



GROUNDDED

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In Memoriam

Grant-Adams WSUE Master Gardeners lost one of our own recently. Edris Herodes died August 1, 2017. In a small cadre of dedicated volunteers and learners, this feels like a ‘ripple in the force.’ We’d like to dedicate this issue of *Grounded* to our dear Edris.

Edris pursued Master Gardener certification in 2014 after retiring from her career at the Washington State Department of Social and Health Services (DSHS). Her curiosity, passion for growing things, and desire to serve her community were evident immediately. All of this was packaged in a kind, funny, bright woman who will be sorely missed.

Edris was interested in just about everything. She wanted her personal garden to have more vegetables and be easier to maintain. Her curiosity led her to research raised beds and new things to grow. Any time a new-to-her pest, weed, vegetable, or gardening idea came up, Edris’s interest was piqued.

This curiosity led her to try growing different things. Edris ‘discovered’ the Supersauce tomato and won a tomato contest at the Moses Lake Farmers Market. It’s a variety most of the MGs now grow, along with many of our plant sale customers. She was so excited to learn that sweet potatoes grew in the Columbia Basin that she immediately tried growing her own slips to plant. Wondering why the half sweet potato suspended with toothpicks in a glass of water wasn’t sprouting, she asked for advice. We laughed often about this upside-down experiment. Edris’s kale (from her backyard, of course) salad was famous at MG potluck meetings.

Edris's dedication to the mission of Master Gardeners was also clear from the instant she began training. Edris volunteered for everything! She even volunteered her home for an MG Foundation meeting when she was brand new to the group. She answered questions at the Moses Lake Farmers Market, worked in the greenhouse, served on the Symposium committee, and took over as chair of the raffle committee her first year with us. And was she ever good at that role! Edris could cajole raffle donations from almost any business. She also personally made and donated a wine keg table that was one of the most popular raffle items ever.



Edris, second from left, was an enthusiastic gardener

So yes, the Master Gardeners will miss Edris as a friend and member of our group. Her enthusiasm, kindness, smile will stay with us forever.

Mid-Summer Gardening: The Hinge of the Gardening Year . . . by Barbara Guiland

The glory of late summer flowers: rose of Sharon and hardy hibiscus; rudbeckia, gaillardia and cone flower; lady-in-red salvia, zinnia and marigold; alyssum, yarrow, and lobelia; and guara, honeysuckle, flax, and trumpet vine, not to mention geranium and petunia. And don't forget the daylilies in every hue from pale yellow to deep scarlet in full sun and the vibrant colors and greens of coleus, hosta, and hydrangea in the shade of the north side of the house. They all flourish in the summer heat. There are more flowers to come: chrysanthemums, perennial aster, 'Autumn Joy' sedums, but the garden right now is richer in flower than it ever was during the early part of the year or ever will be again in this calendar year. The major activities outside at this time of year, other than watering, are weeding, deadheading, brushing cobwebs off the house, and pruning the fast-growing vines.

Watering takes about an hour and a half, or longer if the gardener is watching birds flitting about the 7 or 8 birdhouses, or petting the cats who are 'helping', or picking a bowl of raspberries for breakfast, or gazing at the gaura dancing in the light breeze. Other than the soaker hoses laid under the major trees, roses, and shrubs, most of the watering is done by hand with the nozzle on soft shower at the base of the plant before moving on to the next plant. On every third day, soaker hoses run for two hours under the trees, roses, and large shrubs. After the lawn is mowed, usually every two weeks, low sprinklers run on the 8- by 30-foot strip of lawn for at least an hour. It does get some water every day as we water the large flowerbeds that border it.

Deadheading, removing the old blooms, is done mainly to encourage more flowering for this summer. The zinnias, coneflowers, gaillardia, salvia, geranium, and re-blooming roses respond vigorously after removing single old blooms. I give plants like lobelia, alyssum, some pansies and petunias a haircut with the grass clippers when they get leggy. I also cut the stalks on lilies and iris as they die when I am cleaning up in anticipation of next year's bloom and growth. Some of the clematis, the montanas, even give a little more bloom in summer if the blooms and vines are cut back a little. My husband seems to be fond of deadheading and I happily let him help.

