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Invasive Plants

By Cathy Caldwell | February 2015 - Vol. 1 No. 2

by Cathy Caldwell

You've probably heard about invasive species. I can already hear my husband groaning; he's heard an earful about invasives already. These troublesome plants and animals have gotten a lot of press in recent years. But, like my husband, you might be wondering why you should be concerned. Even if you are concerned, you might not be fully informed about how you can help. Before we get to these questions, let's start with a good definition.

What is an invasive plant? Invasive plants are —

- plants that are NOT native to a given are area AND
- have the ability to out-compete local plant species
- causing environmental and economic damage to ecosystems, agricultural fields and home landscapes.

"Invasive Exotic Plant Species Identification and Management," Pub. No. 420-320,

https://pubs.ext.vt.edu/420/420-320/420-320.html (Yancey 2009).

Sounds fairly straightforward, doesn't it? But if you were envisioning foreign invaders, that would be wrong. Most plants that are now classified as invasive were brought here on purpose for cultivation in our gardens — or else they were brought here accidentally via shipping (as packing material and the like). And most of the "alien" (also referred to as "exotic" or "nonindigenous" or "nonnative") species that were introduced into American horticulture have NOT become invasive — think tulips and apple trees.

Why Be Concerned about Invasives?

Because they are fast growers, and because they can tolerate a wide range of conditions and can reproduce easily and rapidly, invasive species make terrible neighbors. They out-compete native species for the same resources, eventually reducing the populations of native species (and sometimes even eliminating species from a community). Some invasive species have more complicated effects which are felt higher up the food chain, resulting in fewer native birds and wildlife. Most important, invasive species have the ability to alter natural functions of biological communities and ecosystems by changing the soil conditions.

Scientists say that Invasive species cause ecological damage by reducing biological diversity and changing ecosystem functions such as flood and fire regimes. Biological diversity is a big word, but it simply means having a wide variety of species of plants, animals, microorganisms, etc. Without a diversity of pollinators, plants, and soils, our supermarkets would have a lot less produce, and we'd have fewer sources for new medicines.

Invasive species also damage and degrade **agricultural crops,** pasture and forestlands, and **clog waterways.** Fixing these problems can be very expensive. Invasive species (both invasive plants and animals) cost Virginia more than $1 billion annually, while nationally the cost exceeds $120 billion.

But do all invasive plants cause damage on such a grand scale?

If you peruse a list of invasive plants, you might shake your head when you notice that some popular plants — including nandina, periwinkle and Japanese barberry — may be on the list. They all appear on the list of United States invasive plants at the website of invasive.org, http://www.invasive.org/eastern/ At this point, some people just throw up their hands and dismiss the whole subject of invasive plants.

In fact, there are plenty of relatively harmless plants on some invasives lists. Take nandina, for example. Yes, it's a pretty prolific self-seeder (case in point: my own gardens), but it has so far shown no capacity for occupying vast amounts of territory — like the Japanese stiltgrass that's filling our forest floors, nor does it have the ability to kill trees, like my nemesis, Oriental bittersweet (more about that later). Nandina bears watching, however. In Florida it is creating tight groves that are forcing out other plants. It's not unusual for a plant to be invasive in one region and fairly harmless in another region, and this is true sometimes for native plants as well.

All this confusing information is why we gardeners must **arm ourselves with knowledge.** When our friends and neighbors ask why we need to bother worrying about invasive plants, we need answers. And the most important answer we can provide is that some invasive plants — though not all — can do tremendous damage to our forests, waterways and agricultural fields. "To fully understand the invasive plant issue, one must consider that **invasive plant species have varying degrees of impact,** ranging from relatively harmless to very environmentally disruptive." Alex X. Niemiera and Betsy Von Holle, "Invasive Plants: A Horticultural Perspective," Pub. No. 426-080 https://pubs.ext.vt.edu/426/426-080/426-080.html (This article is well-worth a careful read; it explains HOW invasive plants can cause damage and why it's not easy to predict whether a new-to-the-trade plant will turn out to be invasive).

Let's Concentrate on the Worst Invaders

We can probably afford to ignore some mildly invasive plants, but NOT those that are "**very environmentally disruptive.**" Fortunately, among all the invasives lists, there are some very helpful lists that rank each plant according to its environmental impact. These science-based lists include — NatureServe, a nonprofit conservation organization, which has a large database where you can search for a species and then click on the button for US. Invasive Species Impact Rank (the "IRank"), http://www.natureserve.org/explorer/servlet/Natur eServe?init=Species). Another recommended source is the Southeast Exotic Pest Plant Council, http://www.se-eppc.org/.

For a highly informative **list of invasive plants in Virginia,** go to the Virginia Department of Conservation and Recreation website, http://www.dcr.virginia.gov/natural_heritage/documents/nh-invasive-plant-list-2014.pdf. This list ranks each species according to its **degree of impact in Virginia,** and it also indicates which regions the plant is impacting — whether coastal, piedmont or mountain area. Since our area is partly piedmont and partly mountain, we have to pay attention to both of these categories. Albemarle County's website has a list that identifies the plants that are HIGHLY INVASIVE and WIDESPREAD in Albemarle County. Obviously, we need to focus on these major troublemakers.

