GROUNDED

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INSIDE THIS ISSUE

Editor's Note: The following article was originally published in the Othello Outlook, Nov. 2009. A new version of the WSU publication Trees against the Wind is due out later in 2015.

Get Real: Adjust to the Wind . . . *by Kris Nesse*

"The pessimist complains about the wind; the optimist expects it to change; the realist adjusts the sails." -William Arthur Ward

Author's Note: My husband and I planted windbreak rows of Caragana and Spartan Juniper in 2010. The view of Soap Lake and the coulee to the north was important to us, so the planting on that end of the property is only minimally effective. Our neighbors to the south, though, really appreciate the Spartan Juniper row we planted there! Clearly we need to continue 'adjusting our sails.'

Perhaps it's the ocean-like whitecaps on Soap Lake, or the clouds of dust on the horizon, or maybe even the "Halloweenesque" howling coming from the garage, but I've been thinking about wind lately. We're actually natives of the area, but have been gone for almost 40 years, living near the Canadian border. The wind is proving to be one of the challenges of readjustment, especially on a barren bluff. So, in the spirit of realism, it seems wise to learn about windbreaks.

"A windbreak is a planting, usually of both trees and shrubs, designed and established to reduce undesirable effects of strong winds." (Hanley, WSU Extension Forester, from an excellent publication, *Trees Against the Wind*, available from WSU). Windbreaks provide multiple benefits:

- **Reduced wind speed** downwind 10 to 20 times their height. Plantings also filter wind-blown particles from the air.
- **Crop protection** that can increase yields up to 44%, while reducing water use, helping pollination, improving quality. Of course, this is only one variable influencing yield.
- **Energy conservation** of up to 40%!
- **Wildlife habitat**, especially in open areas with little woody cover. Windbreak plantings increase biodiversity.
- **Aesthetic improvements** like variety in the landscape, visual and sound barriers, not to mention the pleasant flowering, foliage, bark, smells of many species.

Other potential benefits can be livestock protection, snow control, and harvestable products.

With all these benefits, I'm tempted to start throwing some shrubs and trees into the weedy ground. Like many farmers and gardeners before though, this approach would likely meet with little success. Research indicates that to thrive, windbreak plantings require careful planning and adequate maintenance.

PLANNING

Design: Where will the planting go? Windbreaks work best when oriented at right angles to the prevailing winds. This requirement means the homeowner needs to note when the most damaging or annoying winds occur and what direction they usually come from (NW for our property, which means taking into account both our neighbor's and our own view). For greatest effectiveness, windbreaks should be no more than 100 feet from the home, garden, or other area needing protection. This planting distance is impacted by the mature height of species selected. Consider openings (driveways, roads, etc.) and arrange with offset rows to avoid the dreaded 'wind tunnel' effect. Obviously, the space available will influence how many rows of what species are planted. There are many options from the traditional five-row mix of evergreen and deciduous trees and shrubs, to newer twin-row, high-density methods requiring less space. Always consider visual safety clearance at driveways and intersections.

Junipers thrive at Nesse residence

Species Selection: Climate and soil obviously impact the types of trees and shrubs that can be grown on a particular site. Most of us in the Columbia Basin have cold, windy winters and hot, windy summers, which can limit options. Since we are not prone to much rainfall, we need to consider less thirsty species, along with types of irrigation for water efficiency. Ideally, most trees prefer deep, well-drained loams. Reality for most Grant-Adams County homeowners is much different. For instance, our site has relatively shallow soil over basalt. Much of the ground in our area tends to be a little alkaline, but soil tests are the best indicator.

Once design considerations (how many rows of what height are possible) and climate and soil constraints are taken into account, lists of shrub, evergreen, and deciduous options are available from many resources, including the ones listed here. Many of these note mature height and crown width, life spans, moisture requirements, species characteristics, etc.