Just as the flowers/plants that I love are in their full glory, so are the ones that I don't love as much. The weeds that concern me at this time of the year are not the ones that claimed my full attention 1-1/2 months ago and with which I've reached a compromise: purslane, hoary cress, black medic, mallow, violet, spotted spurge. Actually they've won—I just try to keep them from crowding out the other plants—*except for one weed*. I began in late spring trying to get rid of a weedy form of campanula (*Campanula rapunculoides*). It has a number of common names. It's



Campanula



Campanula

sometimes called creeping bellflower and it's related to the well-behaved Canterbury Bell. I've had it in my gardens for years thinking it was kind of cute when it bloomed, but this year I spent hours deep sifting for the roots and rhizomes of it under my shrub roses, a pretty scratchy undertaking, and I continue trying to dig it out. It grows in almost any soil in wet or dry conditions, reseeds readily and spreads by rhizomes and root fragments that grow down 8 inches. Even the smallest root piece is capable of regenerating, so it is exceptionally difficult to eliminate by cultivation or digging out the plants. In rich soil it can take over beds and move into lawns. It is hardy in zones 3-9.

Creeping bellflower is naturalized in many parts of North America and is classified as a noxious weed in some states and provinces. It is not a useful ornamental plant. Avoid introducing it in your garden! It is often found in disturbed areas, along roadsides, in fields and forest plantations, and as a lawn weed. I don't know how it got started in my gardens. For a while, I suspected that it came from a nursery, but it could just have easily come from a neighbor's yard. Avoid it if you can. I have only beaten it back temporarily.

At this time of the year, the other weeds that I look for are those that turn into trees and killer vines: the seedlings of Siberian elm, Tree of Heaven, maple, Nanking cherry, Virginia creeper, trumpet vine, and bindweed. How they love my well-watered soft soil! Most of these seedlings, except for the bindweed, are fairly easily disposed of. You simply have to recognize them for what they are—plants in the wrong place—and pull or dig them out. If you ignore them, they will become a problem with well-established roots. Like kochia, they hang around outside my fences just waiting for a chance to slip in and take over.



Elm seedling

Siberian elm can grow 30' to 50' high. It can invade and dominate disturbed areas in a few years. Seed germination is high. I pull dozens of seedlings out of my beds. It grows readily in poor soils and low moisture. It's a native of eastern Asia introduced to the US for its hardiness, fast growth, and ability to grow in various conditions. It is still sold commercially as a shelterbelt and windbreak tree in some states!



Siberian Elm (*Ulmus pumila*) and Bindweed (*Convolvulus arvensis*)

Bindweed seed remains viable for up to 20 years, so it's important to remove plants before the flowers go to seed. Luckily it's not as hard to control as the larger vines although one plant can produce 500 seeds. Some ways to control it are digging and hand pulling (my method), but apparently other thorny vines like pumpkins, squash, and melons can keep it down. The bindweed does not strangle out those plants like it does others. It can also be controlled by using mulches around plants

although I still find it growing up a rose or the raspberries despite using a lot of mulch.

Tree of Heaven (*Ailanthus altissima*) was imported into the United States from China in the 18th century by a gardener who thought it was beautiful. It is an invasive species found all over the US that can grow to 80 feet high. My neighborhood is full of them and every summer I pull many of the seedlings out of my gardens.



Tree of Heaven



Maple seedling

Many **maple tree** (*acer*) varieties send out seedlings. If the tree is under drought stress, like the large maple in my neighbor's yard, it will send thousands of winged seeds twirling through the neighborhood looking for damp, loose garden soil. This one is more than likely a hybrid silver maple seedling. It's just another weed that I don't want to grow into a tree among the tomatoes or behind the roses.

Nanking Cherry (*prunus tomentosa*). I've used it for hedges and shade, tried to espalier it, and think it could be easily grown in a pot. One of the drawbacks is that their little red cherries can grow into trees very quickly if you're not watching for them. The birds love them and spread them all over the lot and the

neighborhood! Nanking cherry is a large, wide-spreading shrub that can be pruned into a small tree (up to 15 ft) with soft green foliage. In early spring, the bush is adorned with fragrant, pillowy white or pink blooms that give way to small, dark red fruit. The berries are edible and make excellent jams, jellies, and preserves. These bushes provide habitat for birds and other wildlife as they enjoy the fruit too. It's an easily grown bush, resists drought, and is widely adaptable. But you don't want them growing in the middle of the perennial asters or peonies. Then they become another weed.



