out to inspect where the moisture still remains.

During the winter months when most plants have reduced growth rates try to allow most of the soil to dry out like a freshly wrung out dish towel. Not bone dry, but not too moist. If a plant has dried out completely and the soil has shrunk away from the pot sides try placing the pot in a sink or bucket of warm tap water so that the pot is half way submerged. Allow the pot to remain for an hour or two so that the soil will slowly reabsorb moisture. With practice you will master the correct interval between watering.

Pathogens

Overwatering of indoor plants will lead ultimately to root rots usually caused by fungi or fungal-like organisms. Symptoms of root rots/crown rots include yellowing, browning and dieback of the leaves and browning or blackening of the crown and or roots, and poor growth. Root rots may also paradoxically cause wilting even when the soil is wet because the roots are so damaged that they cannot transport water to the leaves.

**Pythium** root rot causes stunting, yellowing and wilting of plants even when potting media moisture is adequate. Roots are brown to black and soft or mushy. The outer portion of the root can be easily pulled away from the core which leaves a fine hair-like thread. Often when a plant is pulled up from the potting media most of the root system is left behind in the pot.

**Phytophthora** root rot causes root tips to turn dark brown and rapidly turn soft and mushy. Often plants will wilt even when adequate moisture is present in the potting media. This pathogen can also cause the lower portions of stems to turn black, brown or mushy which can lead to lower leaf yellowing and drop.

**Rhizoctonia** root rot occurs when temperatures are warm and conditions are moist. The fungus grows as coarse reddish brown threads, often resembling spider webs, over the surface of infected stems and roots. The infected roots and lower portions of stems will turn brown and collapse. Under ideal conditions for infection, Rhizoctonia will infect plant foliage and cause them to become brown and matted together.

Management Strategies

The number one strategy for avoiding root rots has to be proper watering. Other strategies include, only using clean or new pots for planting, avoid regular garden soil, utilize a sterile potting media, remove and separate infected plants from healthy plants and always carefully inspect newly purchased plant material before placing them with existing plants. Throw away severely infected plants and only take stem cuttings from healthy tissue.
Care of Amaryllis (a.k.a. Hippeastrum) Plants
Ray Bosmans, Professor Emeritus, University of Maryland

This beautiful plant is an all time favorite holiday season plant. The bloom is a spectacular flower six inches across with two to four blossoms produced on tall sturdy stems. Each flower can last two weeks, sometimes longer. Blossom colors can range from red, yellow, pink and white. The amaryllis commonly sold is correctly called *Hippeastrum*. *Hippeastrum* is native to South America; the true Amaryllis is from South Africa and is not commonly sold. Both are in the plant family, Amaryllidaceae.

**Getting Started:**
*Hippeastrums* are usually sold in a dormant state ready to grow in a gift box kit complete with peat moss and a pot. All one needs to do is plant it and place it in a sunny window. Keep it watered according to the instructions on the package and in about three weeks enjoy the gorgeous blossoms that emerge. The bulb should be watered sparingly until the flower stalk emerges. After the flower stalk is up more frequent watering is needed.

*Hippeastrum* will grow to about 24 inches tall and when properly cared for may live for several years. There are many hybrids bred for larger more colorful blossoms. Just like the bulbs grown in gardens outdoors these tropical bulbs also have a rest period when the leaves will dry up and are shed.

**Light and Watering Requirement:**
*Hippeastrums* require bright light during the active growth period indoors. A symptom that the light is too weak is spindly floppy leaves which will weaken the bulb and reduce or stop its ability to bloom the following year. Growing in bright sunlight is the single most important factor for repeat bloom year after year.

After the active growth period is over, reduce the frequency of watering. This will prompt dormancy to begin and the leaves will turn yellow and wither. After the leaves have completely died, trim them off and keep the bulb completely dry. Light is not required while the bulb is in dormancy. After a couple of months of dormancy new growth, which is a new flower bud, will emerge.

**Fertilization:**
To help keep the bulb strong and vigorous, fertilization is recommended after flowering. Select a fertilizer labeled for houseplants and follow the instructions.