Site Preparation and Planting: According to the experts, the single most important aspect of successfully establishing a windbreak is site preparation. Basically, this means giving the new shrubs and trees a fighting chance. Eliminating the competition is critical in this effort. A mechanical approach (tilling, plowing or disking) in the fall is one recommended method. Minimizing the amount of soil disturbed by leaving strips of sod between rows reduces erosion and weed seed invasion. Chemical site preparation may be done with selective herbicides (**always in accordance with label recommendations)**. Herbicides should not be allowed to come in contact with tree roots, and some have limited effectiveness under dry conditions. The use of mulch is highly recommended as a method to control weeds and conserve moisture and nutrients that young trees need for growth.

Planning for irrigation is another critical component of site preparation. For at least the first three years, young trees require regular, deep watering. In windy, arid regions like ours, drip irrigation is best. For many species, regular irrigation must be continued for healthy trees and shrubs.

Planting correctly, with specified distance between individual plants based on mature plant size, and between rows is also important. Tree-planting directions are widely available, and should be followed carefully. Staking may be necessary until root systems are well established.

MAINTENANCE

Even after careful design, site preparation, and planting, effective wind protection results only if the young trees receive good follow-up care. For the first 2-3 years, available soil moisture is critical. This entails both irrigation and weed control. Upon planting, trees may need water daily. This can be cut back slowly to a couple of times a week. In addition to paying attention to soil type, species requirements, and temperature and wind conditions, first-year trees generally need deep watering through the first couple of frosts. As trees become established, watering can be less frequent.

Juniper & Caragana windbreak

Weeds always grow, and they rob nearby plants of moisture and nutrients. Plan on using one or more techniques—mulch, cultivation, herbicide—to keep weeds in check. Trees also require frequent examination for damage from critters large and small, and sometimes protection. Larger pests (cows, deer) may require fencing. Damage from smaller enemies (rodents, rabbits) may be prevented through the use of tree cylinders. Windbreaks should be checked frequently for signs of insect, disease, or herbicide damage.

After all the planning and care, picture 30 mph winds (or more) encountering a windbreak, rising up and over your home and gardens, with wind velocity reduced to a mere 10 mph. Personally, I'm dreaming of effective protection from the wind in a mere three or four years!

References:

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University of Nebraska-Lincoln, EC91-1767, *Windbreaks for Rural Living,*
http://www.lanrpubs.unl.edu/epublic/live/ec1767/build/ec1767.pdf
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BFI's Grassland Tours Show Success in Mimicking Nature . . . *by Mark Amara*

Two late spring/early summer farm tours highlighted the efforts of Warden and Moses Lake based Benson Farms Inc. (BFI) Native Seeds at propagating dryland native grasses and forbs and demonstrating their successes and challenges with in-field plantings. The first tour was conducted at BFI field plots in Irrigation Block 43 near Warden, where forbs and grasses were being grown in small acreage plots and strips with supplemental irrigation. The tour was hosted by owners Jerry Benson and son, Matt Benson, and BFI Forb Production Manager Kelsey Prickett. Approximately 80 plots were viewed in several different contiguous and non-contiguous fields. BFI plants grasses that are source identified from across the Pacific NW and west. It aims to preserve local seed genetics, and seed collected goes primarily to service government agency contracts. In the last 5 years, over 1.4 million pounds of source-identified native seed have been sold across the West.

Blue wildrye

What is interesting about the philosophy of testing/planting a wide variety of grasses, forbs, and shrubs is the number of regional variations that are adapted to and respond to small idiosyncrasies in the environment. For example, several varieties of bluebunch wheatgrass are being increased with seed collected, including one from Vale/Baker, OR; Crooked River, OR; Grand Ronde, OR, and Entiat/Chelan, WA, all of which will be replanted in their respective areas. Many varieties were seen: wildrye, prairie junegrass, mountain brome,

bottlebrush squirrel tail, Sandberg's bluegrass, Idaho fescue, wheatgrasses, penstemons (*Penstemon*), buckwheat (*Eriogonum*), and even prairie clover (*Dalea*), mountain dandelion (*Agoseris*), potentilla (*Potentilla*), fleabanes (*Erigeron*), biscuitroot (*Lomatium*), flax (*Linum*), spider flower (*Cleome*), yarrow (Achillea), balsamroot (*Balsamorhiza*), blanketflower (*Gaillardia*) and globe mallow (*Sphaeralcea*).

