



The Washtenaw Gardener

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Washtenaw County Master Gardener Newsletter

The Ground Beneath Our Feet

Nancy Quay (MG 2009)

“A nation that destroys its soil destroys itself.”

Franklin Delano Roosevelt, in his Letter to all State Governors on a Uniform Soil Conservation Law (26 February 1937)

An overly dramatic way to open an article about our MSU Extension Soil Testing program?

Perhaps. But the fact remains--the quality of the soil in which we grow our food, flowers and turf is the foundation for our personal and global health. And with home gardens experiencing resurgence, soil testing is more important than ever before.

The statistics are compelling.

Nationally, W. Atlee Burpee & Co., reports selling twice as many seeds, with half of those sales coming from new customers.

Locally, Dan Sparks-Jackson, Nursery Manager (and former Master Gardener) at Fraleighs Landscape Nursery, said “We ordered twice as many fruit trees this year and went through them even faster than last year...volume is up, but so is demand.”

Barbara Saxton (MG 2009), of Saxton’s Garden Center in Plymouth, has noticed increased interest in soil testing, organic fertilizers and generally “doing good things for the earth. It’s really different than other years...people are asking about composting, rainwater collecting and how to build home vegetable gardens.”

This increased interest was reflected in our annual Soil Testing outreach this spring. In April 2008, Washtenaw County Extension took in 227 soil samples, with a total of 300 by the end of the year. This spring, soil testing offered at six Washtenaw County retailers by Master Gardener volunteers resulted in 267 soil tests submitted, an increase of about 18 percent.

Although the spring outreach is past, soil testing is conducted year-round through our Extension office. Samples can be taken to the Washtenaw County MSU Extension Office, at 705 N. Zeeb Road, Monday through Thursday, 8 a.m. to 6 p.m. Fall is a particularly good time to test soil in new gardens or turf areas to prepare for spring planting.

For inspiration, try the following (sung to the tune of “Home on the Range”):

Oh, Give Me a Home on a Deep Mellow Loam

*Oh, give me a home on a deep mellow loam,
that supports the trees and the grass;*

*Where we hardly recall a bad crop year at all
and the crickets rejoice as we pass.*

*Home, home on the loam,
that supports the trees and the grass.*

*Where we hardly recall a bad crop year at all;
and the crickets rejoice as we pass.*

By Dr. Francis D. Hole 1985

(Dr. Hole was a Wisconsin professor of soil science.)

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2009 Jr. Master Gardeners

Junior Master Gardener Program 2009
Carol Figarra (MG 2007)

The Junior Master Gardener Program of 2009 began on Tuesday, May 5, at Matthaei Botanical Gardens. The six-week program, sponsored by Washtenaw County 4-H, provides a hands-on fun environment for a positive learning experience in gardening for youngsters ages 9-11. Master Gardener volunteers assist in conducting classes and giving the youngsters guidance to achieve the goal of a successful garden. Each participant in the Junior Master Gardener (JMG) program will receive a certificate of accomplishment for accumulating ten hours of volunteer work over the summer. Hours are accrued by attending classes and assisting in garden maintenance. The certificates will be presented at the Harvest Party that will be held on September 17, 2009.

In addition to six weekly sessions, the fun includes a Salad Party in June with fresh greens from the JMG garden. In September, the program hosts a Harvest Potluck for the youngsters and their families. Following the autumn party, the garden is harvested for the remaining vegetables and distributed among the JMGs and their families.



The Junior Master Gardener participants of 2009 pose for a group photo after planting early crops of lettuce, radishes, onion sets, seed potatoes, peas, and carrots. If the garden production match the youngsters' enthusiasm, it will result in a generous harvest.



Master Gardener, Jan McCarthy-Henkel, assists a team of JMGs in analyzing a soil sample for its organic content.

Master Gardeners In Action



Job Well Done!

Tree Wrapping Carol Figarra 2007

On April 25, Master Gardeners Mary Duff-Silverman and Elaine Mogerman participate in wrapping red pine seedlings for Rural Education Days (RED). The RED project is held annually during the last week of April at the Washtenaw County Fairgrounds. This year over 2,000 seedlings were prepared for third graders from around Washtenaw County who came to learn about Michigan's agricultural bounty.

A FUNGUS AMONG US **Richard Mendel (2009)**

"There is a fungus among us" - at one time that was a phrase that could be heard when some unsuspecting poor soul decided to join an already gathered clutch of students during a break in high school classes or at some high school social event in a small town in western Massachusetts many years ago. It is interesting how that phrase still has relevance today, but in a slightly different way. As master gardeners, the context is certainly different. If someone were to utter that phrase to a gathering of master gardeners, we would probably think about plant diagnostics and who has a botanical plant problem that needs to be solved.