**Propagation:**
A healthy vigorously growing bulb will produce young bulbs around the base (where the roots originate from the bulb). These can be detached and planted to grow into new plants. They will require a few years to reach minimum flowering size of 3-4 inches.
Ever seen a stone fly? - Winter stoneflies, Family Taeniopterygidae

Mike Raupp, Professor & University of Maryland Extension Specialist, Ornamental Horticulture, IPM

If you haven't seen a stonefly, now is the time to do so. While many insects are hiding out or hibernating during January, winter stoneflies are in their glory. These relatives of grasshoppers and termites can be found on stones, vegetation, and bridges near small, fast-moving streams.

Adult winter stoneflies are dark brown or black and are active day and night. In their youth stoneflies live the life aquatic. Juvenile winter stoneflies, called nymphs, graze on submerged aquatic vegetation or decaying organic matter. Other species have abandoned the vegan feeding mode and eat aquatic insects including other stoneflies. Stonefly nymphs obtain oxygen from the water through delicate gills lining the neck, thorax, or abdomen. Most immature insects shed their skin or molt just a few times as they develop. However, some species of stoneflies may molt more than 20 times before leaving the water to become adults. When the nymph has completed development, it moves to the edge of the stream and latches onto a stone or plant. The skin splits and the adult stonefly emerges from the caste skin like a wraith. As adults, stoneflies differ in their choice of food depending on their species. Some eat lichens, algae, or vegetation but others gain all the nutrients they need as nymphs and never feed as adults. Winter stoneflies are relatively weak fliers and seem to prefer walking and running to flying. However, some species are good fliers and are attracted to porch lights or bug zappers. Stonefly courtship is a curious matter. A hopeful guy stonefly strikes the surface of a resting place such as a small branch with its abdomen to create a specific drum beat. If a female of the same species is nearby and favorably impressed by his rhythm and sound, she will drum a reply with her abdomen. The percussive duet continues and if both like what they sense, the deal is sealed and they mate. After mating, the female stonefly will swoop to the surface of the water to deposit her eggs. This is a time of joy for fish living below. Trout, steelhead, and other freshwater fish find stonefly nymphs and adults delectable. Both adult and juvenile stoneflies are an important source of food for denizens of our streams. Fisherman have taken advantage of this passion and created a variety of lures that mimic stoneflies with colorful names like Montana Stone Yellow and Henry’s Fork Yellow Sally.

Stoneflies are also important indicators of water quality. Streams with heavy sediments, low oxygen content, or pollutants do not support a diversity or abundance of stoneflies. Stoneflies emerging from your local stream are a positive sign of a healthy environment. So, during the next few months take a walk on a sunny afternoon and visit a small stream or river to seek the stonefly. The best viewing is had when stream banks are covered with snow and stoneflies clamber from the chilly waters below.

For more information about stoneflies, please visit the following web sites.

- [http://www.pca.state.mn.us/kids/c-march98.html](http://www.pca.state.mn.us/kids/c-march98.html)

To learn more about a variety of insects, visit Mike Raupp’s Bug of the Week website.
**Question:** Last winter my boxwoods were severely damaged and actually large portions of them were killed. I thought it was from the heavy snow that accumulated on them, but after the snow melted I discovered that they were attacked by voles. Over the growing season they did manage to recover and produce new growth. What can I do to prevent this from happening again this winter season?

**Answer:** Voles can be very destructive pests in the landscape. Often confused with moles, which are insect eaters, voles can kill trees and shrubs by girdling bark at the crown of the plant. They also eat bulbs and the roots of perennials causing significant damage. They do not hibernate and are very active during the winter months. Voles feed on many species of plants but it seems boxwoods are particularly vulnerable. Monitor for vole activity by looking for silver-dollar sized holes or shallow trails around the shrubs. Keep the lawn mowed and remove brush near the plants to reduce vole habitat. Forgo mulching near and in the planting bed where the boxwoods are located. Boxwoods do not like heavy mulch on their roots anyway. Trap them using snap-type mousetraps baited with apple and peanut butter to reduce the population. Set the traps near the holes or burrows and cover them with an inverted flower pot or small box to prevent other animals from tampering with the traps. Welcome natural predators such as snakes and hawks into your landscape to help reduce the population naturally. For additional information please go to the following links, FS654 Reducing Vold Damage to Plants in Landscapes, Orchards, and Nurseries, and Voles HGIC’s Plant Diagnostic website.