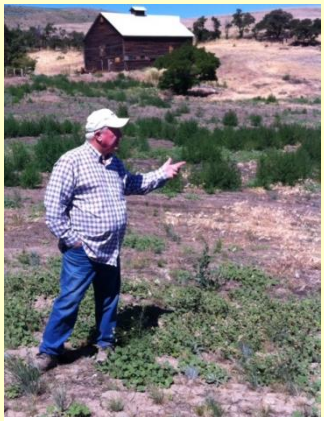
Lomatium

The second tour, led by Jerry and Matt Benson and some of their field staff, crossed Grant, Douglas and Chelan Counties to look at accomplishments and challenges in larger acreage dryland seedings at 2 years, 6 and 7 years, and 13 years ago. The first seeding viewed was at a Chelan-Douglas Land Trust – Horse Lake property in Chelan County west of Wenatchee on over 100 acres. It had been a decadent crested wheatgrass stand that was returned to a mix of native grasses to improve the wildlife habitat through intensive site preparation, which consisted of mowing, harrowing, spraying, disking and seeding as a dormant planting in the fall of 2013. Though there were abundant weeds present, the perennial grass appeared to be overtaking the annual weeds.

Penstemon

The second and third sites were on BLM lands in Douglas County near Duffy Creek. These plantings were designed to decrease the single species crested wheatgrass stands by reseeding them with greater grass diversity, improving them for sage grouse habitat. Locally sourced and diverse composition species mixes were planted in each field and by years 7 and 13, cheatgrass was virtually nonexistent, and crested wheatgrass was being replaced with natives which reflect a trend toward shifting composition as long term succession continues. The last site visited was on Nature Conservancy land in Grant County along Baird Springs Road in the Beezley Hills, about 2 miles north of Monument Hill. The focus of the site was to improve it for pygmy rabbit and sage grouse habitat. The field had originally been farmed in a wheat-summer fallow rotation, but was retired and planted to crested wheatgrass through the Conservation Reserve Program and remained in that homogenous grass until 2009. That was when it was replanted to native grasses and now at year 6 those grasses (bluebunch wheatgrass, Sandberg's bluegrass, yarrow and others) are dominating over the crested wheatgrass. An interesting note is that the cheatgrass, which had a significant presence on site, is a poor competitor against the locally adapted species that are taking over. One of the keys to maintaining any or all of these grass stands in the wild is to continue to exclude livestock grazing, which is very destructive.

Duffy Creek, Douglas County native grass stand, Year 7



Jerry Benson describes Chelan-Douglas Trust seeding, Good grass stand with few weeds Chelan County, year 2. Perennials are clearly establishing, with some pressure from annual weeds

About 99% of the businesses that BFI works with are large companies and government agencies, but the same planting principles and seeding recommendations that these organizations depend on can be applied to yards, gardens, and dryland or irrigated conditions in the Grant-Adams Counties area. Rather than using standardized seeding species, more regional and localized seed stock, preferably as mixes, is recommended to ensure better success. Many of the grasses and forbs being propagated are available for purchase by individuals. They can supplement plantings in yards and gardens and might also be available to plant in fire-ravaged parts of the state.

