As I write this column, I’m sitting at home on the first day of spring, watching the snow fall and wondering how much longer spring can hide. Since we’re all stuck indoors today, or if you find yourself stuck indoors at a later date, this might be a good time to explore our new online efforts, including Webpages and blogs that might pique your interest. This column will allow you to follow some of these links as they appear and if you click the links in blue, you should be able go directly to the pages listed. If this doesn’t work, just write down the web addresses and type them into your browser (or you can cut and paste into your browser).

MG Carol has put together a great Harford County Master Gardener webpage. So get acquainted, http://extension.umd.edu/harford-county/home-gardening/master-gardeners Links of interest include MG Programs for Gardeners, MG Administration Forms, as well as a digital copy of the Garden Fence.

Thanks to MG Intern Mandee we now have our own Facebook (FB) page at https://www.facebook.com/HarfordMG The posts include everything from class schedules and dates of conferences, to science-based articles and videos covering areas of interest to Master Gardeners. Thanks to our other MG FB contributors. You must have Facebook to view our Facebook page.
The University of Maryland Extension Grow It Eat It has an excellent webpage, [http://extension.umd.edu/growit](http://extension.umd.edu/growit). If you haven’t visited this page lately, you’ll find great information links on topics including class schedules, community gardens, fruits and vegetables, as well as pollinators and pests. At another site, you can also find a GIEI blog, where several different Master Gardeners write monthly about GIEI topics of interest [http://groweat.blogspot.com/](http://groweat.blogspot.com/). I like to contribute to this page myself! On the right-hand side of this page, there’s a list of other web pages and blogs that might be of interest to you. One of the best is *The Bug of the Week*, [bugoftheweek.com](http://bugoftheweek.com) by Dr. Michael Raupp, University of Maryland Professor of Entomology and Extension Specialist. Mike has been a frequent guest bug expert for Good Morning America, NPR, and other news outlets. You can even subscribe to his weekly You Tube video, which promises to show, in his words, “murder and mayhem in the bug world”.

Remember that our April Meeting will be the **Recognition Banquet at Liriodendron** on Thursday, April 9th, from 6:00 to 8:00 p.m. Please bring a dessert!” And you are welcome to bring your significant other. I’ll see you there!

### DO YOU NEED TREE SEEDLINGS?

**State Nursery Now Accepting Orders**

The Maryland Department of Natural Resources is now accepting tree seedling orders through the John S. Ayton State Forest Tree Nursery. More than 50 tree species — many new to the nursery this year — are available to meet a variety of aesthetic and environmental needs. Visit the Nursery’s site at [http://www.dnr.md.gov/forests/nursery/](http://www.dnr.md.gov/forests/nursery/) to learn more and to view an online catalog.

Seedlings are available for conservation purposes defined as: watershed protection, wildlife habitat, Christmas trees, forest products, soil protection, buffer planting and wind-break protection. Seedlings are available in units as small as 25 per species with a minimum order of 100. Although the Nursery accepts orders through April 2014 for the next growing season, landowners are encouraged to order early as supplied are limited.

Landowners who purchase seedlings from the John S. Ayton Nursery agree to:
- Plant all seedlings and shrubs in Maryland or Delaware for conservation purposes
- Provide a planting report upon DNR request
- Protect plantings as much as possible from fires, grazing animals and trespassers
- Keep live, rooted trees in place (trees with roots attached may not be uprooted for sale as live or ornamental trees)

According to Nursery Manager Richard Garrett, “In 2014 the Maryland State Forest Tree Nursery celebrates 100 years of service. Through the years, the nursery has built a reputation for serving the needs of our customers, and we are proud to continue that commitment today. We strive to provide you with high quality seedlings and excellent service at competitive prices.”

The DNR notes that new and expanded incentives encourage Maryland landowners to plant trees and to
better manage their forests. Maryland’s Forest Preservation Act of 2013, which requires that the state maintains or exceeds its current tree canopy of 40 percent, assists citizens and local governments who work to increase tree cover on their property with more tools and tax benefits. This first-of-its-kind legislation is part of a statewide effort to reduce greenhouse gas pollution, prevent further climate change and improve water quality in the Chesapeake Bay. Go to http://www.dnr.state.md.us/forests/ for more information.

## TRY A NEW BERRY!

### ALL ABOUT GOJI BERRIES

MG Elaine Dodd 2004

I am a tea drinker and often get curious about the ingredients in the teas I drink. At the moment the tea of choice is Goji berry, so on a cold winter day I decided to learn more about the plant. Imagine my surprise when I discovered Goji berry or Wolfberry is in the same family as potato, eggplant, tomato, deadly nightshade, chili pepper and tobacco.