**Question:** Can you give me some tips on caring for the beautiful poinsettia that my son gave to me for the holidays?

**Answer:** Proper light, water, and room temperatures are important points to consider when taking care of a poinsettia. They prefer bright, indirect light, such as filtered direct sunlight through a sheer curtain. Poinsettia plants should be watered thoroughly, but do not to drown them. Remove the foil from the bottom of the container to ensure the water will drain. Also, avoid letting them sit in water-filled saucers, which can lead to root problems. Water only when the soil feels dry to the touch. During bloom time keep them at normal room temperatures between 65-75 degrees F. Temperatures of 55 degrees F. overnight will prolong the flowering period. Do not place poinsettias near a drafty door or window and never by a heat source such as a heat vent. Fertilizer is not necessary during blooming. After the holiday season is over and the bracts begin to fall, you can either discard the plant or keep it as a houseplant. For information on growing the plant for a second season of bloom, refer to HG 30, Holiday Plant Care: Poinsettia.
Enough with the Grow It already...when do we get to Eat It?

By Ria Malloy, Home and Garden Information Center

With the holidays just around the corner, it's the perfect time to mention the 'Eat It' part of the Grow It Eat It Food Gardening program.

Actually, the bloggers have been posting recipes in their blog posts all season. Many of the individual vegetable profile pages have recipes posted too. We're continuing to build our collection of favorite recipes to share so come back and visit often. If you have a favorite recipe you'd like to share, email it to Ria Malloy at mmalloy@umd.edu.

**CURRIED BUTTERNUT SQUASH SOUP**

**INGREDIENTS**
- 1 medium sweet onion, chopped
- 1 medium butternut squash
- 1 tablespoon olive oil
- 1 tablespoon butter
- 2 tablespoons curry powder
- 28 oz. broth, vegetable or chicken
- 1/2 - 3/4 cup heavy whipping cream
- Sour cream
- Pumpkin seeds
- Ground nutmeg

Yield: 6-8 servings

**DIRECTIONS**
- Poke a couple of holes in the squash for vents. Microwave on high power for 5-6 minutes or until soft. Remove and let cool.
- Cut off outer skin. Scoop out seeds and strings, and cut flesh into about 1/2 inch chunks.
- Sauté onion in olive oil and melted butter on medium low heat until tender but not browned. Add squash and sauté with curry powder until heated through. Add broth and simmer for about 1 hour. Put some of the squash in small batches in a blender to puree or use an immersion blender. Adjust seasoning with salt and pepper. Add cream, stir and heat through.
- Serve with a dollop of sour cream, a sprinkle of toasted pumpkin seeds, and a shake of freshly grated nutmeg. Or serve with chopped fresh cilantro.

Can also use 3 cups pumpkin instead of squash.

The recipes on the vegetable profile pages are on recipe cards so you can print and file them. Here is a sample of the recipes.

- Asparagus with Mustard Vinaigrette
- Apple-Beet Salad
- Kale with black beans
- Vegetarian Stuffed Peppers
- Rubies and Greens
- Surprise Apple Pie
- Chocolate Zucchini Nut Bread
- Pumpkin Pancakes
- Butternut Squash and Portobello Mushroom Pasta
- Pasta with Broccoli and Tomatoes

Fall is also a great time to plan and prepare a new garden to plant next spring. Click on Starting a Garden to see the steps to help you plan your garden. “Lettuce” help you!
The Perfect Gardening Gift

Not sure what to get your garden lover this holiday season? Give the gift of practical, up-to-date, expert information...in the form of the Maryland Master Gardener Handbook.

For gardeners who wish they knew more, this is a treasure trove of academically researched and experientially tested information on effective and sustainable horticulture.