Highly Invasive Alien Plant Species Widespread Across Albemarle County:

Asiatic or **Oriental bittersweet** *Celastrus orbiculatus*

Japanese stiltgrass *Microstegium vimineum*

Garlic mustard *Alliaria petiolata*

Tree of heaven *Ailanthus altissima*

Multiflora rose *Rosa multiflora*

Japanese honeysuckle *Lonicera japonica*

Autumn olive *Elaeagnus umbellata*

Bristled knotweed *Polygonum cespitosum*

Chinese privet *Ligustrum sinense*

Depending upon where you live, you may be dealing with highly invasive plants that are, at least so far, confined to a particular part of the county. The following list identifies those plants.

Highly Invasive Alien Plants In Isolated Locations of Albemarle County :

Kudzu vine *Pueraria lobata* (*P. montana*)

English Ivy *Hedera helix*

Japanese knotweed *Polygonum cuspidatum*

Purple loosestrife *Lythrum salicaria* & *L. virgatum*

Spotted knapweed *Centaurea maculosa*

Parrot's feather *Myriophyllum aquaticum*

Chinese lespedeza *Lespedeza cuneata*

Johnsongrass *Sorghym halapense*

Canada thistle *Cirsium arvense*

Fiveleaf akebia *Akebia quinata*

Japanese hops *Humulus japonicus*

Mile-a-minute *Persicaria perfoliata*

Japanese knotweed *Polygonum cuspidatum*

http://www.albemarle.org/department.asp?department=nhc&relpage=4409

How We Can Help

- Be able to identify the highly invasive plants in our area. It's especially helpful if you can **identify seedlings**, so you can remove them BEFORE they grow up and do harm.
- Be on the look-out for the worst invaders in woodlands adjacent to your home. Small wooded areas are scattered among our rural subdivisions. These areas can be a point of entry to larger forested areas.

Start by becoming familiar with each of the plants on the Albemarle County list above. You'll soon be able to warn a friend or neighbor about the innocent-looking little bittersweet vine growing in their garden. I've been known to do this myself on a number of occasions, and my zealotry is well-known among my friends.

Each of the plants on the lists above can be studied at the website of the Center for Invasive Species and Ecosystem Health, http://www.invasive.org/maweeds.cfm (Mid-Atlantic Exotic Pest Plant Council Plant List). You, too, might find you've become a zealous fighter against our most damaging invasives. Here's a brief summary for each, plus links to photos and more information:

Oriental or **Asiatic bittersweet** **(***Celastrus orbiculatus)* **http://wiki.bugwood.org/Archive:IPSF/Celastrus_orbiculatus**

Oriental bittersweet vine climbs toward the canopy. Photo by Chris Evans, River to River CWMA, Bugwood.org

Did I already mention that Oriental Bittersweet is my nemesis? Once you become familiar with it — and you've probably seen its orange and red berries in winter — you'll notice it just everywhere. It seems poised to take over the world! Right now it is busily taking territory in the Ivy Creek Natural Area and in Shenandoah Park.

Oriental bittersweet is an incredibly strong vine that is capable of smothering tall trees, even large forested areas. Be on the lookout for small plants and seedlings, so you can remove them before they do harm. Just be sure to pull out all parts of the roots, as it can regrow from a tiny bit of root. If you find a larger plant, don't just cut the vines! If you do, you'll simply stimulate even more vigorous regrowth. The only reliable method for eradicating an established vine is the cut–stem–paint-with-herbicide method — a/k/a the "cut stump" method — which should only be embarked upon knowledgeably and carefully.

The "cut stump" method does not involve spraying an herbicide. Instead you "paint" the herbicide onto the cut stem or stump. Following directions is essential for both effectiveness and safety. You'll feel like an expert after reading "Managing Invasive Plants: Methods of Control" at https://extension.unh.edu/resources/files/Resource000988_Rep1135.pdf

Before you start, be sure to read up on using herbicides safely. http://pubs.ext.vt.edu/426/426-710/426-710.html

Japanese stiltgrass (*Microstegium vimineum) (*Also known as Nepalese Browntop)
http://www.dcr.virginia.gov/natural_heritage/vaisc/species/japanese-stilt-grass.htm

Japanese stiltgrass, Chuck Bargeron University of Georgia Invasive.org.

Japanese stiltgrass is an annual that looks like a small (2-3 ft.) lime-green bamboo. It tolerates sun or shade and quickly invades areas left bare or disturbed by tilling or flooding. It's easy to dig it up before it grows into large patches. To help prevent spread into forests, mow it or pull it before the seeds have a chance to mature.

Garlic mustard (*Alliaria petiolata)*

http://www.nps.gov/plants/alien/fact/alpe1.htm

Garlic mustard is one of the worst invaders in Shenandoah National Park. It's a fairly small plant with white flowers.

Tree-of-heaven (*Ailanthus altissim*a) **https://pubs.ext.vt.edu/420/420-322/420-322.html**

Ailanthus is a highly invasive tree which can easily take over an area, replacing native plants. There is some evidence that tree of heaven has allelopathic properties — it secretes chemicals that can inhibit the growth of nearby plants.

CAUTION: It's easy to confuse native shrubs and trees with ailanthus. Ailanthus resembles desirable native sumacs and ash, hickory, and black walnut trees. How to tell if you're dealing with ailanthus? Let your nose be your guide: if the leaves are stinky, like a burned nut, it's ailanthus you're dealing with.