Nanking Cherry



Virginia Creeper

Many gardeners like **Virginia Creeper** (*Parthenocissus quinquefolia*), but it is a really scary vine that can beguile you with its handsome green leaves that turn bright red in the fall and the tiny poisonous fruit that attracts birds. It has zombie-like qualities that allow it come back from the dead after you think you've dug out the last of its roots, and then you find the tiny sprouts everywhere. Virginia creeper will grow up any tree and most shrubs. This species will slowly kill the host on which it is growing because it prevents the host from receiving an adequate amount of sunlight. It can also crowd or choke other plants. Under the right conditions, it will grow 50 or 60

feet a year. You just don't want to let it get that far. Pull up the seedlings unless you're prepared to watch the vine closely. According to one of the reference sources at the bottom of this article there are some hybrids that aren't so invasive.



Trumpet Vine

Trumpet Vine (*Campsis radicans*) requires a sturdy support and close watching. It's tolerant of harsh weather conditions, including strong winds, heat and cold, and poor soil quality. It is considered an invasive weed in certain areas because of its hardiness and rapid growth. Without pruning, it will rapidly out-compete and suffocate other plants. It's important to watch for the new vines starting from seeds thrown out from those lovely orange blooms. My trumpet vine rewards me with cover from the dry weedy lot behind the fence that it grows on. Those beautiful orange flowers will bloom until I prune them back. The blooms are on new wood so be careful about pruning them to keep the bloom where you want it. Like all fast growing vines, it requires discipline. Every year I cut it back to its major stems which are now

entwined in the fence and during the summer I keep pruning to limit its size and digging up the seedlings in the damp soil.

Watering and weeding, deadheading and pruning seem to happen almost simultaneously, which is why it takes so long to water in the morning. Before I know it, I've spent the morning in the garden and forgotten all other chores I might have set for myself that day. I appreciate the company of the cats and the birds and my husband with his hose or his pruners in hand. I can't think of a better way to spend a summer day.

References:

Invasive Plants: Treatment recommendations: <http://extension.wsu.edu/sanjuan/wp-content/uploads/sites/9/2014/04/Invasive-Plant-Treatment-Guide-US-Forest-Service.pdf>
 Siberian Elm: <http://www.dnr.state.mn.us/invasives/terrestrialplants/woody/siberianelm.html>
 What to Do in the Garden in August: <https://www.rodalorganiculture.com/garden/gardeners-do-list-august>
 Trees Never to Plant: Barbara Guiland, Grounded Newsletter, Grant-Adams Master Gardener Foundation, Vol 2, Issue 3, August 2013.

Note: All photos taken by Barbara Guiland except for the Campanula taken by Martha Modzelevich

It’s Time to Plant Your Garden – for Fall, that is! . . . by Duane Pitts

Believe it or not, it really is time to plant a fall vegetable garden. I know, I know, it is hot right now and probably will be for some time. However, those cold-hardy plants need to germinate in the warm soil now. By the time cooler weather arrives, the plants will be growing.

I am sure you are saying - “What do I plant? I thought gardening was for spring only!” Well, the WSU Extension website lists several veggies that will grow well until the first frost arrives. It is possible to gather various fresh garden vegetables during September and October, depending on what you like and where you live in the Columbia Basin. Here’s a list of fall veggies to consider: beets, broccoli, cabbage, carrots, green onion, kale, lettuce, peas, radishes, spinach, Swiss chard, turnips.

According to Kris Nesse, one of the Grant-Adams Master Gardener specialists, most locations are “in Zone 6B, with smaller pockets of Zones 6A and 7A. You can check your own backyard using the USDA’s interactive map: <http://planthardiness.ars.usda.gov/PHZMWeb/InteractiveMap.aspx> or through WSU’s website: <http://county.wsu.edu/grant-adams/Pages/default.aspx>.”

She says “The PHZM indicates statistically when first and last frosts occur.” Looking at the PHZM interactive map, you will note that for Zones 6A, 6B, and 7A the first frost date is October 15, and the last frost date is April 15. So, how do you plant for the fall?

Here is a rule-of-thumb planting guide, keeping the fall frost date of October 15 in mind:

1. Start with the fall frost date of October 15.
2. Count back the total number of days from seeding to harvest. This will vary among the vegetable varieties you plant. Since snow peas take 70 days to harvest, I have seeded them already. (If an early frost kills them, I will plow them under.)
3. Then count back another 14 days to account for cooler fall temperatures and shorter hours of daylight, both which slow down plant growth. Err on the side of having veggies to harvest by planting earlier if you wish. I forgot to do that last fall. However, you may shorten the 14-day leeway if you really want to push limits. If you are comfortable with that, go for it!
4. The result will be the estimated day to plant the vegetable seeds for a fall harvest.