Produced by faculty at the University of Maryland College of Agriculture and Natural Resources, this indispensable gardening tool makes a wonderful addition to the reference library of both beginning and seasoned gardeners. It features a “Bay-Wise” approach to gardening that will help readers improve soil quality, nurture plants, and manage most pests without pesticides. It also explains many of the "hows" and "whys" of horticulture, with special emphasis on diagnosing and solving plant problems.

The 640-page Maryland Master Gardener Handbook is divided into 28 chapters, with stated learning objectives for each chapter. There are:

- 5 chapters on the basics (ecology, botany, soils, entomology, and plant diseases);
- 8 chapters on plant groups (turfgrass, herbaceous plants, woody plants, vegetables, small fruits, tree fruits, herbs and houseplants);
- 9 new chapters on such subjects as landscape design, invasive species, alternatives to turf, weeds, and water quality and conservation; and
- Chapters on other important topics, including composting, aquatic gardening, wetlands and wildlife.

This durable spiral-bound publication also contains 400 color photos, a 114-page integrated pest management section that includes diagnostic keys for all major plant groups and special keys for cultural and environmental problems and structural and nuisance pests.

Order your copy online or by mail, by going to http://mastergardenerumd.edu/Handbook.cfm, Click on either the “Online” or the “Order Form” link. You have your choice of electronic purchasing or printing out an order form and mailing it with your check for $69 (made out to the University of MD) to: MG Handbook, University of Maryland Extension, 12005 Homewood Road, Ellicott City, MD 21042

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If you enjoy receiving the HGIC e-newsletter, stay in touch more often by “liking” us on Facebook and following us on Twitter.

Is all this social media technology new to you? Facebook is an online gathering spot where you can connect with friends and people who have similar interests. Go to HGIC’s facebook page for a preview. Like what you see? Click the Facebook Sign Up button to get started. If you are already on Facebook, enter Home and Garden Information Center in the search field and click on the like button. Once you “like” the HGIC page, you can read posted comments, post questions, and comment on posts by others.

Twitter is another way we are communicating with Marylanders. Tweets are very short messages (140 characters or less) and often include hyperlinks to other web sites or publications. To learn more visit our twitter page and click the Join today button.
Every month we publish timely tips on our website. This year we will be highlighting some “best of” tips. If we pique your interest, please visit our website to read more (www.hgic.umd.edu) or call us with your questions - 800-342-2507. Be sure to click on the blue links to view a related publication, photo or video.

**DECEMBER**

### Lawns
- This is a good time to have your soil tested. *(HG110, Video)* It is too late to broadcast lawn seed and fertilizer. Lime can still be applied according to soil test recommendations as long as the ground is not frozen.
- Keep fallen leaves off turf areas. Mow with a mulching mower or ‘mulch’ the leaves by mowing over the lawn several times. These mulched leaves can be left in place if they don’t exceed 1 inch in depth.
- Be careful when using deicing products on sidewalks and driveways to keep them from getting onto the lawn. Most types of deicing products will damage lawns. *(FS707)*

### Woody Ornamentals
- Evergreens such as hollies, boxwoods, and pines can be moderately pruned this month. Use the trimmings for Holiday decorating.
- Mulch should be applied 2-3 inches deep around ornamental plants and kept away from shrub and tree trunks. Deep mulch makes a favorable habitat for voles. If the mulch is next to woody plant trunks, the voles will feed on and damage bark and wood.
- Newly planted trees and shrubs need water on a regular basis if it is dry. This is especially important for evergreen plants like rhododendrons and azaleas that become “winter-burned” from a combination of frozen soil and a lack of available moisture in the root zone.

### Ornamental Plants
- If you plan on purchasing and then planting a live Christmas tree, you may want to dig the hole ahead of time when the ground is not frozen. For more tips, read HG46, “Selecting and Caring for a Live Christmas Tree”. If you are purchasing a cut Christmas tree, read HG 45, “Selecting and Caring for a Cut Christmas Tree”.
- For care of Poinsettias, see our publication HG30.
- If you did not cover your pond to prevent leaves from falling in, spend some time now removing those leaves. The decomposing leaves will produce gases that when trapped under the ice will kill fish. After it’s been cleaned, cover the pond with screen.