Multiflora rose (*Rosa multiflora)*

http://www.se-eppc.org/manual/multirose.html

Japanese honeysuckle (*Lonicera japonica)*

https://pubs.ext.vt.edu/420/420-323/420-323.html

Introduced into the United States as an ornamental vine more than 100 years ago, Japanese honeysuckle smothers and girdles trees and other native plants in woodlands throughout the eastern United States.

Autumn olive (*Elaeagnus umbellata)* **https://pubs.ext.vt.edu/420/420-321/420-321.html**

Autumn olive is a shrub or small tree that has a silvery look, especially from a distance. Autumn Olive resembles another invasive non-native, Russian Olive. Cutting either of these down only stimulates new growth. To eradicate this plant, use the "cut-stump" method (described above for bittersweet).

Bristled knotweed (*Polygonum cespitosum)*

http://www.invasive.org/browse/subinfo.cfm?sub=6213

http://nas.er.usgs.gov/queries/GreatLakes/SpeciesInfo.asp?NoCache=4%2F2%2F2009+4%3A41%3A55+PM&SpeciesID=2735&State=&HUCNumber=DMichigan

Bristled knotweed is also known as Oriental Lady's Thumb and it's a small plant that resembles Japanese stiltgrass. Bristled knotweed forms dark pink flowers, however, late in the season.

Chinese privet (*Ligustrum sinense)*

http://www.dcr.virginia.gov/natural_heritage/documents/fslisi.pdf

http://www.invasive.org/browse/subinfo.cfm?sub=3035

There's an APP for that!

That's right. You can download some terrific apps that will help you to identify potential invasives, and even be able to report sightings to organizations that are working to keep track of invasive infestations. Take a

look at the apps at the bugwood website, which are available for either iPhone or Android.

http://apps.bugwood.org/mid_atlantic.html http://apps.bugwood.org/southern_forests.html

With one of these apps on your smartphone, you'll be armed to battle invasives wherever you go.

What Else Can We Do to Help?

We gardeners need to **be careful about buying newly-introduced plants and cultivars** (called "new-to-the-trade") — a small percentage of these will become invasive, though it's difficult to predict which. Suppose you'd like to add a plant to your garden, but you want to check on its invasive potential. You can search its invasiveness rank on NatureServe Explorer, http://explorer.natureserve.org/index.htm

Since my yard now contains several crape myrtles that I'm quite sure I never planted, I thought I'd look up that species. Crape myrtle has an Invasiveness Rank of Medium/Insignificant (apparently crape myrtle has a medium environmental impact rank in parts of the deep South, but an insignificant impact elsewhere). For now, I'm enjoying my "free" crape myrtles, but I'm on guard for signs of thugishness.

Be sure to look carefully at your garden catalogs and at the inventory of your local garden center; you'll notice that a few problematic **invasives are for sale.**
http://vnps.org/download/miscellaneous_reference/LndscpInvasiveList.pdf (lists invasive plants that are sold in the trade by nurseries and garden centers)

If you're eager to protect our local natural areas, watch for **volunteer** opportunities to help the Forest Service, the Master Naturalists, and other groups which host work days to control invasives in public parks and wildlife preserves.

If you have more suggestions for ways to help, please let me hear from you. I'm eager to see comments about your experiences with invasive plants. But wait a day, please; I just promised my husband that I would not utter the word bittersweet for the next 24 hours.

RESOURCES and LINKS:

https://pubs.ext.vt.edu/420/420-320/420-320.html ("Invasive Exotic Plant Species Identification and Management," Va. Coop. Ext. Pub. No. 420-320)

https://pubs.ext.vt.edu/426/426-080/426-080.html ("Invasive Plants — A Horticultural Perspective," Va. Coop. Ext. Pub. No. 426-080)

http://www.dcr.virginia.gov/natural_heritage/invsppdflist.shtml

http://www.mdflora.org/resources/publications/control_of_invasive_plants.pdf ("Control of Invasive Non-Native Plants: A Guide for Gardeners and Homeowners in the Mid-Atlantic Region")

http://explorer.natureserve.org/index.htm

http://apps.bugwood.org/mid_atlantic.html

http://apps.bugwood.org/southern_forests.html

http://www.eddmaps.org (distribution maps, how to report invasive plant sightings)

http://www.srs.fs.usda.gov/pubs/35292 (downloadable field guide)

http://www.cvillewater.info/Biodiversity_Report.pdf ("Albemarle County Biodiversity" ; Albemarle County Biodiversity Work Group October 2004) (The worst invaders in the Ivy Creek Natural Area are oriental bittersweet, tree of heaven, and multiflora rose. In Shenandoah National Park, which occupies a significant portion of the mountainous western region of Albemarle County, the National Park Service is working to curb the worst invaders: oriental bittersweet, Japanese knotweed, garlic mustard, tree of heaven, and princess tree).

https://pubs.ext.vt.edu/426/426-609/426-609_pdf.pdf, Va. Coop. Ext. Pub. No 426-609, "Selecting Landscape Plants: Groundcovers" ("The nandina species has been labeled an invasive species, especially in the Southeast U.S.; it has a NatureServe invasive plant impact rank of high/low. However, the dwarf types tend to produce fewer flowers, and hence, less fruit than the species or taller cultivars. 'Firepower', 'Gulf Stream', Harbour Belle, and 'Habour Dwarf' . . . are non-fruiting cultivars that do not pose an invasive plant risk.")