The world of fungi - and the knowledge to understand it - seems infinite. The range of opinions about fungi, both pro and con, also appears to be infinite. A well worn cliché as old as the fungi kingdom itself would seem to be appropriately applied here: "You might love them or you might hate them, but you can't live without them". So goes the universal opinions on life in the fungus kingdom.

Unfortunately the space for this article does not allow for a complete discussion about the fungus kingdom and its synergy with bacteria or the slightly advanced protozoans. This article will have a slight bias towards the reproductive part of the fungus organism; something we endearingly know as the mushroom. A word of note here, the MSU Extension and Master Gardeners usually deal with fungi diagnostically, concerned more about a pathogen's effect on plants than about identifying the fruiting body or mushrooms.

Fungi are classified in their own kingdom because they are neither plant nor animal. They draw their nutrition from decaying organic matter or from living plants or animals. They do not photosynthesize the way that plants do and therefore do not produce their own energy. Sometimes this relationship can be beneficial, such as the mycorrhizal fungi that tap into living tree roots in order to gain access to carbohydrates and in return supply the plant with minerals. Sometimes it can be parasitic like powdery mildew on your lilac bushes where it thrives on living plants, and in other cases, it eventually kills the host and persists in the dead matter. Fungi are pervasive and affect us in many ways. Their powerful enzymes can systematically uncouple some of the bonds that hold atoms of organic molecules together, like two hands pulling apart a Tinkertoy. They can bring joy when we experience a fine wine or a nice cold beer. They can help store the protein and fats in milk and give cheese its unique flavors. They make our bread rise and they create antibiotics such as penicillin that help cure the ill. In these cases, they certainly have had a positive effect on our lives. Can we conclude

then that if some fungi are considered to be good, then more must be considered to be better? Not necessarily. Fungi can also have a negative side, and more is not always better.

For 100 years, between 1830 and 1930, the great Irish immigration from Ireland to the United States and elsewhere was driven by a fungus discovered by Anton Debary in 1861. The fungus was identified as *Phytophthora infestans*, the terrible plant destroyer, responsible for the great potato famine. Even today new strains of *P. infestans* are affecting tomato plants in home gardens of the northeastern United States..

In 1845, around the same time as the potato blight, a Mr. Tucker, who worked as a gardener for an English clergyman, noticed his grapes had a powdery white substance on the vine, leaves and fruit. It also affected both young and old fruit. Under a microscope, Tucker saw that the white substance was made up of what he called "powdery mildews." Eventually, he was able to control it with a lime and sulfur spray. By the time it was controlled in 1855, vineyard owners in France had lost up to 80% of their crops and were abandoning their lands as a result.

Ten years later, in 1865, another fungus had attacked the grape and wine industry. It was identified as *Plasmopara viticola*, better known as "downy mildew." It too might have decimated the industry, except for a chance observation by a professor Millardet as he was strolling through the French countryside near his home. He noticed that all around him were lush green, healthy grapevines and not the diseased ones he was accustomed to seeing. He sought out the farmer and learned that people had made such a habit of stealing the farmer's grapes that he concocted a mixture of copper sulfate and lime to discourage this petty thievery. Millardet soon determined that this concoction was also very effective in preventing infection by the downy mildew fungus. He aptly named this concoction "Bordeaux Mixture," because Bordeaux was the nearest large city. This mixture soon became the first broad spectrum fungicide to be used in agricultural food production and it is still widely recommended today.

In another case, the persistence of five Dutch scientists led to the discovery of a fungus, known as *Ophiostoma ulmi*, responsible for Dutch Elm disease, which destroyed millions of trees in Europe and North America.

A fungus leads a simple life. It begins as a minute hair-like filament called a hyphae. The filaments in turn develop into a fine cobweb-like net that spreads through the material that provides the fungus with nutrition. This is called the mycelium. Typically, an individual mycelium cannot be seen without the aid of a microscope, but it binds with others to form a thick mat that can be viewed by the naked eye. In many cases, it can grow for several years or until such time that the host can no longer supply its nutrients. Mycelia mature

to their next stage, producing a fruiting body or mushroom. Much like plants, which make seeds, fungi develop spores that become the beginning of new hyphae. To produce a fruiting body (mushroom), two mycelia of the same species band together, and if the conditions of nutrition, humidity, temperature and light are met, a mushroom will be formed.