### Fruit
- Protect fig trees from freezing temperatures with leaves, straw, or tarps. Any exposed wood is vulnerable to winter damage.
- Pick up and discard all dropped fruits and nuts as they often contain damaging insects that will continue their life cycle underneath your trees. Remove all un-harvested fruits hanging from plants, including the fruit stems. Use a mulching mower to shred and pick up leaves from beneath fruit trees.
- Fruit trees can be sprayed after leaf drop with a dormant oil to help control scales, aphids and mites. Spray all wood thoroughly on a windless day when the temperature is expected to remain above 40 degrees F for 24 hours.

### Vegetable and Herb gardening
- Carrots, parsnips and turnips can be over-wintered by covering the bed with deep straw or leaf mulch. Harvest these root crops through the winter as needed.
- Keep unplanted garden beds covered with shredded leaves to minimize the risk of soil erosion and nutrient run-off.
- Dried herbs should be stored in a cool, dark location away from the stove. Herb plants inside the house should be kept in full, direct sunlight or given 14 hours of fluorescent lighting each day. Keep plants away from drafts and heat registers.

### Soil
- Bare soil, especially on slopes, is prone to erosion and should be covered with mulch, groundcover, or turf.
• Avoid the temptation to turn over or dig into wet soil. This can cause long-term damage to the structure of your soil. To test if your soil is workable take a fist full and squeeze it. If it stays in a tight clump, it is still too wet to be worked. If it breaks apart, it is dry enough to be cultivated.

• Use sand to improve traction on walkways, and magnesium chloride products to melt ice.

**Seasonal and Indoor Plants**

• Be careful not to over-water houseplants. Growing media soil should be allowed to dry out between watering.

• Unless your indoor plants are growing under high light conditions do not fertilize them during the winter months.

• Keep holiday plants away from dry and/or drafty locations. Increase humidity around plants by placing them on a tray lined with pebbles, shallowly filled with water. Make sure the water does not enter the drainage holes of pots.

• Monitor houseplants for mealy bugs, spider mites, aphids, whitefly and thrips. If spider mites are a problem consider spraying with a houseplant insecticide. Periodically rinse off plants with water to keep dust from accumulating and mites from becoming a problem. *(HG60)*

**Indoor and Outdoor Pests**

• Ticks remain active as long as daytime temperatures are above freezing. Keep grass and weeds mowed and move bird feeders to the edges of your yard to minimize tick problems. Check closely for ticks after hiking.

• Pantry pests *(HG67)* like Indian meal moths, cigarette beetles, and sawtooth grain beetles may be found around windows trying to get out of your home. No chemical controls are recommended for pantry pests. Discard infested products. Vacuum and clean the area around the infestation with soapy water. Pests can be swept up or vacuumed.

• Avoid storing pesticides over the winter in sheds and garages. Cold temperatures can cause these materials to become ineffective.

**Wildlife**

• Leave the flower heads of perennials, like tickseed, purple coneflower, and black-eyed Susans, to provide nutritious seeds for birds this winter. Perennials and ornamental grasses can also provide needed cover for over-wintering birds.

• Where voles *(photo)* are a problem try using snap traps baited with apple and peanut butter. *(See page 9.)*

• Store bird seed in metal cans with tight fitting lids to keep squirrels and mice at bay. These critters can chew through plastic lids.

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**JANUARY**

**Lawns**

• Hand pull winter annual weeds to keep them from going to seed this spring. Some common annual weeds include chickweed *(photo)*, henbit *(photo)*, and dead nettle *(photo)*.

• Avoid excessive walking on your grass when it is frozen to avoid damaging the crowns of your grass plants.

**Woody Ornamental Tips**

• Remove and destroy bagworm bags from affected trees- principally on evergreens. The bags contain hundreds of eggs that will hatch out and feed next spring. *(photo)*

• Protect shrubs from winter winds by surrounding them with burlap or cardboard, or constructing small, solid windbreaks located 18 inches from the plant on the windward side.

• Try to prevent snow and ice from building up on gutters and eaves above shrubs. Gently sweep snow loads off of shrubs to prevent breakage.