The Greedy Gardner

By Cleve Campbell | February 2015 - Vol. 1 No. 2

In the movie "**Wall Street**", Gordon Gekko said: "Greed is good". After forty years of gardening, I have come to the sad realization that I am indeed a greedy gardener, though I'm not at all sure that's a good thing. For me, the early vegetables are never early enough, and the fall growing season is never long enough. How often have I planted in the late winter or early spring only to be hit by a late frost, resulting in damaged — — or worse yet dead seedlings, not to mention the curse of low soil temperatures, resulting in poor or no seed germination?

My grandmother, an avid gardener, must take some of the blame for this learned attribute of mine. As a child, I remember visiting her late one winter day as she was in the garden planting spinach, peas and radishes. With a cocky smirk on my face, I asked if she was "practicing." With a bit of a frown, she inquired as to what I was trying to say. With a confident voice, I responded, "Whatever you are planting isn't going to amount to anything because if they do come up, they're going to be killed by a late freeze." I was at once informed somewhat abruptly that "if a gardener doesn't lose a few things in the spring and in fall, they're not getting their money's worth." I humbly turned and headed to the house. BOY, would she be proud of my gardening habits today!

I have indeed taken that old cliché "plant early and plant often" to a higher level. Some years back I started using row covers and found they reduce the risk of a late "killing" frost, hasten the growth of early crops, and improve seed germination rates. Thankfully, these row covers have greatly reduced my "practice planting" opportunities. In addition, when row covers are used in the fall, they can extend the fall growing season, and that's especially true if you combine row covers with raised beds.

The use of protective coverings to produce a miniature greenhouse effect is certainly not a new idea. A quick trip to one of our local antique shops will often led to the discovery of glass bell jars, which were commonly placed over individual plants in the early 1900's by European gardeners. And more than a few of us recall using newspapers to make paper "hats" to place over tender tomato and pepper seedlings to protect them from a late frost.

The main purpose of row covers in the late winter or early spring is to provide protection from adverse weather conditions and increase air and soil temperatures during the initial stages of growth. The improved growth of plants under row covers can be attributed to higher air and soil temperatures. Row covers, when utilized in conjunction with raised beds, often allow crops to be planted 3-4 weeks before traditional planting. Now that's a head start to make my grandmother envious!

Two basic types of row cover material are available: **plastic** (which is supported by plastic or metal hoops)

and **fabric** (which also may be supported by plastic or metal hoops but often are let to float, resting directly on plants). If you decide to use clear plastic, go for a length of 5 to 8 feet wide. Plastic comes in a range of thicknesses, measured in millimeters, ranging from 1 ½ mm to 8 mm, the greater the thicknesses, the higher the insulation value, and thus, greater heat retention. The down side of a thicker material is that less light passes through to the plants. The sides and ends of the row covers are secured in place by anchoring the edges with one of the following methods:

- Ground stakes
- Row cover hand pegs
- Anchoring pins
- Soil
- Stones
- Pipes
- Boards
- Plastic bottles filled with water or sand.

The temperature under plastic row covers needs monitoring as heat will build up and can be 20-25 degrees hotter than the outside air temperatures. As a general rule, when the air temperatures outside of the row cover reaches 60º-65º F, the ends should be opened to provide ventilation and cooling to prevent plant damage.

One advantage of utilizing a supported row cover is that as temperatures rise, you can prevent bolting of lettuce and other plants that are not tolerant of warm temperatures. You simply remove the row cover and drape a shade cloth over the frame, and your lettuce will continue growing — and not going to seed — in that nice, cool shade.

Most **floating** row covers are thin, lightweight, porous or spun-bonded materials. They are placed directly over the plants, leaving some slack for movement and room for plant growth. As with plastic row covers, the edges of floating row covers are secured by anchoring the edges with dirt or stones or metal staples you can find at gardening stores. Floating row covers provide only a few degrees of protection, but they are an excellent barrier for a wide range of pests. However, if the crop requires pollination, such as squash, the row cover needs to be removed when plants start to flower or you'll need to pollinate by hand.

There are numerous resources, including various web sites and seed catalogs that provide "How To" instructions for row covers as well as offer materials for constructing row covers.

- Be aware that manufactures and vendors of row covers hype their products, claiming remarkable results. Nevertheless, there's science to support some claims, at least to some extent. An article published by Washington State University ("Row Covers for Vegetable Gardens –Community Horticulture Fact Sheet #19" http://ext100.wsu.edu/king/wp-content/uploads/sites/17/2014/02/Row-Covers-for-Vegetable-Gardens1.pdf) suggests that university research has confirmed a number of row cover benefits:

- Early Yields
- Increased Yields
- Frost protection
- Pest Protection
- Water Conservation

This article describes an interesting trial conducted in New Hampshire, which involved both covered and non-covered seedbeds of nine varieties of lettuce and three types of spinach, which were planted in October.

By spring those beds with floating row covers had perfect stands of lettuce and spinach. In those beds without row covers, **not a single plant survived the winter**. The researchers were bewildered by the dramatic results because the temperatures recorded under the row covers were the same as without row covers (-2 degrees F). The researchers theorized that the frost heaving and drying was less severe under the row cover material! They are continuing their trials, so maybe soon we'll know even more about row covers. In the meantime, I encourage you to try some row covers this spring. With a row cover, you can afford to get greedy!

