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Table of Contents

Medicinal Plants

By Melanie | December 2018 - Vol.4 No.12

“Let food be thy medicine and medicine be thy food.” — Hippocrates (460BC -375BC)

I can’t imagine a world without plants. Plants give us the air we breathe and in one way or another the food we eat. But over the eons of human existence, plants have also given us remedies that have helped heal human bodies, both physically and emotionally. I have found through my studies that many people believe plants have the power to heal, and in recent years, scientists have begun to research this subject. “Research Helps Shed Light on Medicinal Benefits of Plants, www.purdue.edu/newsroom (2011). I’ve explored this topic and I’d like to invite you to do the same.

Before I dive into the topic of medicinal plants, I’d like to encourage us all to consider the connection between food and health. My great-grandparents mostly ate a diet of farm-raised or wild food. My grandfather was a commercial farmer and exported rice, cotton, and soy beans. Yet his staple diet was food from his garden as well as meat he hunted and fished. I can now recognize that my mom chose to feed us more processed and fast foods. With so many choices today — such as a gluten-free vegan non-GMO soy protein salad in a bag, not to mention vitamin C packets with non-carb electrolytes and herbal energy boosts, I have now reached the point that I don’t know what to feed my daughter! What does organic mean again? And if it is better for you, then why should there be nonorganic foods? How did we manage to set aside or genetically modify thousands of years of agricultural practices that fed our health?

Everybody knows we need to eat to live. So why don’t we start bringing back the “Victory Gardens” and liberating ourselves from the overwhelming offerings at grocery stores and pharmacies. I have found that growing and processing my own food to be a healthier option. We most likely can’t grow all of our food to be completely self-sufficient, yet we can subsidize through supporting community gardens, shopping at local farmer’s markets, and visiting herbal apothecaries. It is always a challenge to change ways, but small steps can make big moves.

It is hard to believe how many plants have a recorded history of medicinal use. Ancient mythologies celebrate mythical powers of certain plants, and stories have been told about the healing properties of plants for thousands of years. I have found the scope of the plant world to be limitless and infinite; therefore, it is difficult to tell anyone what their journey through the plant world should be. But I’ll tell you a bit about my journey. I am including a list of books at the end of this article to help you explore the topic of medicinal plants with more depth.

I’d like to start by discussing plants the reader may already be familiar with and identifying the medicinal properties these familiar herbs are known for.

Lavender (genus *Lavandula*) Lavender has a long history of medicinal use, most recently for relief of stress and anxiety. Scientists have only recently begun to study lavender's medicinal properties, and so far have conducted research with animals and humans to determine whether in fact lavender does have this anxiety-relieving effect. A recent analysis of 15 randomized clinical trials revealed that lavender was indeed shown to be effective in some of these trials; however, the authors of the study cautioned —

> ***"Methodological issues limit the extent to which any conclusions can be drawn regarding the efficacy/effectiveness of lavender. The best evidence suggests that oral lavender supplements may have some therapeutic effects. However, further independent replications are needed before firm conclusions can be drawn."***

"Is lavender an anxiolytic drug? A systematic review of randomised clinical trials," Phytomedicine (June 15,2012).

'Provence' Lavender
Photo: Eileen DeCamp

If you are growing lavender already, you might try it in cooking by adding it to flavor meats or vegetables. I have used it to steam with vegetables such as broccoli. You might want to experiment with drinking it as a tea. If you do not like the way it tastes, use it in fresh or dried flower arrangements. You can dry the lavender flowers and make sachets that can keep closets and drawers fresh. We made lavender wands for a friend that was going through chemotherapy, and it seemed to help her with the nausea that usually accompanies chemotherapy. Lavender has also been used as a salve for dry or burned skin.

Here are some sources for further study of lavender:

"Lavender: History, Taxonomy, and Production," N.C.StateUniversity.edu

National Institutes of Health National Center for Complementary and Integrative Health /lavender/ataglance (U.S.Department of Health and Human Services)

"Lavender and the Nervous System," *Evidence-Based Complementary Alternative Medicine* (2013) www.ncbi.nlm.nih.gov/pmc/articles/PMC3612440/

For a recent Garden Shed article on growing lavender in this area, see pmgarchives.com/growing-lavender-in-central-virginia

Rosemary
Photo: Nona Kaplan

Rosemary Not only can you cook with rosemary, but I've discovered that you can also use it in baths with epsom salts to reinvigorate sore muscles!

Here are some sources for further study:

"Rosemary," Aromatic and Medicinal Plants Index, hort.purdue.edu/newcrop/med-aro/factsheets/ROSEMARY

Univ.WisconsinExt.org/Rosemary

Sage has a long history of medicinal use, as suggested by its Latin name, derived from the Latin salvus "to save" and salvere, "to heal". It has been used to soothe sore throats. It is, of course, excellent for enhancing food, and adds a fresh smell to cut flowers.