**Ornamental Plant Tips**

• Plant leftover bulbs in the garden as long as the soil can be worked. Follow package instructions for planting depth and spacing. *(See page 3.)*

• Prune damaged branches. Inspect winter creeper and Japanese euonymus foliage for scale problems. Scale insects can be controlled with a dormant oil spray. Be sure that temperatures are expected to remain above freezing for a 24 hour period after spraying.
Fruit

- Fall bearing raspberries can be cut down to the ground. The spent fruiting canes of June bearers can also be removed now.
- Fireblight damage on apples and pears should be pruned out during winter. This will lessen the chance of spreading this bacterial infection. (more info.)
- Consider covering your strawberry patch with a piece of floating row cover. This material can help prevent winter injury and promote early growth in the spring.

Vegetables and Herbs

- Plan for spring seeding now. Check the germination rate of old, questionable seed by placing 20 seeds between moistened paper towels. Roll up the towel and place it in a plastic bag. Put the bag on top of the refrigerator or other warm location and check after 5-7 days to see what percentage has germinated. Discard seed lots with less than 75% germination.

Fertilizer

- Keep all ice melting materials away from landscape plants. Do not attempt to melt ice with granular garden fertilizers. They are very corrosive to concrete and metal, and contribute to waterway pollution. Look for deicing materials containing magnesium chloride. Other formulas containing sodium chloride, potassium chloride and calcium chloride are also suitable but can be corrosive and burn plants if not applied correctly.

Mulch

- If you have not mulched your garden, apply mulch now to perennial beds, trees and shrubs. Fallen leaves are a good mulch choice. This will help to protect plant crowns and shallow root systems from severe cold weather. Typically our coldest weather is yet to come in February so there is still time to help your plants with mulch.

Indoor Plant Tips

- Did you receive an amaryllis for the holidays? Keep it in a bright sunny window. Move the plant outdoors after danger of frost has passed. The leaves will remain through much of the summer and then will die off. At that time the bulb will go through a rest period and may be brought back inside by early fall. (See page 7.)
- Fungus gnats are very small, harmless, black flies that hover around the growing media of house plants. They breed in and feed on moist media and can be controlled by allowing the media to dry out between watering.

Pests

- Don’t store firewood inside your home. Only bring in enough to burn at one time. Bark and other wood boring beetles, ants and spiders may emerge inside the home. (See page 5.)
- Occasionally in January and February cluster flies (photo), which resemble large houseflies, appear around windows or lit lamps. They occupy attics or wall voids and become active on warm, sunny days. They are sluggish flyers and unlike the house fly they do not eat garbage. Using a fly swatter is all that is needed. Next fall prevent their entry by sealing up all small holes and cracks around the outside or your home.

Wildlife

- As food becomes scarce during cold weather, skunks, fox, coyotes, opossum, raccoons and other wildlife will come closer to homes. Remove food sources like pet food, and keep trash can lids tightly secured.
- Keep bird feeders and baths cleaned and replenished throughout the winter months.
- Where deer are feeding on garden and landscape plants, apply a repellent, such as “Deer-Away”, “Hinder” or “Ro-Pel” to vulnerable plants. If deer pressure is heavy, try rotating repellents. Small deodorant soap bars and other types of repellents are used with some success.

February

Lawns

- Late February through the end of March is the second best time (the optimum time is late August through mid-October) to over-seed your lawn to make it thicker or to cover bare areas. The freezing and thawing of the soil this time of the year helps the seed to get good soil contact. Read HG 102.

Woody Ornamentals

- Trees and shrubs can still be pruned now. (HG 84, videos) You may notice excessive sap bleeding from pruning cuts on elm,
maple, birch, dogwood, beech, walnut, magnolia, tulip poplar and redbud. This bleeding is harmless to the tree.

- Hemlocks infested with the woolly adelgid can be sprayed with dormant oil anytime between now and March 1. Make sure that temperatures are expected to remain above 40 degrees F for the 24 hour period after spraying. (More info.)