This fall, radishes, carrots, Swiss chard, and snow peas appeal to me. Last fall, I put out fava beans too late and, of course, they did not make it, except for one plant that is thriving even now! (See photo at right.) The beans were supposed to be cold-hardy, but only this one was both cold-hardy and suffered the weight of snow on it. I will plant fava beans next spring, not this fall. Live and learn!



Photo: Duane Pitts 2017

Prepare the garden area just as you did for spring: turn the soil, add mulch and fertilize as needed. Plant with extra space between the seeds. This allows good air circulation between the seedlings to cut down on molds and other diseases that come with wetter and cooler weather. Thin if more space is needed between plants. Harvest when ready. Enjoy your fresh, home-grown vegetables this fall!

References:

Nesse, Kris. "Is It Time to Plant Yet?" *Grounded*. March 2016, Vol.1, Issue 1, pages 2, 4.

<http://extension.wsu.edu/grant-adams/wp-content/uploads/sites/39/2014/01/March2016NewsletterDRAFT5.pdf>.

USDA. "USDA Plant Hardiness Map." <http://planthardiness.ars.usda.gov/PHZMWeb/>.

Washington State Department of Agriculture. "Washington Grown Vegetable Seasonality Chart." www.agr.wa.gov/aginwa/docs/SeasonalityChartHUSSCVegetablefinal.pdf

Flower Beds – More than Flowers . . . *By Lisa Villegas*

Flower beds seem to be fading a little in popularity these days as many families have less space and more time restraints. Container gardening using a variety of flower pots is now a common choice. I love flower pots of every shape and size, and I love planting flowers in things that are not flower pots, but there are few things in my gardening world that give me more pleasure than digging in the dirt in my flower beds.

Some of my flower beds have been planted for nearly 30 years now. I've added plants, moved plants; plants have died and new ones replaced them. My flower beds usually consist of a foundation of perennials with annuals added in for constant pops of color throughout the summer. There is always a new annual I want to add, and, by changing them each year, it keeps the beds more interesting.



My flower beds hold fond memories for me. Many of them were planted with the help of my three sons. We've hauled load after load of soil, compost and bark. We have also lugged huge rocks for perfect placement in those beds and spent countless hours weeding them while discussing the latest events in our lives.

On one very hot summer day, we placed garden blocks around one of my very first flower beds. The events of that day included claims of heat stroke, backyard water hose fights and promises of root beer floats to finally get the task done. Recollection of that day can still make the four of us laugh so hard it brings me to tears.

I miss those days; but, like my flower beds, my boys have grown and are bursting with new endeavors. Meanwhile, I'm excited to see new growth this year as perennials burst through the soil and buds pop on bushes. I enjoy taking a little stroll down memory lane and take pride in plants that have weathered the years and now flourish with new growth.

So I encourage you to find a space for that flower bed. Spend the time digging in the dirt and dreaming of the results of your hard work. Be sure to include your children or grandchildren if you can and you may find that you are planting more than flowers. And don't forget the root beer floats!

Seed Keeping Guidelines

So if you are like some gardeners, you might have bought more seeds this year than you actually had the time or space to put in the ground. Now you are looking at those seed packages and wondering if they might hold over until 2018 or if you will have to start over again and buy new seeds next year. The answer depends on how you keep the seeds and what kind of seeds they are, said Jim Myers, an Oregon State University vegetable breeder.

Myers says that, if you keep seeds dry, they will last longer than those kept in more humid conditions such as in areas west of the Cascades. However, some types of seeds with higher oil content, such as parsnips, spinach, lettuce, and onions, have the shortest seed life. Myers also says "generally, the higher oil content seeds decline in germination more quickly."

As shown in the chart below, many vegetable and flower seeds have a minimum seed life of more than one year. If you store the seeds in a cool and dry environment, such as placing your unused seed packets in a

sealed jar with a desiccant such as powdered milk or rice at the bottom, they will likely last longer than shown in the chart, especially beans, peas, and corn.