Sage
Photo: Nona Kaplan

nccih.nih.gov/health/sage#hed2

www.purdue.edu/"Tis-the-season-for-sage"

Univ.WisconsinExt.mastergardener.org/article/sage-salvia-officinalis/

"Growing Sage," garden.org/National Gardening Association

Thyme is known for its cleansing antiseptic qualities, and has been used as an insect repellent, and for respiratory problems. Find out more at the links below:

"Thymes: Plant Care and Collection of Varieties,"garden.org/plants/NationalGardeningAssociation

"*Thymus vulgaris,*" www.missouribotanicalgarden.org/PlantFinder

"Review of Ethnobotanical, Phytochemical, and Pharmacological Study of Thymus serpyllum L.," www.ncbi.nlm.nih.gov/pmc/articles/PMC4525464/

Oregano is known for its antiparasitic, antifungal, antioxidant, and antibacterial properties. Recent research has shown that oregano oil has antibacterial, antifungal, antiparasitic, antimicrobial, and antioxidant properties. See, for example, "Essential Oil Composition and Antibacterial Activity of *Origanum vulgare* subsp. *glandulosum* Desf. at Different Phenological Stages," www.ncbi.nlm.nih.gov/pmc/articles/PMC3868303/

Find out more at the links below:

"Antioxidant, Antibacterial, and Cytotoxic Activities of the Ethanolic Origanum vulgare Extract and Its Major

Constituents," www.ncbi.nlm.nih.gov/pmc/articles/PMC4804097

"Oreganos: Plant Care and Collection of Varieties," garden.org/plants/oregano

""O" is for Oregano," www.NewYorkBotanicalGarden.org/blogs/plant-talk

Lemon Balm is used as a sleep aid. It also considered a stimulant. My favorite summer drink is water with lemon balm and mint. I find that this drink is calming yet revives me in the heat. For more information, check the following link:

WisconsinExtension/mastergardener.org/article/lemon-balm

Mint is used as a stimulant, yet like lemon balm, is considered to be calming as well. It is also used for digestion.

"Chemical composition and antimicrobial and antioxidant activities of Mentha (longifolia L. and viridis) essential oils," www.ncbi.nlm.nih.gov/pubmed/19895481

"Pharmacological and therapeutic effects of Mentha Longifolia L. and its main constituent, menthol," www.ncbi.nlm.nih.gov/pmc/articles/PMC4171855

"Mints: Plant Care and Collection of Varieties," NationalGardeningAssociation/plants/mints

"Mint Condition," Swiss Institute of Bioinformatics, https://web.expasy.org

Basil has vitamin C, calcium, magnesium, potassium, and iron. "Traditionally, basil has been used as a medicinal plant in the treatment of headaches, coughs, diarrhea, constipation, warts, worms, and kidney malfunctions. The oils of basil, especially the camphor-containing oil, have antibacterial properties." www.hort.purdue.edu/CropFactSheets/basil.

NationalGardeningAssociation.org/plants/basil

"B is for Basil," New York Botanical Garden.org/plant-talk

http://info.achs.edu/blog/bid/310194/Holistic-Health-Healing-Power-of-Basil

Other herbs I like to grow are **chamomile and feverfew**. They are in the Asteraceae family and have dainty little white daisy-like flowers. I chew feverfew leaves for headaches and inflammation. I use them in cut flower arrangements too. Chamomile tea (from the flowers) is fairly common, mild, and can be used for calming. These can be grown in containers and beds as well. Feverfew can be invasive but is easy to manage.

nccih.nih.gov/health/chamomile/ataglance

Feverfew
Photo: Nona Kaplan

"A randomized, double-blind, placebo-controlled trial of oral Matricaria recutita (chamomile) extract therapy for generalized anxiety disorder," www.ncbi.nlm.nih.gov/pubmed/19593179

"Feverfew (*Tanacetum parthenium* L.): A Systematic Review," NationalCenterforBioinformatics/NationalInstituteHealth/www.ncbi.nlm.nih.gov

nccih.nih.gov/health/feverfew

Fennel, dill, and parsley are in the carrot family (*Apiceae* or *Umbrelliferae)*. I read that Hippocrates prescribed fennel to colicky infants. It is known now as a digestion aid. Dill (*Anethum graveolens*) has manganese, folate, iron, riboflavin, calcium, vitamin B6, potassium, and antioxidants. I like to grow dill to make pickles, which can be a great fermented food. So many of our herbs have all of these qualities. Parsley is one of my favorite herbs to grow! I love running outside in the dark with a flashlight and cutting it up to toss into my dinner. I am constantly zipping in and out pinching herbs and throwing them into a kettle to liven up a dish. My favorite breakfast is fresh parsley and oregano from the backyard with a handful of eggs my neighbor passed to me over the fence from their chickens. It starts the day off right, and it is so easy (and I live in downtown Charlottesville).