Resources:

Virginia Tech Publication 426-381 "Season Extenders" http://pubs.ext.vt.edu/426/426-381/426-381.html

"Vegetable Production Under Row Covers," *The Virginia Gardener*, Volume 6 Number 2, February 1987 (S.B. Sterrer)

"The Use of Row covers in the Home Garden: Cornell University Ecogardening Factsheet #6,"

Spring 1993 http://www.gardening.cornell.edu/factsheets/ecogardening/userowcover.html

"Row Covers for Vegetable Gardens" (Washington State University Community Horticulture Fact Sheet #19) http://ext100.wsu.edu/king/wp-content/uploads/sites/17/2014/02/Row-Covers-for-Vegetable-Gardens1.pdf

Edible Garden

By Cleve Campbell | February 2015 - Vol. 1 No. 2

Well, January has come and gone, and those days warm enough for outdoor winter gardening tasks were few and far between. February will not only bring its fair share of cold, damp, and just plain old miserable days but also that old feeling of anxiety, knowing I can no longer put off those gardening projects waiting on that perfect day. As my list of tasks continues to grow, I await those occasional sunshine days that February will certainly bring, well aware that planting season is not far away. So here's a list of my February tasks:

- Complete seed inventory, run a germination test on seeds stored from previous years to see if they still sprout.A little online research located numerous sites, including various seed companies that offer information on home seed germination testing. One such site, Oregon State University offered basic and simple instructions for " How to test your stored seed for germination". http://extension.oregonstate.edu/gardening/how-test-your-stored-seed-germination-0
- Handle seed packets carefully. Don't try simply rubbing the packet to determine a "feel" count can break the protective seed coating, thus reducing germination.
- Review All America Selections web site for new 2015 vegetable winners for possible planting candidates. http://all-americaselections.org/winners
- Complete seed catalog orders now before specific desirable varieties sell out and order early in the month to take advantage of promotional offers of free seeds or discounts for early orders.
- Clean and inventory seed flats; soaking flats in a bleach solution ratio of 10 parts water to 1 part bleach solution will kill disease-causing microorganisms.
- Begin collecting containers that can be used for transplants, such as styrofoam cups, yogurt and sour cream containers.
- Clean crusty clay pots with a vinegar/bleach solution. To make the solution: add 1 cup each of white vinegar and household bleach to a gallon of warm water and soak the pots. For heavily crusted pots, scrub with a steel wool pad after soaking for 12 hours.
- Inspect garden tools such as garden sprayers, and tillers. It may be hard to locate some needed parts; however, by starting know, I'll have them before the start of the gardening season.
- Sow seeds indoors for plants that can be transplanted in mid to late March: those include onion, broccoli, cauliflower, brussel sprouts, and cabbage.
- Monitor the soil temperature in the raised bed, and be prepared to plant peas once the temperature reaches 50-60º F.
- For an interesting ornamental plant and culinary addition, buy a plump unshriveled ginger root at the grocery store and plant it in a light sandy soil just under the surface in a 6"-8" pot. Place in a warm sunny window and keep it damp until shoots appear. Water more frequently and fertilize monthly with a high phosphorus fertilizer. Harvest in about eight months, saving a piece to replant. http://www.tropicalpermaculture.com/growing-ginger.html
- Continue pruning apple tress though February to help control diseases and insects, remove all

diseased wood from the site as trash or destroy it by burning. Also, remember pruning tools used to cut diseased wood should be disinfected with alcohol or a 10:1 (10 parts water to 1 part bleach) disinfecting solution before using again. For additional information, see Virginia Tech Publication 422-023. http://pubs.ext.vt.edu/422/422-023/422-023.html

Witch Hazel

By Patsy Chadwick | February 2015 - Vol. 1 No. 2

What IS that plant? That's not an uncommon reaction the first time one encounters a witch hazel in the winter garden. Not many winter-blooming shrubs exist in the mid-Atlantic area. A few come to mind, such as sweetbox, wintersweet, winter daphne, and winter jasmine, but witch hazel is perhaps the best known and appreciated in the winter landscape for its bright, cheerful, spidery-looking blossoms and sweet fragrance.

Witch hazels are large multi-stemmed shrubs or small trees. Besides blooming in the dead of winter when the rest of the garden is asleep, witch hazel provides richly hued yellow, orange or red foliage in autumn, depending on the cultivar. Although it is a slow growing plant, it is worth the wait when it bursts into bloom. The blossoms appear in tight clusters along the branches. Each blossom consists of four ribbon-like petals which unfurl and flutter in the winter air on warm days but curl up tightly at night when temperatures drop.

Pests rarely bother this plant, deer and groundhogs generally leave it alone, and it is easy to grow. With so much going for it, this is a plant that deserves greater attention and consideration for use in the ornamental landscape. Be warned, however, that some witch hazels tend to sucker, which can be a problem if you want to control the overall size of the plant or if you're growing a hybrid that is grafted onto native rootstock. Periodic pruning may be required to remove the suckers but, other than this one issue, the plant requires very little maintenance.