Seed	1 year	2 years	3 years or more
Bush and pole beans		x	
Beets		x	
Broccoli, Brussel sprouts, cabbage, cauliflower, kohlrabi			3-5 years
Carrots			X
Collard, Kale			3-5 years
Sweet corn	x		
Cucumbers			x
Lettuce			X
Leeks, onions		2-3 years	
Lettuce			X
Melons			X
Oriental greens			X
Parsley		X	
Parsnips	x		
Peas		X	
Peppers		X	
Radishes			4 years
Rutabagas			X
Spinach	One season		
Squashes			3-4 years
Swiss Chard		X	
Tomatoes			X
Turnips			4 years
Flower seeds-annuals	1-3 years		
Flower seeds-perennials		2-4 years	

Reference:

Carol Savonen, How long do garden seeds last? February 2003, extension.oregonstate.edu/gardening/node/487

A Vision for a Demonstration Garden . . . by Duane Pitts

“A garden to walk in and immensity to dream in--what more could [we] ask?”
(Adapted from Victor Hugo, Les Miserables)

On August 2, 2017, Jim Baird, owner of Cloudview Farms in Ephrata, gave Grant-Adams Master Gardeners Mona Kaiser, Diane Escure, Mark Amara, and me a tour of his farm, outlining his vision for an MG demonstration garden. Jim envisions a learning center, including an outdoor pavilion and a set of classrooms by converting two existing structures for that purpose. This center would border the demonstration garden of about a half acre (150’ by 165’).



Jim Baird, Cloudview Farms, explains the visionary project plans.

The five of us brainstormed ideas of possible “rooms” in this demonstration garden that could meet the needs and interests of gardeners in the area, such as an insectary, windbreaks of various kinds, 3-way composting, annuals and perennials, drought- tolerant plants, native wildflowers, worms, lavender and asparagus, a water feature, vegetable garden(s), even a bike path on the farm. Nothing is settled, but he would like to have a “garden room” or two ready for a spring tour in addition to his organic farm operation.



Site of possible MG demonstration garden at Cloudview. Plot size is approximately 150' x 165' between the pavilion and the tree in the foreground

Cloudview could provide both irrigation for this demonstration garden and assistance of his farm help. Interested groups, like the Grant-Adams Master Gardeners, Grant County Conservation District, or others, could enhance the demonstration garden with their input and coordination to make the demonstration garden a legacy for future generations.

If Grant-Adams County Master Gardeners and others are interested in participating in this endeavor, coordinating work would soon need to get started. Contact any one of us for more information.

Garden-Friendly Cover Crops . . . *By Mark Amara*

Cover crops are good for soils on small or large garden plots. Besides providing weed control and (wind and/or water) erosion control, their cover shades the soil, and their residues can protect the ground surface standing, mowed, or tilled into the soil. As growing crops, they can break up compacted layers, recycle nutrients, take up excess fertilizer, help reduce weed pressures and diseases, and control insects including nematodes. And, as cover crops mature, their flowers and pollen help attract beneficial insects to the garden. When cover crops are incorporated into the ground as green manures, they add nutrients and organic matter to the soil.

Cover crops are divided into perennials, planted for year-round cover and annuals for seasonal coverage. Perennial cover takes longer to become established. However, having year-round grasses and/or legumes between trees and shrubs or separating garden rows can help control weeds and reduce potential for erosion. It seems that most gardeners prefer the annual varieties like grasses and grains because they are quicker to establish, put down extensive root systems, capture unused nitrogen in the soil, and can be replanted over and over. It is important to control annual covers by mowing or tilling preferably before or at seeding to reduce spreading, reseeding, and deter further uptake of nutrients from the soil.

Gardeners often plant cover crops in the fall to provide winter cover but they can do equally as well in other seasons, if planted through the spring and summer. Reasons for planting during a particular season vary with the gardener, specie planted and expected benefits. Legumes are natural choices for those who wish to add nitrogen to the soil, and grasses are a good choice to help compete with weeds on a broader scale and for quick establishment. Rather than planting a single species, mixtures are often planted to achieve multiple benefits.

Examples of annual grasses and grains that thrive in our area include winter wheat, triticale, oats, barley, and annual ryegrass. Recommended annual legumes include vetches, clovers, Austrian winter pea, and fava bean. Additional cover crops are restricted to frost-free periods, typically planted in late spring and summer, and include buckwheat, mustard, sorghum-sudangrass, and millets. Some additional experimentation is being done by local growers with technical support from Washington State University using legumes like cow peas and sunn hemp as well as sudangrass, black oats and radishes that show promise for use by home gardeners.