For more information about these herbs, check these links:

"*Anethum graveolens*: An Indian traditional medicinal herb and spice," *Pharmacognosy Review* (2010), NationalLibraryofMedicine/www.ncbi.nlm.nih.gov/pmc/articles

"The Role of *Anethum graveolens* L. (Dill) in the Management of Diabetes," Journal of Tropical Medicine (2016), www.ncbi.nlm.nih.gov/pmc/NationalLibraryofMedicine

Making a bouquet of fresh sage, mints, lemon balm, holy basil, lavender, and rosemary is sometimes all I need to boost my mood. However, **I must insert a word of caution here.** Don't stop taking your blood pressure medicine and then run outside to pick a few mint leaves and assume you are good to go! Creating a "healing garden" may indeed aid you in cultivating a more holistic lifestyle that offers plant therapy and health benefits; you might even discover the root of a health problem that could eventually lead to a lower dose of that prescribed medicine.

Another word of caution for those doing internet research on medicinals: there are many websites dedicated to herbal remedies, but for reliable information, go to the website of National Center for Complementary and Integrative Medicine, nccih.nih.gov, which was established by Congress and is funded by the U.S. government. It is "the Federal Government's lead agency for scientific research on the diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine. NCCIH was formerly known as the National Center for Complementary and Alternative Medicine." nccih.nih.gov/about

Which herbs would go in my ideal "Healing Garden"? I believe there are reasons people love certain plants, so I choose herbs I'm familiar with and tend to grow well for me. I encourage others to do the same. For example, I love using mints and peppers, so they would be part of my Healing Garden. I've also found that containers or beds with lavender, rosemary, and sage combine nicely with each other visually. In another container or bed, I plant thyme and oregano together (they are closely related). Finally, I like growing lemon balm and mints in an area that keeps them from getting into other beds because they can be invasive. Lastly, basil is another herb in this family that I use often, especially on tomato sandwiches. If you're just getting started growing herbs, you'll find helpful advice at Va.Coop.Ext. Pub.No.426-420

The next question is to decide how much space and time you have to put into your garden. There are so many ways you can grow plants. If you do not have much space, containers are a great way to grow most anything in small quantities. You can even grow herbs inside your home in the window. There is almost no excuse not to try to grow something! I even grew herbs in my laboratory that had no windows. I was working in there for seven years. Having no plants was detrimental to my health!

p.ie

Containers Almost any vessel can be used for a container. You can get very creative with the possibilities or you can purchase them online or in a store. You can even hire someone to build you a container garden.

"Herb Gardening in Containers," https://garden.org/learn/articles/view/3952/

"How to Grow Vegetables in Containers," greensideup.ie/container-gardening

Hanging or Vertical Gardens I was recently at a restaurant and saw a pallet repurposed on the wall that the cooks were pulling herbs out of and using to season food. I loved this idea. You can use shelves, even create a cinder block board with containers that is vertical. Some people have used rain gutters!

Vertical herb garden
Photo: Ruth Hartnup

Raised beds These can also be bought, put together or built from repurposed lumber. Making the beds for your plants to grow in is part of the healing process so it should be relaxing and enjoyable (whether you build them or someone else does).

"Making a Raised Bed Garden," garden.org/National Gardening Association

In my Healing Garden, I grow vegetables along with the herbs. Again, I suggest growing vegetables you like to eat and are familiar with. Grow what ya know! However, here are some ideas if you are wondering what to get started with: Cucumbers and tomatoes; squash and zucchini; peppers; and sweet potatoes.

One of my biggest accomplishments is to send Julien out into the vineyard during growing season with a cucumber, tomato, and basil sandwich that I harvested.It makes us both so happy. I really enjoy receiving a text that reads "best sandwich ever"! There are so many positive factors to this story, not the least of which is the contentment of growing that lunch myself. I encourage you to create a garden in any way that you can. Sometimes the most simple food choice is the healthiest. Cucumbers have antioxidants and help with hydration, and tomatoes have ample benefits as well (vitamin C and potassium).

Peppers are a super food that can be hot or mild. They also have B6, vitamin C, and antioxidants. I've discovered that peppers can be good for the circulatory system, inflammation, and joint pain. My daughter loves to munch on peppers. This is one snack I encourage her to eat!

I also grow squash and zucchini in my Healing Garden because they have lots of health benefits such as fiber, B6, potassium, manganese, plus antioxidants and anti-inflammatory properties. One year when we lived in Montana, we did not have any pumpkins to carve for Halloween, but we had these extraordinarily gigantic zucchinis we made into Jack-o-Lanterns. Your garden (big or small) will provide for you more wonders than you can imagine. Just grow it!