At least 50 of the larger species of wild mushrooms that grow in Michigan are known to be poisonous, and there may be more. Worldwide, gathering wild mushrooms is gaining in popularity, with fashionable restaurants now boasting of their wild mushroom specialties. This rise in popularity of mushrooms for the table brings with it an increase in the possibility of poisoning cases. It is generally accepted that you should never eat any mushroom if you are not certain it is edible, and never eat them raw, especially the morel. Even the highly sought-after morel in Michigan has a lethal cousin called the false morel or orchel. The beefsteak false morel (*Gyromitricessulanta*) has been responsible for several deaths in the United States and Europe and must never be eaten. This extreme caution can really create a perplexing dilemma. How fearful should one be of eating a mushroom that isn't purchased from the local grocery chain? Well, unless you are a seasoned veteran mushroom picker, you should be very fearful. But alas, just when you think your love of mushrooms has been dampened there is someone out there who has found a solution.

There has been an increasing interest and movement towards home cultivation of mushrooms. Just surf the web and you will find kits, plans, books, do-it-yourself guides and chat rooms dedicated to the sole endeavor of cultivating fresh mushrooms in as small a space as a kitchen table. Many daring entrepreneurs are creating niche businesses in this pursuit. Even in Ann Arbor, there are the faint beginnings of a movement taking place.



These mushrooms, above and to the right, are false morels.



On May 3, 2009, Matt Demmon, a local organic landscaper, gave a hands-on demonstration at Downtown Home and Garden on how to grow oyster (*Pleurotus ostratus*) and shiitake

mushrooms (*lentinula edodes*) on logs. His favorite was the oyster mushrooms, because they can be cultivated easily on the invasive box elder logs by using mycelium inoculated dowels driven into them. Matt can be reached at mdemmon@gmail.com.

Other newcomers to the cultivated mushroom scene in Ann Arbor are Chris and Monique Williams. They incubated a company in Alpena last year called Michigan Mushrooms LLC. They have maintained a presence at the Ann Arbor Farmers Market and are considering moving closer to the city to better support that activity. They are propagating many varieties of the oyster mushroom along with the shiitake and reishi (*Ganoderma Lucidum*), both well known for their health-supporting properties. They have also cultivated the Enoki (*Flammulina velutipes*) in the winter months, and started trials on many more mushrooms. They can be reached at www.williamsfamilyfungi.com.

The fungi kingdom still holds many mysteries yet to be discovered. They can be considered our greatest ally and at times, one of our greatest enemies. As I stated earlier in this article, fungi...we either love them or we hate them but we cannot live without them. From the mycorrhizal fungi that develop a symbiotic relationship with the root system of living plants to the



reishi mushrooms which have been studied by researchers for their tremendous health benefits, fungi continue to do what they do best while we are lost in our busy lives or sleeping soundly at night.

These mushrooms are both true morels.



You may love them as you sip your glass of wine and gaze upon your beautiful flower or vegetable

garden or you may hate them as you notice a strange grayish cast on your asters or squash plant leaves. They are one of nature's miracles, a multi-faceted, but less understood member of the vast living community that populates this earth.

Master Gardener Alumni Association
of Washtenaw County News

The Master Gardener Alumni Association of Washtenaw County meetings are on summer recess. The kick-off meeting for the 2009-2010 year will be held at 7 p.m. on September 15, 2009 in the basement conference room of the MSU Extension Office, located at 705 N. Zeeb Rd.

At the annual potluck/business meeting on April 15 we ate well, held officer elections and discussed various business issues.

Two new officers were elected to two-year terms on the MGAAWC Board of Directors:

- Bob Devereaux, Vice-president
- Carol Barnhart, Treasurer

We thank Jan Paris and Linda McCall for their years of service to the board. Continuing on the board are President Kathie Mahn, Secretary Deb Myers, Membership Chair Pat Belluci, Hospitality Chair Judy Parsons and Publicity Chair Susan Horvath. Advisors are Bob Bricault and Cindy Fischer.

The MGAAWC Board uses a portion of membership dues to support non-profit horticultural education or horticultural therapy projects within Washtenaw County. One of last year's award recipients, Growing Hope, demonstrated their project: Their new Learning Board is proving to be an excellent educational tool in a variety of circumstances.

The board also announced the 2009 winners of Community Gardening Grants. With a budget of less than \$1000, we had many more applications than we could support. Seven organizations were awarded grants:

- Burns Park Elementary School, Ann Arbor
- Dexter Senior Center, Dexter
- Hikone Community Garden, Ann Arbor
- Junior Master Gardener program
- Michigan Islamic Academy, Ann Arbor
- Paddock Elementary School, Milan
- Wines Elementary School, Ann Arbor

**The Master Gardener Alumni Association of
Washtenaw County needs your help!**

Please take photos of your MG projects this summer. We will use them to create a slideshow to display at the Fall Awards Banquet. Please send photos or a website link if the photos are online, to mgaami@yahoo.com.