Since Columbia Basin soils are naturally low in organic matter, typically with less than 1% in the native state, whatever gardeners can do to add beneficial vegetal material is good for the soil not only to help deter erosion but to improve tilth, maintain or improve fertility, control weeds, and to build a healthier ecosystem.



Sudangrass



Triticale-cowpea mix (left side), cowpea (middle), sunn hemp right (background)

Buckwheat

Austrian winter peas

See the sources below for seeding rates, availability, planting dates, species and further justifications.

References:

- Cover crops for home gardens East of the Cascades. Washington State University Extension Fact Sheet FS117E. By Craig Cogger, Chris Benedict, Nick Andrews, Steve Fransen, and Andy McGuire, 2014.
- Managing Cover Crops Profitably. Sustainable Agriculture Research and Education (SARE). Handbook Number 9. Third Edition. June 2012. <http://www.sare.org/Learning-Center/Books/Managing-Cover-Crops-Profitably-3rd-Edition/Text-Version/Benefits-of-Cover-Crops>.
- <http://county.wsu.edu/spokane/agriculture/crops/Pages/CoverCrops.aspx>.
- <http://smallfarms.oregonstate.edu/sfn/f10wintercovercrops>.
- <http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/landuse/crops/?cid=stelprdb1077238>.

Pest Sightings

Pest	Sighting	Where to Learn More	Contact
Daylily Midge	The daylily midge has shown up and is spreading in Western Washington and has the potential of spreading into eastern Washington.	Info is on WSU Hortsense at http://hortsense.cahnrs.wsu.edu/Public/FactsheetWeb.aspx?ProblemId=784	Contact Dave Pehling, WSU Extension, Snohomish County, Everett http://snohomish.wsu.edu or http://gardening.wsu.edu/
Bumble Bees	In early summer, these bees seemed to be very prolific in western Washington with new queens and drones that boost the visible population. Look for them in eastern Washington.	Newly published WSU Fact Sheet, "Washington Bumble Bees in Home Yards and Gardens" http://cru.cahe.wsu.edu/CEPublications/FS263E/FS263E.pdf	
European Chafer	The Chafer is an introduced beetle that is already in the adult stage and performing evening mating flights. So far it has only been seen in King County, south of Seattle. These mating flights are obvious when populations are high. Adult male beetles swarm around a resting female that selects a mating spot. Swarms can be quite large. Criteria for this mating spot include an object that creates a dark silhouette, such as a tree or shrub or house or person, against the sky just after sunset as the red wavelengths bend around the horizon.	European Chafers are highly destructive turf pests. Visit the following for more information: http://cru.cahe.wsu.edu/CEPublications/FS078E/FS078E.pdf If beetles are seen, please submit a sample to your local MG Clinic http://mastergardener.wsu.edu/program/county/ or the WSU Puyallup Plant & Insect Diagnostic Laboratory http://puyallup.wsu.edu/plantclinic/	Todd Murray, Director, Agricultural and Natural Resources Extension Program Unit, Washington State University, Pullman tmurray@wsu.edu

Pest	Sighting	Where to Learn More	Contact
Palmer Amaranth	It is most likely to occur in wildflower and pollinator seed mixes ncipmc.org/action/alerts/palmer.php . Ultimately, decisions must be made at the local level to address the issue of Palmer amaranth in pollinator habitats, field edges and conservation plantings.	Homeowners and Master Gardeners should use Hortsense for chemical recommendations to control this weed.	Catherine Daniels, Pesticide Coordinator, Washington State Pest Management Resource Service, Washington State University, Puyallup
Fall Webworm	Fall webworm, a native pest, has become noticeable as rather large nests in western Washington and may also crop up in eastern Washington.	http://jenny.tfrec.wsu.edu/opm/displayspecies.php?pn=590 WSU Hortsense home recommendations are at http://hortsense.cahnrs.wsu.edu/Search/MainMenuWithFactSheet.aspx?CategoryId=13&ProblemId=6020	Dave Pehling, WSU Extension, Snohomish County, Everett http://snohomish.wsu.edu OR http://gardening.wsu.edu/
Citrus longhorned beetle (Anoplophora chinensis)	The citrus longhorned beetle, a close relative of the infamous invasive Asian longhorned beetle, is a large shiny black beetle with white spots. At this time of year, adult beetles emerge from trees, leaving large, circular exit holes about 5/8 inch in diameter. The beetle can feed on and kill a variety of hardwood trees including apple, maples, oaks, willows and poplars. Washington has several look-alike native beetles. It takes a trained eye to distinguish them, so residents are asked to provide any suspect beetles to one of the agencies mentioned above. In 2001 this species was detected in Tukwila and was eradicated successfully in a cooperative effort between the Washington State Department of Agriculture and U.S. Department of Agriculture.	To see a photo, go to: Photo: http://invasivespecies.wa.gov/press/2017/5147079-PPT.jpg	
Emerald ash borer (Agrilus planipennis)	The emerald ash borer is a shiny, half-inch-long metallic green beetle. Adults begin flying in June and will continue through August as they emerge from ash trees, their primary host. The exit holes in the tree's trunk are about a quarter-inch wide and have a distinctive D-shape. This species has been moving westward as campers move firewood far from where they bought it. It was recently discovered in Boulder, Colorado.	To see a photo of this pest, go to: http://invasivespecies.wa.gov/press/2017/5449380-SMPT.jpg (Image credit: Debbie Miller, USDA Forest Service, Bugwood.org)	