The sweet potato is a favorite of mine. This plant that can provide iron, calcium, and beta-carotene (an antioxidant). My daughter and I worked in the garden at Monticello one summer, where we helped grow and harvest the sweet potatoes, and then showed them to the people who came to visit. We eat sweet potatoes several times a week. They are a fun plant to try to grow and dig up.

Finding the plants you connect with and want to grow is the first step if you're starting your own garden. Take it step-by-step and try not to feel overwhelmed. You'll be traveling a path our ancient ancestors trod.

Sometimes we humans have to re-discover the ancient staples of our diet. In searching for a healthier diet, I decided to try quinoa as it has been marketed as a highly nutritious food. When I cooked it and started

looking at it, I realized it was chenopodium (*Chenopodium quinoa*). This is a plant that I have identified and recorded often in archaeological samples that would come into the lab. People have been eating it for thousands of years, and now it's in bags on the shelf at the supermarket!

We all know we benefit from eating food. I believe we need to find a path to lead us to the foods that make us better, stronger, healthier people. My mom got me to return home from living in my beloved England by simply saying "you might just find what you're looking for in your own backyard." I'd like to apply this bit of wisdom to growing food that could help benefit our well-being. The food we eat is what makes us who we are. How we get it is just as important. Catching fish off the dock with my grandfather and cousins and then going to pick squash at my great-grandmother's was not only our dinner but what connected us to a complete life cycle. It now seems to me that the protein, vitamins, herbs, and stories from the food are the healing powers of the food.

"The doctor of the future will no longer treat the human frame with drugs, but rather will cure and prevent disease with nutrition." –Thomas Edison

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Don’t Buy Nonnative Invasive Plants — Even if You Can

By Susan Martin | December 2018 - Vol.4 No.12

People are becoming more aware of the broad repercussions of planting nonnative invasive plants. Some effects are scarily visual—twining vines of kudzu, English ivy (*Hedera helix*), and oriental bittersweet (*Celastrus orbiculatus*) transform highway borders of trees and shrubs into monstrous, green, shapeless hulks. Although less readily observable, the destruction of food-web interactions between insect specialists and native plants is an ominous transformation that poses long-term upheaval. Banning the sale of invasive plants, however, is not as straightforward as you might expect. This article will look at three aspects of dealing with nonnative invasive plants:

- Federal regulations
- Virginia state regulations
- How we can help as consumers

DEFINITION OF INVASIVE

Let's first start with the definition of invasive plants according to the Virginia Department of Conservation and Recreation (DCR): ***Invasive plants are species intentionally or accidentally introduced by human activity into a region in which they did not evolve and cause harm to natural resources, economic activity or humans.***

HOW NONNATIVE PLANTS ARE INTRODUCED

Nonnative plants and seeds are transported from one location to another through natural pathways, such as wind and currents, or through man-made pathways**.** The man-made introductions can be intentional or unintentional. **The introduction of new-to-the-trade plants is one of the most lucrative areas of ornamental plant sales.** According to an article by Virginia Cooperative Extension (VCE), data from six non-governmental agencies indicated that **34-83% of the total number of invasive taxa** (species, varieties, or cultivars**) in the U.S. had a horticultural origin.** (In contrast to agriculture, horticulture does not include large scale crop production.)

FEDERAL GOVERNMENT OVERSIGHT

Many of us assume that once a plant is recognized as a nonnative invasive, its sale will be restricted by governmental oversight. However, progress is stymied by the conflicting interests of the stakeholders (environmental groups, academia, regulatory entities, and those in the ornamental horticulture industry, both sellers and consumers). Budgetary constraints at both federal and state levels also restrict the development of regulations and plans for enforcement.

"In this day and age of strapped budgets, the idea of passing simple legislation that says you can't sell this plant and then trying to enforce it is going to be less productive than actually getting the industry on board and developing the mentality that plants they sell have to be safe," says Doug Johnson, head of the California Invasive Plant Council.

There have been several major pieces of Federal regulation, plus an executive order by President Clinton, regarding "noxious weeds":

- Federal Noxious Weed Act of 1974
- Amendment of the Act in 1990
- February 3, 1999, Executive Order 13112 (Clinton)
- Plant Protection Act of 2000

The term *noxious weed*, is defined in the federal Plant Protection Act ([2000] as "any plant or plant product

that can directly or indirectly injure or cause **damage to crops** (including nursery stock or plant products), livestock, poultry, or **other interests of agriculture,** irrigation, navigation, the natural resources of the United States, the public health, or the environment."

The noxious weed laws have focused on problems related to agricultural crops, rather than on nonnative invasive plants encountered in natural or recreational areas or in home landscapes. In the U.S., noxious weeds are regulated by state or federal governments; invasive plants are identified on nonregulatory advisory lists.