I became intrigued and ventured into more research. The Goji berry is not only good in tea but it also has many uses and health benefits. Some studies found possible benefits in mental well-being, calmness, happiness, etc. from drinking Goji berry juice. It is suggested to improve sleep quality and overall feelings of good health. Goji berries are considered to be a super food by many. Although Goji berries have a long history of use in traditional Chinese medicine, there is currently a lack of research on the safety or effectiveness of Goji berries supplements.

According to Wikipedia, Goji berry is the fruit of *Lycium babarum* and *Lycium chinense*, two closely related species of boxthorn in the potato family Solanaceae. The plant is native to China in the hardiness zone 6-9. Growing 3 to 6 feet tall the plant is a slightly thorny, deciduous woody shrub. Goji berry cultural and nutritional needs are similar to other nightshade plants.

In its homeland of China the dried Goji berries (Wolfberries) are traditionally cooked before ingested. Dried berries are often added to various dishes and tonic soups, with chicken or pork, vegetables, and herbs, such as wild yam, licorice root etc. Goji berries are also used in wines and sometimes blended with grapes. The young Wolfberry shoots and leaves are also harvested as a leaf vegetable, making this a very versatile plant.

There have been various attempts at growing Goji berries throughout the U.S. and Canada. The 4 acre farm cultivating them in Ontario is probably the largest-scale attempt in the east. In the west there were at least 18 California acres under cultivation. Most references indicate that the Goji berry is typically not planted in the U.S. because of the costs associated with growing the fruit.
If you are interested in learning about growing this plant go to http://extension.psu.edu/plants/tree-fruit/news/2014/goji-berry-culture for more information, although the article is more for the commercial grower.


A BIT OF HISTORY ABOUT POTATOES

THE POTATO: THEN AND NOW

MG Mary Trotta 2008

The Solanaceae plant family includes such infamous plants as Belladonna, Mandrake, Jimson weed, tobacco, and the not as sinister eggplant, chili pepper, tomato, and the petunia, but perhaps it’s most well-known, most popular, and important species is the humble “spud” or potato. This nourishing and filling vegetable is cultivated world-wide and is the staple in the diet of millions of people across the globe. But this wasn’t always the case. Ground Zero for the potato is the Andes Altiplano in South America. It is on this extensive high plateau that the potato was first cultivated by the ancestors of the Incas.

The Solanum tuberosum that these ancient peoples domesticated and cultivated 7000 years ago was originally a small, toxic root node from a wild plant. But over centuries of hybridization and mutation these sophisticated farmers and their descendants developed an incredible 3000 different species. They include the familiar russets, reds, and golds as well as the more exotic Purple Peruvian Fingerling, a golf-ball sized spud, which owes its beautiful blue marbled flesh to the skill of these ancient growers.

Unlike the Purple Peruvian, not all of our present day potatoes are named for their actual country of origin. Some of their names give the impression that this ubiquitous plant was indigenous to every continent with the requisite soil and climate: Colorado Rose and Purple Majesty Potato suggest that it is surely an American native; Ozette and Desiree hint at a French origin; Austrian Crescent and German Butterball gives the Germanic people a claim; Purple Viking would support the theory that Eric the Red might have carried his native potato to North America in 986 AD. But history traces all potatoes to central South America. Spanish explorers began the potato’s journey around the world when they brought the plant back to Spanish shores towards the end of the sixteenth century. And it was Sir Walter Raleigh, an English explorer, who introduced the spuds to Ireland in the year 1589. Surprisingly, it took another forty years for the potato to be accepted by the rest of Europe.

The reluctance of people to accept a vegetable so easy to grow, that required so little space for cultivation and was so full of nutritional value at a time when peasants could barely feed themselves, seems puzzling today. But these were medieval times and this foreign plant had never been mentioned in the Bible. Moreover, it was a tuber growing under the earth, was a member of the nightshade family and was the food of an uncivilized race. The people of Europe judged it to be too primitive and passed on it for decades while many peasants died of hunger.