WA State Asks You to Check Trees for Invasive Pests in August

The Washington Invasive Species Council and a consortium of agencies and universities are asking residents to check trees and swimming pools in their yards for harmful bugs as part of the national Tree Check Month in August. August is the peak time of year to find invasive bugs like citrus long-horned beetles, emerald ash borers and other aggressive wood-boring insects. Trees near your home and in your neighborhood, the “urban forest,” are as susceptible as trees in rural and wild forests.

“Invasive insects can destroy Washington’s forests and have a large economic impact,” said Justin Bush, executive coordinator of the Washington Invasive Species Council. “A few minutes of your time could save the state millions of dollars and protect more than 22 million acres of forests that are at risk from invasive insects and diseases.”

The Washington Invasive Species Council, Washington State Department of Agriculture, Washington State Department of Natural Resources and Washington State University Extension are asking residents to take 10 minutes to go outside and inspect their trees. Invasive wood boring insects typically emerge from trees in August.

The experts also suggest that all pool owners check their pool skimmers and filters for invasive bugs. Emerging adult insects often end up as debris collected in pool filters. On the East Coast, pool owners detected invasive beetles in pools far before they were found in conventional pest survey traps.

Residents who see any invasive insects or signs of them should take photographs and report the find immediately online at www.invasivespecies.wa.gov/report.html, where they can access the reporting form or download the free WA Invasives mobile app. If the insect can be captured or collected, each county has a Washington State University Extension Office and Master Gardener Program that can help identify suspect insects.

First indications of invasive insect damage to trees include sudden dieback or death among trees that are otherwise vigorous and healthy. If residents see this, they should investigate further and look for sawdust, exit holes or actual beetles.

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Test your knowledge (from Grounded Newsletter June 2017, Vol 6, Number 2)

Test your master gardening knowledge by simply reading the *Grounded* newsletter. Each quarter there will be a 20-question quiz in the newsletter based on the previous newsletter (http://extension.wsu.edu/grant-adams/gardening/master_gardeners/) articles. Anyone can complete the quizzes for fun OR Master Gardeners (MGs) may complete and submit their answers to the Program Coordinator and record 1 hour toward continuing education. Answers will be available in the next newsletter.

1. Governor Jay Inslee proclaimed WSU Master Gardener (MG) Volunteer Week May 21-27, 2017, which honored MG volunteers for their service to the citizens in our state. The WSU MG program was founded in what year?
 - a. 1964
 - b. 1944
 - c. 1973
 - d. 1983
2. MGs maintain demonstration gardens and provide myriad of education opportunities throughout their communities. One education topic was “Friend, Foe, or Escargot”:
 - a. True
 - b. False