Linnaeus named this plant *Hamamelis* in 1753 when he observed leaves, flowers, and prior year's fruit appearing all at once on a single native witch hazel. He chose a combination of "hama" (at the same time) and "melon" (apple or fruit) for its name.Three native and two Asian species make up the *Hamamelis* genus: *H. virginiana, H. vernalis, H. ovalis, H. mollis and H. japonica.*

NATIVE WITCH HAZELS

Common witch hazel, or *H. virginiana*, is native to the entire eastern half of the United States and Canada, according to the U.S. Department of Agriculture plants database (see http://plants.usda.gov). Unlike the

other four species of witch hazel, which bloom in the winter or early spring, *H. virginiana* blooms in autumn at the same time the leaves are turning. As a result, the yellow blossoms tend to compete with the yellow foliage for attention.

Hardy in USDA Zones 3-8, *H. virginiana* can grow quite large (15 to 20 feet or more tall and wide). It is well suited to naturalized settings, such as along streams or at the edge of deciduous woods but it can also be incorporated into a mixed garden border provided there's room for it. The Albemarle County Recommended Native Plants list (see www.albemarle.org/nativePlants) indicates that this native shrub is an excellent choice for rain gardens and swales as well as for bioretention basins (which are used to slow and treat storm water runoff). This native shrub performs well in partial shade and is tolerant of full sun or full shade but flowers best in full sun. It prefers moderate moisture but will tolerate moderately dry conditions or high moisture sites. It prefers well-drained, loamy, acidic soil but it does tolerate clay soil. And in case you're wondering, the leaves and bark of this American native are the source of the Witch Hazel astringent sold commercially and used medicinally.

Ozark witch hazel, or *H. vernalis*, is native to the Ozark Mountain areas of Missouri and Arkansas. It is a medium size shrub, between 6 and 10 feet tall, with a rounded form and showy yellow autumn foliage. This species has smaller flowers, which minimizes their impact in the garden, but the blossoms are intensely fragrant.

A third but minor native species, big-leaf witch hazel, or *H. ovalis*, was discovered in a single county in Mississippi in 2003 and is not currently known to be growing elsewhere. The interesting thing about this species of witch hazel is that the flowers appear in various shades of red, whereas *H. virginiana* and *H. vernalis* both have yellow blossoms.

ASIAN WITCH HAZELS

Chinese witch hazel (*H. mollis*) has a large, rounded form and is hardy in zones 5 to 8. The blooms, which are brightly colored and fragrant, appear in February or March and last several weeks. This Chinese native possesses a powerful perfume which makes it appealing to many people.

The Japanese variety (*H. japonica*) has an upright, open form that typically grows from 10 to 15 feet tall and wide with a rounded, spreading shape. Like the Chinese form, this variety is hardy in zones 5 to 8 and produces fragrant yellow blooms in February or March.

HYBRID WITCH HAZELS

Here's where things get interesting. The vast majority of witch hazels sold commercially in this country are hybrids, which fall under the *H. x intermedia* category. These hybrids are the result of a cross between the two Asian species: Chinese witch hazel and Japanese witch hazel. The marriage of these two species has created some very interesting colors and has significantly broadened the appeal of witch hazels as garden-worthy shrubs.

One of the better hybrid witch hazels is 'Arnold Promise,' an up-right, vase-shaped cultivar with ascending branches and a spreading habit. It blooms later in spring than other witch hazel cultivars and is larger than either of its parents, which is generally true of all the *intermedia* hybrids. It was introduced by the Arnold Arboretum of Harvard University and received a Royal Horticultural Society of Great Britain Award of Garden Merit in 1993. It bears bright yellow flowers in late winter to early spring. In autumn, its foliage turns yellow to yellow-orange and is quite showy in the landscape.

While many of the *H. x intermedia* hybrids are available in various shades of yellow, which is the color

typical of the species, *intermedia* hybrids also appear in orange, red, pink and even purple. ‘Jelena,’ for example, has coppery red flowers and a broad vase shape. Its orange-red fall foliage is spectacular in the ornamental garden. ‘Diane’ is a red flowering form that is not as fragrant as some of the yellow varieties. The University of Connecticut rates ‘Diane’ as “perhaps the finest red-flowering form” of witch hazel available. In late winter, the showy coppery red flowers are striking against a background of snow. The autumn foliage is a rich yellow-orange.

An informal check of local plant nurseries in and around Albemarle county indicates that you’re most likely to find specimens of *H. virginiana* or *H. x intermedia* among their inventories of witch hazels. Of the many hybrids available, ‘Jelena,’ ‘Diana,’ and ‘Arnold Promise’ are the easiest to find in addition to the native species. If you’re interested in growing a witch hazel but want more information about them, check out the Chicago Botanic Garden’s website (http://www.chicagobotanic.org) to learn more about their six-year witch hazel trials as they compare 36 different cultivars from the four major *Hamamelis* species.

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The Ornamental Garden in February

By Patsy Chadwick | February 2015 - Vol. 1 No. 2

It's February and time to start planning for this year's garden. Yes, the weather is wintry outside and the garden is still asleep but the days are growing longer. Spring will be here before you know it. Use this time wisely to gear up for planting season when it finally arrives!

Check **seed catalogs** for seeds, bulbs, bare root roses, or other plants that might not be available from local sources and place your orders while there's still plenty to choose from.