Ireland was the exception and quickly embraced the nourishing, fleshy root. Because this nutrition-packed plant could grow in poor Irish soil, an Irish farmer could now feed his family and have enough left
over for his livestock. This was the perfect country for the potato to establish itself and begin its reign as one of most important foods in mankind’s history. This crop was easy to cultivate and needed only a small mound of earth to grow and produce. It could be harvested quickly and eaten in its present state, unlike wheat and other crops, which required more labor to harvest and process. With fewer workers needed to produce food, more people migrated to the cities and the increased populations there could easily be fed by this plentiful new food. Because it used less land to support a larger population the lowly spud single-handedly increased the population of Ireland from 3,000,000 people to 8,000,000 people in less than a century! And this ancient plant, a gift handed down through thousands of years, was responsible for eliminating scurvy and malnutrition and ending famine in Ireland and throughout Europe, allowing Germany, Russia and France to thrive and advance their civilizations.

But the gift of the potato came with an Achilles Heel. In 1845, two and a half centuries after Sir Walter Raleigh first introduced Solanum tuberosum to Ireland, a fungus found that weak spot. Phytophthora infestans, carried on a ship from America, landed on Irish shores. Its delicate spores floated on the slightest breeze and drifted down on the leaves of the potatoes growing in the fields. They rapidly multiplied and were lifted by the cool, moist winds to thousands of other plants. With stunning speed the fungus destroyed the leaves and roots, taking only a few days to blacken and rot every plant in the fields. A plant cultivated over 7,000 years seemed doomed.

However, the evolution of the potato provided for its survival. Many potato species had built in resistance to the fungus. Except for the Lumper potato and that variety was the potato that the Irish farmers had planted exclusively. The Achilles Heel was not the potato itself but man’s decision to grow a single crop of the same genetic identity. All the countries throughout Europe lost harvests and suffered, but because they farmed other crops they were able to survive and recover. The Irish grew only one crop, the potato, and of the 3000 varieties bequeathed to us by ancient farmers, they had only one variety, the Lumper. Every one of these plants fell victim to the disease. And so did a million Irish citizens, one of every eight Irishmen. Those who did survive and could find the means, emigrated to America and altered our history as well.

When the Irish arrived in America, potatoes were already being grown and today America is the world's leading supplier of table stock potatoes and is the fourth largest grower of potatoes worldwide. There are presently over 1,000 types of potatoes being grown today with the most common being the Russet. McDonalds probably has a lot to do with its popularity, as it is one of the largest buyers of potatoes in the U.S.

In modern times there has been no calamitous failure of a potato crop with the tragic results of the 1845 famine in Ireland, but individual farmers have suffered personal tragedies from crop losses. One example of this is the loss suffered by present day farmers due to the insatiable Colorado potato beetle, which can devour all the leaves of a plant overnight. But unlike the Irish farmers, modern farmers have options. They can apply insecticides/pesticides or they can plant a genetically modified potato which will kill the beetle soon after it takes the first bite from the new species.

How can this be accomplished? According to the Monsanto Corporation who patented the process, this innovative genetically altered russet potato contains a gene from bacteria commonly occurring in the soil
and harmless to humans. The NewLeaf potato’s cells all contain this gene. The most recently developed potato can kill the Colorado beetle when it takes a bite of its leaves by dissolving the insect’s digestive system -- wonderful news for today’s farmers and agricultural conglomerates. But is it wonderful news for consumers? Does human manipulation of the genetic makeup of Solanum tuberosum change the future? Unlike that ancient culture’s hybridization of the plant we have skipped steps in natural evolution and jumped biological barriers.

The significance of this development in the present day history of the potato is that Monsanto Corporation has pulled its NewLeaf product off the market. And that is in spite of the fact that ingesting the gene of Bacillus thuringiensis has not caused noticeable side effects in humans (and we know this because millions of customers consumed the gene when they ordered McDonald’s French fries from 1995-2001). It has been the first genetically modified crop to be sacrificed by the powerful agricultural conglomerates. It was a small sacrifice for Monsanto and the farmers it employs, being the easiest crop to pull out of production [Its predecessors such as soybeans, corn, alfalfa, cottonseed, canola, and sugar beets represent more than 50% of the U.S. crop and are used in a wide variety of foods, whereas the NewLeaf was only used for French fries].

But terminating the production of the NewLeaf potato was a momentous decision for mankind. People are beginning to raise awareness of the issues involved, and the recall of an engineered Russet potato is evidence that real conversations are taking place among biotech companies, government regulators, scientists, farmers, and consumers.

The potato, which evolved from a small toxic root node then evolved into 3,000 different species and spread over the globe to feed the world’s people impacted the development of countries and the events of history, continues to play a significant role in mankind’s future.

Source: The Botany of Desire by Michael Pollan
Web search- The NewLeaf Potato for more on topic of bioengineered potatoes.