- Most winter burn occurs in February. Winter burn (desiccation) results from a combination of harsh wind or bright late winter sun and a frozen soil. Consider spraying an anti-desiccant material on vulnerable shrubs (hollies, boxwood, nandina and other broadleaf evergreens) to reduce damage. These materials coat the foliage, preventing moisture loss. Anti-desiccants should only be applied when temperatures are above freezing for 24 hours.

**Ornamental Plants**

- Avoid the temptation to start seeds too early. Check seed packets for detailed information on starting various types of flowers.

- Spring bulbs are slowly emerging this month. Exposed leaves may be burned a little by very cold temperatures, but the spring flower display will not be diminished.

**Fruit**

- If you’ve had problems with aphids, mites, and scale insects, spray trees thoroughly with a dormant oil spray before bud break, making sure that temperatures are expected to remain above 40 degrees F. for the 24 hour period after spraying. Follow label directions.

- Spray liquid lime sulfur on raspberry, blackberry, and blueberry plants prior to bud swell to prevent cane diseases. To help prevent leaf curl disease, apply to peach trees when buds begin to swell but before green tissue is visible. Apply to plum trees at bud swell to prevent plum pocket disease. Never spray dormant oil within 10 days of using a sulfur-containing spray.

- Fireblight damage on apples and pears should be pruned out now. This will lessen the chance of spreading this bacterial infection in the spring. Bordeaux mix can be applied to apple and pear trees prior to bud swell to reduce the incidence of fireblight. (More info.)

**Vegetable and Herb gardening**

- If starting seeds indoors, set up florescent grow lights, and gather needed materials: pots, trays, soil less mix.

- Consider purchasing some floating row cover material to protect crops against insects and promote early growth. A floating row cover is a light weight spun fabric that permits light and water to enter; traps the soils natural heat and keep out pest insects. (GE004)

- Fresh tarragon, rosemary, and mint sprigs can be purchased in food markets and rooted indoors in a soil less mix to be grown under cool white fluorescent bulbs. The new plants can then be set outdoors in pots or garden beds in May.

**Seasonal and Indoor Plants**

- You may notice leaf yellowing and leaf drop on some of your houseplants. This is usually a result of low light conditions or over-watering. Most houseplants should be watered only when the top of the growing medium begins to dry out.

- Control mealy bugs, which appear as white fluffy masses on infested plants, by swabbing them with rubbing alcohol or taking plants outside and spraying with a labeled horticultural oil. Don’t do this on a very cold day, or your plants will be damaged.

- Raising humidity levels around plants and reducing dust levels can control spider mites. Repeated washing of the leaves with water will help in reducing a spider mite problem.

**Indoor and Outdoor Pests**

- Often in late February termites reproductives start swarming. A swarm seen indoors could mean that a colony is directly under the house and feeding on its lumber. (EB245)

- By this time in the winter ants may start appearing in the house. The largest is the carpenter ant (HG115) which is attracted to water soaked wood found in bathrooms, kitchens and sometime attics. The smallest and most common household ant is the small black pavement ant. In most cases bait stations work well to control minor infestations.
• Fruit flies can be a problem when fruits and vegetables are allowed to sit for long periods of time on kitchen counters. Use up your produce quickly and the flies will gradually die off.

• Many hibernating insects wake up during spells of mild weather in February. Elm leaf beetle, leaf-footed bugs, Asian ladybird beetles, boxelder bugs, cluster flies, stink bugs and other species may appear both outdoors and indoors in large numbers. Although a nuisance indoors they are all harmless and can be vacuumed or swept up. Prevent the entry of these invaders by sealing up all small holes and cracks around the outside of your home. No chemical controls are recommended.

Wildlife

• The USDA, APHIS, Wildlife Services program has a cooperative agreement with the Maryland Department of Natural Resources, Wildlife and Heritage Division, to provide the residents of Maryland with information on how to deal with nuisance wild animals. Call 877-463-6497 for more information.

• Continue to feed wild birds through the remaining winter weeks. Black oil sunflower seeds and suet cakes are a good choice for a wide variety of birds. Keep bird feeders clean and provide your wild birds with fresh water.

• This is the mating season for foxes. Late at night they make a noise that sounds like a person screaming. (Download mp3)