We are scheduling speakers for MGAAWC meetings for the 2009-2010 year (September through May). We're looking forward to providing another year of exciting and informative speakers. If you have a particular interest you'd like to learn more about or have speaker suggestions, please send them to mgaami@yahoo.com.

Thanks for your contributions!

MASTER GARDENERS'
FAVORITE RECIPES

Strawberry pie

Mary Lou Stone (MG 2009)

Crust:

- 3 C. flour
- 1 T. (or more) sugar
- 1 egg
- 1 heaping C. Crisco
- 1 T. vinegar
- 1/3 C. water

Mix flour, sugar and shortening as for any crust. Beat egg, add water and vinegar; add to flour mixture. Roll out at room temp. Bake crust at 425-450 degrees. Makes two crusts.

Filling:

Boil together until clear:

- 1 1/2 C. water
- 1/4 C. corn starch
- 1 1/2 C. sugar
- 1 quart strawberries, cut in half

Remove from heat then add 1 small box strawberry Jell-O. Let cool then add strawberries. Put into baked pie shell. Let set and serve with whipped cream.



Rhubarb Pie

Mary Lou Stone (MG 2009)

Single crust for pie in a 9" pie plate

- 4 C. rhubarb, cut in 1" pieces
 - 5 T. flour
 - 2 C. sugar
 - 2 eggs
 - 1/2 t. nutmeg
 - grated rind from 1 orange
 - 2 T. milk or 1 T. milk and 1 T. orange juice
- Mix all together, place in pie shell, bake at 400 degrees for about 50 minutes.



If you'd like to share a recipe that uses seasonal produce, let us know and we'll include it in future issues of the newsletter. Send the recipes to Cindy at fischer@ewashtenaw.org.

Master Gardener Hotline

I am in need of volunteers to staff the Master Gardener Hotline the months of July through October 15. The shifts are Monday through Thursday, 9 a.m. to noon and 1 p.m. to 4 p.m. If you have a few hours that you could volunteer, that would be great.

Feel free to send me an email at fischer@ewashtenaw.org or call me at 222-3948 to request dates, and I will be happy to see if they are available.

Thank you to everyone who has staffed the hotline so far this year, you have done a great job.

Cindy Fischer

Master Gardener Tote Bags

Master Gardener Canvas Tote bags are for sale. The cost is \$15 per bag. The bag has the Master Gardener logo and Master Gardener Volunteer printed on one side. The bag, which has a zipper closure across the top, is large enough to hold the Master Gardener Manual. There is a bag on display at the MSU Office for viewing. Stop by the MSU office to order yours.

June Calendar

Landscape & Turf Diagnostics Tour

MSU Extension - Genesee is sponsoring a Landscape and Turf Diagnostic Tour of the Applewood Estate in Flint, **Thursday, July 16, 2009, 6-8pm**. This hands-on workshop is meant for commercial pesticide applicators, landscape and nursery professionals, and anyone interested in improving their ability to diagnose landscape issues. 2 MDA credits for either Commercial Core, Category 3A, Category 3B or Category 6 have been applied for. The Landscape & Turf Diagnostics Tour registration brochure has been posted on the Genesee MSUE website at: www.msue.msu.edu/genesee

Our instructors are Dr. Dave Smitley, MSU and John Stone, MSU Pesticide Safety Ed. For more information, please call 810-244-8512.

Matthaei Botanical Gardens & Nichols Arboretum

1800 Dixboro Road, Ann Arbor
734-647-7600

<http://www.isa.umich.edu/mbg/>

Call for information, costs and to register



Rain Gardens and Xeric (Dry) Gardens

Saturday, June 6
10:00 a.m. - 12:00 p.m.

Beekeeping (class series)

Sundays, June 14
11:00 a.m. - 2 p.m.

* additional dates in July, August and September

Celebrate Pollinators Week

Nichols Arboretum
Wednesday, June 24
6:00 p.m. - 8:00 p.m.

Celebrate Pollinators Week

Matthaei Botanical Gardens
Saturday, June 27
10:00 a.m. - 12:00 p.m.

Other Classes & Volunteer Opportunities:

Growing Hope

www.growinghope.net/

Project Grow

www.projectgrowgardens.org/

6960

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Washtenaw County MSU Extension
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Ann Arbor, MI 48107-8645

**TIME SENSITIVE MATERIAL ENCLOSED
PLEASE DELIVER PROMPTLY**



Office Hours: 8 a.m. — 6 p.m., Monday—Thursday, CLOSED Friday

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Cindy Fischer, Master Gardener Coordinator	734-222-3948
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State website:.....	web1.msue.msu.edu/mastergardener

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