THANK YOU
## Food Preservation Classes-Harford County 2015

<table>
<thead>
<tr>
<th>Month</th>
<th>Produce</th>
<th>Recipe</th>
<th>Resource</th>
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<tr>
<td>May</td>
<td>Strawberries</td>
<td>Jam</td>
<td><em>So Easy to Preserve</em> pg 212</td>
<td>5/28 12pm-3pm</td>
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<td>June</td>
<td>Corn</td>
<td>Relish</td>
<td><em>So Easy to Preserve</em> pg 154</td>
<td>6/18 12pm-3pm</td>
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<td>July</td>
<td>Cucumbers</td>
<td>Reduced sodium</td>
<td><em>USDA Home Canning Guide</em> 6 pg 34</td>
<td>7/7 12pm-3pm</td>
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<td></td>
<td></td>
<td>sliced dill</td>
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<td>August</td>
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<td>Salsa</td>
<td><em>So Easy to Preserve</em> pg 74</td>
<td>8/20 12pm-3pm</td>
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<td>Sept</td>
<td>Tomatoes</td>
<td>Hot Pack</td>
<td><em>So Easy to Preserve</em> pg 52</td>
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<tr>
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<td>Cubed</td>
<td><em>So Easy to Preserve</em> pg 87</td>
<td>10/22 12pm-4p</td>
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<tr>
<td></td>
<td>squash</td>
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<tr>
<td>Nov</td>
<td>Apples</td>
<td>Butter</td>
<td><em>Balls Blue Book</em> 5th ed.</td>
<td>11/6 12pm-3pm</td>
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**Photo credits**

Figure 1: http://maplehardingcommunitygarden.com/wp-content/uploads/2013/03/garden-clip-art-31-300x105.gif
Figure 2: http://www.extremehealthradio.com/the-goji-berry-protocol-by-robert-von-sarbacher/
Figure 3: https://metrouk2.files.wordpress.com/2013/02/elib_4929604.jpg
Figure 4: http://www.arepotatoeshealthy.com/images/potatoesBackground.jpg
Figure 5: http://bonnieplants.com/wp-content/uploads/2011/12/irish-potatoes-growing-lo.jpg
Figure 6: http://dat2.whicdn.com/images/104358020/superthumb.jpg
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<th>Presenter</th>
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<tr>
<td>Fruit Pruning and Grafting Demo</td>
<td>MacBride and Gill Falcon Ridge Farm</td>
<td>Saturday March 28 12:30 - 4 pm</td>
<td>Stanton Gill</td>
<td>$15 3/21</td>
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<tr>
<td>Organizing a Native Plant Rescue</td>
<td>UME Howard Co. (Ellicott City)</td>
<td>Friday March 27 10 am - 4 pm</td>
<td>Sara Tangren</td>
<td>$20 3/20</td>
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<td>Organizing a Native Plant Rescue</td>
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<td>Friday March 27 10 am - 4 pm</td>
<td>Sara Tangren</td>
<td>$20 4/10</td>
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<td>Wild Native Beans and Peas</td>
<td>Shad Landing State Park (Snow Hill)</td>
<td>Wednesday, May 6 12:30 - 4 pm</td>
<td>Sara Tangren</td>
<td>$25 4/29</td>
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<td>Wild Native Beans and Peas</td>
<td>UME Anne Arundel Co. (Gambrills)</td>
<td>Friday, May 8 12:30 - 4 pm</td>
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<td>Ornamental Plant Diseases</td>
<td>College of Southern Maryland (LaPlata)</td>
<td>Wednesday May 27 10 am – 3 pm</td>
<td>Dave Clement, PhD</td>
<td>$35 5/20</td>
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To register please use the Eventbrite Link listed with each class at the state website. Link is below. You may pay securely with a credit card or you may pay with a check. To pay by check please click on the “Show other Payment Options” link on the Eventbrite Registration Page (located under the Register icon). You will then receive further instruction to complete your payment. [Link](http://www.extension.umd.edu/mg/advanced-training)

The University of Maryland, College of Agriculture and Natural Resources programs are open to all and will not discriminate against anyone because of race, age, sex, color, sexual orientation, physical or mental disability, religion, ancestry or national origin, marital status, genetic information, political affiliation, or gender identity and expression.

**THE MARYLAND MASTER GARDENER MISSION STATEMENT**

The Maryland Master Gardener mission is to support the University of Maryland Extension by educating Maryland residents about safe, effective and sustainable horticultural practices that build healthy gardens, landscapes and communities.