Organize your seed packets into two groups: (1) seeds to germinate indoors and (2) seeds to sow directly in the soil once warm weather arrives. Not sure which way to go? When all else fails, refer to the directions on the seed packets for guidance. Now that you've got your seeds organized, decide how many plants you need for the space available in your garden. Once you have accomplished these two tasks, you can then develop a detailed planting schedule. This will save you considerable time and effort later.

If you're planning to **start seeds** in-doors, check your supplies to make sure you have adequate potting soil, pots, trays, plant tags, etc. Don't forget to check the light bulbs in grow lights to make sure they are operational.

Don't forget to inspect your **house plants** on a regular basis for insect damage. Dry indoor air can create the perfect environment for pests such as scale, mealy bugs, spider mites, white fly and even aphids.

Treat your house plants to a bath. Yes, you read that correctly. **Dust on house plant foliage** makes it difficult for the leaves to "breathe." Dust also filters available light, which interferes with photosynthesis. For plants with large leaves, use a moist cloth to gently wipe the top and bottom surfaces of each leaf. For plants with small leaves, spritz the foliage with lukewarm water.

Inspect stored bulbs, tubers, or corms at least once a month until planting season to make sure they are still plump and viable. If they are shriveled, very lightly moisten them. If any bulbs appear soft or diseased, discard them now.

Out in the ornamental garden, check both evergreen and deciduous trees and shrubs for **snow or ice damage**. Remove any broken limbs and clean up any fallen debris.

While you're inspecting your evergreens, check for **drought stress**. When the ground is frozen, evergreens cannot take up water, causing leaf tips or entire leaves to turn brown. When the soil thaws enough to allow moisture absorption, water evergreens at the soil level.

Inspect trees and shrubs regularly for damage from **deer, rabbits, voles** or other wild animals. Damage can take many forms – chewed or torn foliage, bitten or broken limbs, scraped or gnawed bark, etc. Install a physical barrier such as hardware cloth or chicken wire around the stems or trunks to prevent further damage. Also, check to make sure mulch isn't piled up against tree trunks. If it is, pull it back from the trunk a couple of inches to discourage vole activity.

This is the ideal time of year to **prune most deciduous trees and shrubs.** Prune now to remove any crossing branches, dead or weak branches. If you're a novice at pruning, the Virginia Cooperative Extension's (VCE) publication on Pruning Basics and Tools (VCE Publication 430-455), http://pubs.ext.vt.edu/430/430-455/430-455.html, is an excellent resource. In addition, VCE Pub. 430-460,

Deciduous Tree Pruning Calendar at http://pubs.ext.vt.edu/430/430-460/430-460.html, is an excellent guide. For information on when and how to prune evergreen trees, check VCE Pub. 430-457, Pruning Evergreen Trees, at http://pubs.ext.vt.edu/430/430-457/430-457.html.

Continue to Inspect flower beds for any plants that have been pushed out of the ground as the result of **frost heave** (freeze/thaw action). Gently place the plant back in the original planting hole and add two to three inches of mulch around it to protect the roots from cold temperatures.

Cut back dormant ornamental grasses before spring growth occurs. Before tackling this project, place a drop cloth on the ground next to the grass clump to collect the cut grasses and loose debris. Next, tie the clump into a bundle using a rope or bungee cord. Then, use pruning shears or a hedge trimmer to cut the grasses a few inches from the ground.

Carefully trim away old foliage from **hellebores** so that you don't damage emerging flower buds.

Before heading back indoors to blessed warmth and perhaps a cup of hot chocolate, take a close look at the garden for the earliest **signs of spring** – coy snowdrops peeping through the snow; nodding hellebore blossoms unfurling through last year's foliage; delicate yellow winter jasmine blossoms clinging to long, bare branches; the first crocuses; and last but not least – the emergence of daffodil foliage.

Finally, if you're really hungry for a spring "fix," snip a few branches of forsythia, pussy willow, flowering quince, service berry, peach or plum to **force into bloom** indoors. Place the branches in water and re-cut the stem ends on a slant while they are submerged. This will facilitate water absorption. Change the water every few days.

Winter Lawn Care

By Melanie | February 2015 - Vol. 1 No. 2

Last month we talked about lawn alternatives, which is laudable, but some of us enjoy jumping on the riding mower, putting the headphones on, and listening to country music. And we wouldn't want to miss the enjoyment of surveying the beautiful green grass that spring brings and its fresh smell when cut. However, it is February, and looking out the window I see only dormant looking grass with a freezing rain coming down.

Lawns can be a lot of work, and the winter provides us with a needed break from the routine maintenance required to have a beautiful lawn. Sometimes we work hard on our lawns, yet they are still not beautiful. Is there something we can do now to jump start it before spring rolls around? Maybe…..

Keep it Clean

After you push that mower into the shed for the last time of the year, look around then, and as the winter goes by to be sure all objects and debris remain off of the lawn. Intermittently, check to be sure no lawn furniture has been moved onto the lawn itself and all toys such as soccer goals are removed. Additionally, as leaves, branches, and sticks fall onto the yard, remove them as soon as possible.

If an object is left on the grass during cold weather and snowfall, it can create large dead spots because of the weight of the objects. In the spring the grass in that area will be stunted and thinner than the rest of the yard.