3. The MGs raise funds to support education in the community through an annual plant sale and garden glove sales.
 - a. True
 - b. False
4. Flowers or weeds? Using the *Noxious Weeds that Harm Washington State* field guide is good way to identify weeds. Effective techniques to eradicate weeds include:
 - a. Digging them up
 - b. Removing seeds pods before dispersal
 - c. Bagging them before discarding
 - d. All of the above
5. The Eco-Gardening Symposium was held on April 22, 2017. What was the focus of this year's event?
 - a. Vegetable gardening
 - b. Flower gardening
 - c. Country gardening
 - d. Farming
6. Herbicide injury varies, but often can be identified by:
 - a. Leaf cupping
 - b. Twisting or distorted growth
 - c. Strap-like leaves
 - d. All of the above
7. Growth-regulating herbicides should be applied with great care and avoided when temperatures rise above the mid-70's:
 - a. True
 - b. False
8. You should not spray when there is no air movement (dead calm):
 - a. True
 - b. False
9. Franklin, Grant, and Adams Counties have an annual rain zone range of:
 - a. 3-6 inches
 - b. 6-9 inches
 - c. 9-12 inches
 - d. None of the above
10. Cover crops may:
 - a. Replace commercial fertilizers
 - b. Naturally occurring recycling of plant matter
 - c. Improve soil quality
 - d. All of the above
11. Legumes used as cover crops provide important soil nutrients of:
 - a. Nitrogen
 - b. Potassium
 - c. Phosphate
 - d. All of the above
12. Insectary habitats are spaces of the garden/farm designed to:
 - a. Slow the incidence or impacts of insect pests
 - b. Provide a pollinator and beneficial insects sanctuary
 - c. Convert weedy areas to permanent beneficial space
 - d. All of the above
13. Soil quality or soil health is described as the ability to:
 - a. Support human health and habitation
 - b. Maintain or enhance water and air quality
 - c. Support plant and animal productivity
 - d. All of the above
14. Organic matter can improve drainage, aeration, water-holding capacity and nutrient retention:
 - a. True
 - b. False

15. Improving organic matter in soil is a good management strategy to:
 - a. Reduce erosion, improve nutrient cycling and soil tilth
 - b. Reduce impacts of soil borne diseases
 - c. Improve water-holding capacity and infiltration
 - d. All of the above
16. Management practices on large farms in the Columbia Basin include:
 - a. Organic soil amendments
 - b. Cover crops and green manures
 - c. High-residue farming
 - d. All of the above
17. Biodegradable mulch paper that meets the National Organic Program standard will:
 - a. Contain petroleum products
 - b. Completely disintegrate
 - c. Disappear completely when overhead watered
 - d. None of the above
18. Nationally, invasive species cost more than \$137 billion annually in:
 - a. Crop damage
 - b. Fisheries reduction
 - c. Forest health
 - d. All of the above
19. The WSU Grant-Adams Counties Master Gardeners are available for home gardeners by phone, in person, and via email. Which email address is correct:
 - a. ga.mgvolunteers@ad.wsu.edu
 - b. ga.mgvolunteers@wsu.edu
 - c. Either of the above
20. Esquatzel describes what type of soil in the Columbia Basin:
 - a. Well-drained deep-silt loam soil
 - b. Crusted-clay soil
 - c. Water-saturated soil
 - d. None of the above

Answers (Newsletter Vol 6, number 1): 1-b, 2-c, 3-a, 4-d, 5-a, 6-a, 7-a, 8-c, 9-a, 10-c, 11-d, 12-a, 13-d, 14-c, 15-a, 16-a, 17-b, 18-a, 19-a, 20-d March 2017

Master Gardener Plant Clinics

WSU Master Gardener Volunteers are available to address your home gardening questions. As our county has undergone many budget/personnel changes in the past couple years, this has impacted how our Master Gardener Volunteers communicate with the public. You may contact a WSU Master Gardener Volunteer with your home gardening questions through the following e-mail address: ga.mgvolunteers@ad.wsu.edu. Messages sent to this address will be answered by the Master Gardener volunteers in a timely manner. For face-to-face contact, or if you have a plant or insect sample that you would like to have identified, please see the Master Gardener volunteers at one of the following locations:

Ephrata Farmers Market	Grant County Courthouse, 35 C St. NW	1 st & 3 rd Saturdays	June — September	8 am — noon
Moses Lake Farmers Market	McCosh Park – Dogwood Street Side	Saturdays	May — October	8 am — noon
Othello Ace Hardware	420 E. Main Street	4 th Saturdays	May — August	9 am — noon
WSU Grant-Adams Extension Office	1525 E. Wheeler Rd., Moses Lake	2 nd & 4 th Mondays	April — October	9 am — noon

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Linda Crosier, Vice President, 509-488-3538
Diane Escure, Treasurer, 509-754-5747
Mark Amara, Secretary, 509-760-7859
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