STATE REGULATION

According to a 2013 paper published in ***Bioscience:***

In the United States, only species listed on state or federal noxious weed lists are regulated. According to our analysis, these regulatory lists poorly represent invasive plants in unmanaged (i.e., nonagricultural) systems.

The study describes the role of nongovernmental state and regional invasive plant councils (IPCs) and exotic pest plant councils (EPPCs) that create and maintain **nonregulatory** lists of invasive species. In addition to IPCs, some state governments have created invasive species councils (ISCs), which maintain advisory roles for departments overseeing noxious weed lists. Unfortunately, the presence of invasive species on these lists generally carries no legal requirement for control or restriction of the plant's entry to the state, and individuals may distribute and cultivate plants on these lists with impunity. The study compared noxious weed lists and invasive plant lists in each state. The authors found that, on average, **there is little overlap between a state's noxious weed list and its invasive plant list, meaning that invasive plants are not regulated if they are not also on the noxious weed list.**

VIRGINIA STATE REGULATION

What progress have we made in Virginia? The Code of Virginia first addressed issues of noxious weeds, including control, transport and penalties, in 1970. The Virginia Noxious Weed Law was passed in 2003. As defined in the Code of Virginia:

"Noxious weed" means any living plant, or part thereof, declared by the Board through regulations under this chapter to be detrimental to crops, surface waters, including lakes, or other desirable plants, livestock, land, or other property, or to be injurious to public health, the environment, or the economy, ***except when in-state production of such living plant, or part thereof, is commercially viable or such living plant is commercially propagated in Virginia."***

These last two exclusions mean that the sale of a plant cannot be prohibited if it is already being sold or propagated in the state.

In 2015, The Department of Agriculture and Consumer Services (VDACS) added several invasive species to be regulated under the **Virginia Noxious Weeds Law.** The regulation establishes two tiers of noxious weeds:

Tier 1: Any noxious weed that is not native to the Commonwealth that (i) has no known populations present in the Commonwealth or (ii) is not widely disseminated in the Commonwealth and for which successful eradication or suppression is likely.

Tier 1 includes: *Salvinia molesta* (Giant salvinia), *Solanum viarum* (Tropical soda apple) and *Heracleum mantegazzianum* (Giant hogweed).

Tier 2: Any noxious weed that (i) is not native to the Commonwealth, (ii) is not widely disseminated in the Commonwealth and (iii) for which successful suppression is feasible but eradication is unlikely.

Hedera helix 'Thorndale' Photo: Thayne Tuason, Wikimedia Commons

Tier 2 includes: *Imperata cylindrica* (Cogon grass), *Lythrum salicaria* (Purple loosestrife, *Ipomoea aquatic* (Water spinach), *Vitex rotundifolia,* (Beach vitex), and *Oplismenus hirtellus spp. undulatifolius* (Wavyleaf basketgrass).

The new regulation also called for the creation of a Noxious Weeds Advisory Committee for the purpose of assisting VDACS in the evaluation and risk assessment of plants that may be declared noxious weeds in Virginia.

The Virginia Department of Conservation and Recreation's Division of Natural Heritage currently identifies **90 invasive plant species** (3 percent of the total Virginia flora) that threaten or potentially threaten natural areas, parks and other protected lands in Virginia. Virginia Invasive Plant Species List **ranks the level of threat** by nonnative species to forests and other natural communities, and to native species, **as high, medium, low or early detection** (to be watched). The list **identifies three Virginia ecoregions**: mountain, coastal, and piedmont. Although this list is a great resource for both homeowners and land managers, the DCR states:

The list is for educational purposes only and has no regulatory authority.

A subcategory of the Virginia Invasive Plant Species List includes the Virginia Invasive Plant Early Detection Species. These are species not yet widely established in Virginia but are known to be invasive in habitats similar to those found here.

THE THREAT FROM FUTURE INVASIVES

Despite the relatively low percentage of plants that ultimately become serious invaders, the large number of garden plants for sale makes the **potential invasive nonnative plant list quite sizable.** An inventory of North American seed and nursery catalogs (1988-1989) records almost 60,000 plant taxa sold. In 1996 the **"tens rule"** was proposed by Mark Williamson and Allistair Fitter (1996). This rule states that one in ten imported plant or animal species (brought into the country) appear in the wild (introduced, feral), and one in ten of those become an established self-sustaining population. One in ten of established plants become a pest

(negative economic effect). Applying the tens rule to this 60,000 number and assuming half of these were nonnative to a particular area, approximately 3,000 plants would escape, 300 species would establish in the wild, and 30 would become pests. This might seem like a small number until we consider the **serious impact of even one nonnative invasive species.**

AN EXAMPLE: ENGLISH IVY

English ivy (*Hedera helix*) is present in twenty-eight states including Hawaii. It thrives in the southeast and in the mild climate of the Pacific Northwest. Native to Europe, western Asia, and North Africa, it was introduced to the U.S. by early European settlers.