State and federal agencies from Washington, Oregon, Nevada, and Idaho participated in the tours. although BFI consults with entities all over the West as far east as Colorado. BFI started as a small family farm venture and diversified greatly after Jerry Benson left WDFW. Now his company provides a variety of site and habitat restoration services from project development to final site monitoring and maintenance. The company has nearly 50 employees who work on the farm fields in the Warden area, monitoring plots at the farm and evaluating actual seedings offsite, and in the seed processing warehouse in Warden and the Moses Lake office. One of the BFI principals, Kelsey Prickett, will be a featured speaker at the second annual Columbia Basin Eco-Gardening Symposium on April 23, 2016. in Moses Lake.

The Epic Squash Bug Battle—Continued . . . *by Kris Nesse*

Editor's Note: Published originally in the August 2013 Grounded issue, and recently in the state Master Gardener publication, Seeds of Change, this revised article includes new research and reflects ongoing efforts against the diabolical squash bug.

My husband and I gardened close to the Canadian border for almost 40 years. The only problem we had with squash (summer or winter varieties) was one of overabundance. In 2009 we retired back to the Columbia Basin and continued gardening. In 2011, our second gardening season, our lovely zucchini plants inexplicably started wilting and dying. On close inspection, many "stink" bugs were detected. We had these annoying but harmless pests up north. They never even bothered with the garden. It was clear that the squash plants were goners, so I pulled the plants up to destroy them. The straw mulch and ground beneath literally teemed with thousands of grey nymphs. Horrified, I boiled huge kettles of water and employed a medieval tactic to destroy the invaders.

Needless to say, research ensued. These 'stinkbug' look-alikes, were really squash bugs (*Anasas tristis)*. In 2012, noting that zucchini were particularly susceptible to the pests, we grew only winter squash and located them in a separate garden area. We tried to capture and destroy any bugs, adult and nymph stages, as well as checking frequently for the masses of football shaped, bronze eggs tucked in the crook of two leaf veins on the underside of the leaves. We squished any eggs detected. Alas, the vines spread and it became very difficult to check well. Eventually, the squash bugs won the skirmish of 2012.

Realizing that knowing and understanding one's enemy helps in any battle, we studied the life cycle of the pest. Squash bugs feed on summer and winter squash. They are not much interested in other curcurbit relatives like cucumbers and melons. In the winter, unmated bugs find shelter in garden debris, rocks, wood, etc. As spring approaches, they fly to their target curcurbits, mate, and lay eggs on the underside of leaves. These hatch in 5-10 days. Nymphs grow through stages, molting and increasing in size, until they are adults. Bugs often shelter at the base of plants for the night.

Both the young nymphs and the adult bugs suck plant juices from leaves and stems of developing plants. Loss of nutrients and water causes leaves to speckle, later turning yellow to brown. Heavy feeding causes plants to wilt. While this resembles bacterial wilt, it is a direct result of feeding damage rather than a pathogen. In recent years, though, some reports of curcurbit yellow vine disease (caused by a bacterium transmitted by the squash bug) have been reported.

Armed with knowledge, we resolved to use almost every Integrated Pest Management strategy short of chemical control (we garden organically) to defeat our nemesis during the 2013 gardening season. These methods are basically cultural in practice.

- *Sanitation/rotation:* We clean up carefully each fall. Rubbish and debris are perfect overwintering hideouts for squash bugs. We also rotate crop varieties.