Avoid Excessive Lawn Traffic

When the grass is brown and short, it's easy to forget that it shouldn't be walked upon. Try to prevent foot traffic on your winter lawn. Grass is relatively resilient, but it will have a difficult time recovering if a path becomes well worn across the lawn.

- Keep your sidewalks cleared of ice and snow so that you and your guests won't be tempted to cut across the yard very often.
- Never allow anyone to park a truck or a car on your lawn. Even the smallest vehicle will leave impressions in the soil and kill off the grass that is underneath the tires. Using the lawn as a parking lot is the fastest way to kill the good grass and encourage the growth of crabgrass and other types of weeds.
- Keep the lawn cleared of debris and help everyone in the family respect the yard while it is dormant.

Frost/Ice on the Lawn

Dr. Mike Goatley, turfgrass specialist for the Virginia Tech Extension Office, had to tell his kids that they could not play on their southwestern Virginia lawn after a severe winter freeze. Why, they asked? In simpler words, he explained ….."Trafficking frost or ice-covered turf usually results in extensive physical "breaking" of the grass leaves. The internal pipelines of the leaves (the xylem and phloem tissues that are involved in moving water, nutrients, and carbohydrates around in the plant) are usually severed when traffic is applied to ice-covered foliage. The damaged turf leaves don't fall away completely from the stem, but instead slowly turn brown and die." Listen to his entire podcast at
http://www.ext.vt.edu/topics/lawn-garden/turfgrass/turfandgardentips/tips/my-turfs-on-ice.html

Golfers who arise early in late fall or winter have experienced "frost delays." The purpose of the delay is to prevent further damage that would be caused by foot or cart traffic. This is what Dr. Goatley was trying to avoid on his own lawn.

You will likely see the damage caused by walking on frosted grass in the form of footprints. This will last until new leaf blades develop, and that won't happen until April or May. Fortunately, frost damage is more cosmetic than anything and should not affect the overall survival of the lawn.
If that is true, what about sledding? The bottom line is enjoy the sledding with the kids. Repeated sledding can cause some wear and compaction, but not nearly the same damage as stepping on frost/ice covered lawns. If it snows enough in Central Virginia to go sledding, go for it!

Ice Melters

In another great podcast from Virginia Tech turf specialist, Mike Goatley, he discusses how to select the appropriate ice melt product and how an informed decision can protect our water quality. Go to: http://www.ext.vt.edu/topics/lawn-garden/turfgrass/turfandgardentips/tips/ice-melt.html.

VDOT uses "salt" on icy roads from January to March. This is a precaution taken for the safety of those driving on dangerous roads. These ice melt compounds are usually chloride based and are the cheapest and most readily available. Cities in our locality — such as Charlottesville – have safety ordinances requiring removal of snow from sidewalks within a specific time. It is also important, though, to consider and reduce any untoward environmental effects these products may bring. In general, the chloride salt based products are not considered environmentally damaging , but can be corrosive to cars and sidewalks if not washed off. These products can also kill roadside/curbside vegetation. Rainfall usually washes away the corrosive effects of the salt based products and should have a minimal environmental impact.

Another environmentally friendly deicer to consider for homeowners is calcium magnesium acetate (CMA), but it may be more difficult to find and is costly. However, Dr. Goatley has found that some box stores have encouraged the use of products that can have a serious impact environmentally — garden or lawn fertilizers that contain nitrogen (N) and phosphorus (P). If you use these products as a deicer, you risk adding these chemicals to our storm drainage systems, which will adversely affect water quality downstream, specifically the Chesapeake Bay.

Snow mold

Although it may be too late in February, next year remember to mow your grass fairly short at the end of the season. If the grass is left too long, it will lie over on itself when snow arrives. When this happens, air circulation around the plant is reduced and snow mold, a destructive early spring lawn disease, can become a problem in your lawn. It can cause large areas of grass to die, or at least weaken in vigor. This is seen more often in northern areas that have snow on the grass throughout most of the winter .

Using sharp mower blades to prevent diseases from attacking, and proper fertilization prior to winter will help prevent the snow mold fungus. For more information, go to the following podcast: http://www.ext.vt.edu/topics/lawn-garden/turfgrass/turfandgardentips/tips/Snow-mold.html

In summary:

- Keep the lawn clear of lawn furniture, toys or debris
- Avoid excessive lawn foot traffic
- Avoid parking a truck or car on any part of the lawn
- Avoid walking on lawn of there is frost or ice
- Ensure that appropriate "ice melt" chemicals are selected to minimize possible environmental effects. Avoid using those with nitrogen and phosphorus.
- Consider servicing your lawn mower now in preparation for Spring and avoid the rush at the repair shop.

So sit back for now…..watch for snow……order seeds for your garden…….go skiing … because spring is right around the corner.

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Grated Beet Salad with Apples

By Cleve Campbell | February 2015 - Vol. 1 No. 2

Something red and healthy for Valentines Day!

2 Granny Smith apples, peeled and coarsely grated or chopped

2 beets, peeled and grated

1 garlic clove, peeled and minced

¼ cup of balsamic vinegar

¼ cup extra virgin olive oil

Fresh dill for garnish

salt and pepper to taste

Directions:

Place grated apples and beets in a bowl and toss with garlic and balsamic vinegar. Drizzle with olive oil, season to taste and add fresh dill garnish.

Serves: 4