English Ivy prefers open forests but is adaptable to many habitats and moisture conditions. As a ground cover, this ivy chokes out other plants, creating an "ivy desert" where nothing else can grow. Vines climbing up tree trunks spread out and envelop branches and twigs, blocking sunlight from reaching the host tree's foliage, thereby impeding photosynthesis. An infested tree will exhibit decline for several to many years before it dies. The added weight of vines makes trees susceptible to blowing over during storms.

Hedera helix, Charlottesville, VA Photo: Susan Martin

English ivy has been in the **Seattle area** for only about 100 years. A survey conducted before conservation work started 15 years ago estimated that roughly 10 percent of the city's 8,000 acres of public land were infested with invasive ivy. Between 2005 and 2011, the City of Seattle spent more than $8 million of public funds (plus $3 million from private sources) on the removal of English ivy in its parks through the Green Seattle Partnership effort to maintain healthy urban forests. Add 400,000 volunteer hours donated by Seattle residents during the same time period, and you get an idea of the cost of invasive English ivy in just one city. **Despite public awareness and a sizeable commitment of assets to eradication of ivy, Seattle has not been able to pass legislation banning its sale.**

A quarantine has been debated for Washington state, but it has been difficult to implement because there are over 300 cultivars of English ivy, and only some are invasive. According to Alison Halpern, executive secretary at the Washington State Noxious Weed Control Board, trying to control English ivy through regulation is a nightmare. For now, Halpern plans to work with nurseries to **voluntarily halt sales** of problematic varieties.

In 2010, Oregon banned the sale of English ivy.

In 2003, regulation was introduced into the Virginia Senate to recognize English ivy as a noxious weed and to prohibit its sale:

Noxious weeds. *Declares English Ivy, and its hybrids and cultivars, a noxious weed and requires the Commissioner and the Board of Agriculture and Consumer Services to regulate the transport and sale of this weed under the Noxious Weed Law.*

The proposed bill was withdrawn due to opposition and the unlikelihood of passing.

WHAT CAN WE DO?

Both Federal and Virginia state websites appeal to consumers to educate themselves about nonnative invasive plants and to learn about native plants that can be used as alternatives. Because it is very difficult to pass regulation, there is a strong effort to encourage producers and sellers in the horticultural trade to **voluntarily** restrict sales of nonnative invasive plants, and to provide information to consumers about native alternatives. **Consumers are encouraged to help put pressure on the horticultural trade by being vocal about their preference for planting natives, and by showing this preference by not buying nonnative invasive plants**. This effort is especially important because of restrictions in the Virginia code. **Currently, if a plant is propagated in Virginia, or is already sold in the state through the horticultural trade, its sale cannot be prohibited.** Many states, including Virginia, are organizing representatives from environmental groups, academia, regulatory entities, the ornamental horticulture industry, and consumers, to join forces in a united effort. Consumers can also make sure that nonnative invasives, such as English ivy, are not included in their home landscapes.

SOURCES

A special thank you to **Ruth Douglas**, Virginia Native Plant Society Invasive Plant Educator and participant in the Blue Ridge PRISM (Partnership for Regional Invasive Species Management)

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Green Tips for the Holiday

By Susan Martin | December 2018 - Vol.4 No.12

We'd all like to have a greener holiday season without sacrificing the joy of tradition and the spirit of festivity. Although it's a difficult question to ask of gardeners, let's reconsider an old argument for those celebrating with Christmas trees: which is more eco-friendly and less wasteful—**an artificial tree or a real one?** What does the data suggest in 2018?

Let me be upfront and say that my family has always had a real tree. After carefully evaluating "all" the facts on either side, the decision was made: my husband cannot abide the thought of an artificial tree. With that confession out of the way, let's consider the objective pros and cons.

EACH SIDE PRESENTS ITS CASE

Choosing between a real tree and an artificial one became an option in the 1930s, when a U.S.-based toilet bowl brush manufacturer, the Addis Brush Company, created an artificial tree from brush bristles. This became the prototype for modern artificial trees.

Each industry has an association fighting its cause: the American Christmas Tree Association (ACTA) represents artificial tree manufacturers and the National Christmas Tree Association (NCTA) represents Christmas tree growers.

According to the NCTA, about 350 million trees are currently grown on farms in the U.S., with about 30 million sold each year, and 1-3 seedlings planted for each tree sold. Environmental experts point out that tree farms provide oxygen, diminish carbon dioxide, stabilize the soil, and support complex eco-systems. In addition, Christmas tree farms provide about 100,000 jobs. Although artificial trees can be used year after year, most are made out of polyvinyl chloride (PVC) plastic, a #3 plastic. PVC is not biodegradable and barely one-quarter of 1 percent is recycled each year.