- *Trellising*: Squash up off the ground are less vulnerable to infestation and are easier to check for eggs and nymphs. We chose a vining summer squash called Trombetta and planted along an 8-ft garden panel in a raised bed. For good measure, we surrounded the squash row with onions (both sides), cilantro, and even lemon basil just in case such a smelly variety might throw off the enemy (a non-research-based tactic, but made us feel better).
- *Trapping:* Based on the squash bug's penchant for hiding during the day, generally at the base of plants, wooden boards were placed beneath plants in an attempt to trap the pests. Not a single adult or nymph was ever found under the boards in our garden.
- *Handpicking:* Once the seeds germinated (early June), we began daily inspections of the underside of leaves. Because the vines were trained up the fence panel, it was a much easier task than for on-the-ground hills of squash. Egg masses were first detected when plants were about a foot high. It's fairly easy to squish these, though one experienced gardener said that she cuts the mass out with cuticle scissors. *(A new egg method in 2015 involved inverted duct tape applied to egg masses. It pulled them off with much less damage to the leaves.)* It was interesting to note that once a leaf had been used to deposit eggs, it was not used again. (This may be entirely circumstantial and will need replication to confirm. (*Similar patterns emerged in both 2014 and 2015. In 2015, while eggs were removed from all leaves, plant decline led to closer inspection and eggs were discovered on the stalk of the plant. Those squash bugs are wily!*) Several adults were also handpicked and destroyed, with only one hatch of nymphs noted and destroyed. By mid-July, no egg masses were detected and we began spot checks rather than a daily inspection of each leaf.

We celebrated harvest of the first squash from lovely, healthy vines on July 20 and felt victorious! Unfortunately, we celebrated a little early. In early August, even with continued spot checks, one of the vines began yellowing and wilting. We've pulled and destroyed the vine and stepped up egg inspections. While trombetta are not as productive as zucchini, we still had squash bread to freeze.

The battle continues in 2015 and beyond. We may consider additional tactics in this epic quest to outsmart the squash bug:

- *Transplants rather than direct seeding:* Seedlings and smaller plants are more susceptible to squash bug damage. In addition, the less total time curcurbits spend in the garden, the less time for squash bug densities to build. We'll try this next year. *(This strategy was employed in both 2014 and 2015. The stronger plants made early infestations of bugs less devastating.)*
- *Resistant varieties:* Butternut, Royal Acorn, and Sweet Cheese are more resistant to squash bugs.
- *Biological control:* The parasitic tachinid fly lays its eggs on squash bugs. Ground beetles have been found to reduce populations of adult bugs, and predatory damsel and big-eyed bugs feed on nymphs.
- *Chemical control:* While some research indicates that organic-approved insecticides show only spotty success, neem and pyrethrum formulations may help, and applications of these chemicals along with diatomaceous earth around the base of the plants have allowed some control in trials. Any chemical control, from less to more toxic products, need to penetrate the entire plant canopy, including under leaves, to achieve control. Many of these materials have negative impacts on bees and other beneficial insects, and are not likely to give better control than handpicking. Please always read and follow label directions!
- (*Barrier method: Some research indicates that application of kaolin clay may keep adults from laying eggs. Readers may have noticed the 'ghost' orchards where the product has been applied. We tried this in 2015. Unfortunately the vines grow fast and this gardener did a poor job of respraying the new growth.)*

While we had some harvest in 2015, the nefarious enemy's new stalk-egg-laying maneuver caught us off guard. Plants declined in August and were pulled and destroyed. The battle will continue into 2016!!

References:
http://www.extension.org/pages/63329/managing-squash-bugs-in-organic-farming-systems#.UgZCnhZq2lU
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WASHINGTON STATE UNIVERSITY EXTENSION

Stink Bugs Needed

If you capture any bug that resembles a stink bug, please mail the specimen to Mike Bush at the WSU Extension in Yakima, along with information telling where the bug was captured (the town or county or GPS location), when it was found (date), and on what host plant they were found on.

Please mail (freeze them for 24 hours and place them in a plastic pill bottle) suspected stink bugs to Mike Bush, Extension Entomologist, 2403 S 18th Street, Suite 100, Union Gap, WA 98903. Digital images sent to bushm@wsu.edu may be acceptable as well.

Adult stink bugs are a well-known family easily recognized by shield-like shape, five-segmented antennae, and producing a most disagreeable odor when provoked. They come in various shades of green, brown and black. A number of species in this family are known for unwanted feeding and vandalism of plant crops such as raspberries, apples, tomatoes, and peppers. They may attack and damage ornamental plants en masse.