A new study released in 2018 by the ACTA (artificial trees) provides an in-depth analysis of the environmental impacts of real and artificial Christmas trees. The study takes into account multiple aspects of the procurement of both types of trees based on same-size comparisons of 6.5 feet. Artificial trees were evaluated for factors such as manufacturing and overseas transportation. Although estimates vary, at least 80% of artificial trees are manufactured in China. Both real and artificial trees were evaluated for "tree miles," which includes transporting a tree from factory or field to the point of sale and the consumer's personal travel to purchase a tree. Planting, fertilizing and watering were taken into account for real trees, which have an approximate field cultivation period of 7-8 years. The study included various disposal options including landfilling, composting, and incinerating at the end of usage.

The report concludes that when comparing the two types of trees, artificial trees have a more favorable effect on the environment **if reused for at least 5 years.**

SELECTION TRENDS IN THE U.S.

A chart provided by the NCTA on Christmas tree sales from 2004-2017 in the U.S. shows an interesting pattern. Live tree sales range from 27.1 million in 2004 to 27.4 million in 2017. Artificial tree sales start at 9 million sales in 2004 and end at 21.1 million in 2017. Although the trend is not always consistent on a yearly basis, it is evident that many Americans are choosing artificial trees.

CHOOSING A LIVE TREE

If you decorate with a live tree, see the December 2015 article from *The Garden Shed*, "Decorating with Fresh Greens." This excellent article describes selecting and caring for a tree, as well as ideas for decorating with greens from the garden. IMPORTANT TIP: For safety and lasting beauty, keep the tree watered and **never** allow it to dry out. Without water, the trunk will seal itself with sap at the cut end and be unable to absorb water. Be especially vigilant the first day; a tree may absorb a gallon of water when first brought inside. Water demands will be highest the first week.

Tree at Lewis Ginter Botanical Garden, Richmond VA Photo: Susan Martin

SELECTING A LIVING TREE FOR PLANTING AFTER THE HOLIDAYS

Choosing a living tree is a wonderful way to remember a time special to the family, or to commemorate a special event. Refer to the NCTA website for tips on caring for and then planting a living tree. A tree should be planted as soon as possible after the holidays. **Digging the tree hole in advance of freezing temperatures** is a huge help. When planning, be mindful that a 6' tall balled and burlapped tree will weigh as much as 250 pounds.

TIPS FOR USING GREENERY

- Although poinsettia plants are known for their toxicity, **lilies** are a much bigger danger to cats. Be sure to check any holiday floral arrangements. Some lilies (Peace, Peruvian and Calla) are mildly toxic, but others (Tiger, Day, Asiatic, Easter and Japanese Show lilies) can be fatal. Cats can be poisoned by ingesting any part of one of these lilies: leaves, stems, flowers, stamens, even pollen.

Socks Under the White House Tree Photo: Wikimedia Commons

- ***Nandina domestica*** is on the ASPCA list of plants that are toxic to cats and dogs. The bright red berries are sometimes used in holiday decorations; stems and leaves are also toxic.
- **Japanese yew** (*Taxus cuspidata*) is highly toxic to pets; **holly** (*Ilex*) can be mildly to moderately toxic to pets; be careful if using these greens in decorations.
- Liven up greenery arrangements by **adding fragrant sprigs of rosemary**.
- Be very mindful of the threat of **boxwood blight** when bringing any boxwood greens or boxwood wreaths into your home. For more information on boxwood blight, see "Boxwood Blight Alert" in the November 2018 issue of *The Garden Shed.*

- When **trimming shrubs** to collect greenery, treat the trimming as you would pruning. Cut pieces evenly throughout the shrub to avoid bare spots in winter. If you need to cut a large amount of greenery, consider thinning out branches of overgrown shrubs or removing lower branches of trees.
- To **condition evergreen branches** (boughs), wash them thoroughly in warm water to remove dust and dirt, and then rinse them in cold water. Remove any defective leaves and needles and split the stems about 2 to 3″ up from the ends. Place the ends in warm water and then **store the boughs in cool temperatures for at least eight hours prior to use.** Keep the water level high by replacing any water that has evaporated in the container.

Have a safe, happy holiday and enjoy all the beauty of the season, both outside and in!

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In the Vegetable Garden — December

By Cleve Campbell | December 2018 - Vol.4 No.12

Happy holidays from The Garden Shed! 2018 is fast becoming a memory, and what a gardening season! We were blessed with more rain than we knew what to do with. That's the cool thing about gardening; there's always next year! Regardless of the month, there are always gardening chores. So, here's my list of December tasks and tips for the edible garden:

- Looking for a gardening gift for that friend who has everything? Consider **a gardening journal.** Winter is a good time to start a garden journal and document all the trials and triumphs of the gardening season. When the mailbox gets deluged with seed catalogs for next season, your friend will have a record to refresh his or her memory about which seeds to order and which to avoid.

- If your soil test shows a need for raising the pH, **apply dolomitic limestone now** so the winter rain and snow can move it into the ground.

- If you have run out of sage, or just want a different flavor, **substitute savory or rosemary** in your turkey recipe.

- Use a combination of **red and green sweet peppers frozen** from last summer's garden to give holiday food a seasonal flair.

- If you are planning to lay out **newspapers as mulch** next spring, glue them end-to-end this winter and store them in rolls. When needed, the paper mulch unrolls easily and won't be lifted by the wind before they can be anchored.

- **There are several herbs that can be grown in pots in the home during the winter**. **Parsley** is one of the most widely-grown herb**s** in home gardens and can serve as a houseplant during the winter. The plant will provide fresh green leaves for garnishing or flavoring for egg dishes, soup, fish or potatoes. **Chives** can also be grown in pots during the winter. The leaves are used to season soups, salads and stews. Finely chopped leaves add delicious flavor to sour cream for dip or salad dressing. Plant seeds in pots filled with rich, well-drained, and sterilized potting mix. Cover the pots with plastic bags or clear wrap until germination occurs. Put the pots in a warm room, in a sunny, southern window and keep the soil moist.

- You still have time to make **herb vinegars with chives, shallots, garlic or any herbs** on your windowsill. Use approximately 4 ounces of fresh herbs to 1 quart of wine or rice vinegar. Allow the herbs to infuse for at least two weeks.

- **Don't forget** to use some of those vegetables still out in your garden: carrots, turnip greens,

kale or other hardy vegetables.

The Garden Shed team hopes you and your family have a safe and happy holiday season. We look forward to your visits to ***The Garden Shed*** in 2019.

Source:

Adapted from *The Virginia Gardener* by Diane Relf

Curried Parsnip Soup

By Cate Whittington | December 2018 - Vol.4 No.12

How often do we overlook parsnips in the produce aisle? Bunches of brightly-colored carrots beckon to us, but I am guilty of passing right over their paler counterparts without a glance. A member of the Apaiaceae family (carrots, dill, cumin, parsley, caraway), parsnips are biennial and are usually treated as annuals, planted before the winter growing season. Grown since ancient times, parsnips are high in potassium and fiber. With the rise of increased diabetes in this country, dietitians often recommend parsnips to lower bad cholesterol levels and the risk of diabetes.

Lately, I have been experimenting with more root vegetables and I have come to love the carrot's neglected cousin, the parsnip. As a child, I don't remember parsnips (*Pastinaca sativa*) ever being served on their own for dinner and I certainly never unwrapped raw parsnip sticks in my lunch box! Parsnips are slightly sweet and are often paired with carrots in recipes. They are delicious roasted with a little garlic, as well as boiled and mashed. The following recipe for parsnip soup is revised from a favorite in *The Greens Cook Book*. It is easy to make and long on flavor. **Choose the smallest parsnips possible, free from feathery threads, as they will be less fibrous and sweeter than the larger ones.**

Ingredients

3-4 small to medium parsnips, about 7 inches long

4 Tablespoons butter

1 medium yellow onion, diced

1 Tablespoon curry powder

4 Tablespoons cilantro leaves, chopped

2-3 leeks, white parts only, chopped

2 carrots, peeled and diced

2 celery stalks, diced

1 teaspoon salt

5-6 cups vegetable stock

1 cup light cream

whole cilantro leaves for garnish

3 radishes, very thinly sliced, for garnish

Directions

1. Scrub the parsnips and trim the tops, and dice into evenly-sized pieces. (Optional: If the parsnips are not organic, you may want to peel them. If they are larger, quarter them lengthwise and cut out most of the fibrous inner core.)
2. Heat the butter in a soup pot and add the onion. Cook over medium heat, stirring frequently, until it turns a rich golden color, about 15 minutes. Stir in curry powder and half the chopped cilantro, and cook for 1 minute.
3. Add parsnips, leek, carrots, celery, salt, and stock. Bring to a boil, lower the heat, cover, and cook until the vegetables are soft.
4. Cool the soup briefly and blend with an immersion blender, leaving a little texture and flecks of color. Return the soup to the pot, stir in the cream, and taste for salt.
5. Serve garnished with remaining chopped cilantro, whole cilantro leaves, and radish slices.

Note: This soup may be served hot or cold. If parsnips are harvested in early spring, the cold variety can be especially nice. Serves 4-6.

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