In 1988, a statewide survey revealed 23 species of stink bug in Washington. In 2014, this number increased to 47 species, including the invasive and dreaded Brown Marmorated Stink Bug that was found in a handful of counties. We have reason to believe more stink bugs exist in Washington State.

Hortus Mustus: ***Purshia tridentate*** **(antelope bitterbrush) . . .** *by Jean Anderson*

This regular feature of Grounded presents plants loved by one or more Grant-Adams Master Gardener volunteers.

Antelope bitterbrush (*Purshia tridentate)* can be seen in the native plant section of the Master Gardener Drought-Tolerant Demonstration Garden by the Moses Lake Library. As of mid-July, the bush was loaded with blooms, spent blooms, and feathery seeds.

It is a 4-ft shrub native to our scablands and typical of the shrub-steppe habitat. It ranges from British Columbia to California, although it is not found west of the Cascades. It is browsed by deer and livestock, and its seeds are an important food source for small animals. In late spring and early summer, the bush covers itself with an explosion of fragrant, small yellow or white flowers resembling wild roses. The 3-lobed (tridentata) leaves have silvery hairs on the back.

Photos source: SWColoradowildflowers.com

What captured my attention were the feathery seeds on the shrub. Many of these feathery seeds have been dispersed, and are rooting themselves nose-down in the soil, looking for all of the world like a bed of pale kelp. They are probably not seeds but achenes –fruit containing a single seed. Other examples of achenes are strawberry "seeds," rose hips, maple wings. Some achenes have hair-like accessories that cause them to disperse in the wind.

While the Native Garden is at its peak in spring, you may find plants of interest all year long, if you look closely.

References:

http://oregonstate.edu/dept/ldplants/putri.htm
http://extension.usu.edu/rangeplants/htm/bitterbrush
http://plants.usda.gov/core/profile?symbol=PUTR2.

The Old Hotel Demonstration Garden . . . *By Terry Rice*

It's been a busy summer in the Drought-Tolerant Demonstration Garden at the Old Hotel in Othello. Thanks to the Irrigation Specialists who donated the materials needed to complete the drip water system so that the Grant-Adams Master Gardeners could keep the plants watered through the hottest weather. The water-wise drip system is an efficient way to water the plants without watering the weeds while keeping maintenance to a minimum.

Volunteers from Coyote Ridge Correction Center helped spread a truck-load of bark to replace the original mulch, and some basalt columns were donated that added structure to the garden. A sign was purchased from FX Auto & Sign in Othello and installed in the corner of the garden so that it can be seen from the road. A children's class was held in the garden. They decorated a terra cotta pot and planted it with hens and chicks. We have received many compliments on the new look of the garden.

Before & after pictures of the Native Plant Garden
Terry Rice and Linda Crosier, leaders in development, stand by the Welcome sign after project completion

References:

Plants for Water-Conserving Landscapes www.wsu.edu and www.wsu.edu/~lohr/wcl/Watering Home Gardens and Landscape Plants EB1090[1[
GROUNDED Water-Wise Gardening Tips

Animal House TV Show

Lights! Camera! Action!
Episode 1 of the Animal House TV show is ready for viewing. Thanks to all who volunteered at the new Adams County Pet Rescue building, which is now open and running. This beautiful facility is located on Bench Road south of Othello.

Adams County Pet Rescue Facility with landscaped grounds

Master gardeners were instrumental in providing labor to do the landscaping and planting

The Grant-Adams Master Gardeners did a fantastic job designing and planting the landscaping around the building.

Basalt columns and a miniature fire hydrant add interest to the flower beds. Plans are in the works to add a few shade trees near the grassy doggy play yard this fall. The program can be viewed on your computer by searching for "Animal House TV Show" and clicking on Episode 1.

Dividing Daylilies and Peonies . . . *by Barbara Guilland*

According to WSU Extension agent Marianne Ophardt, there comes a time when you have to do something about perennials that have grown past their prime ("dividing"). Plants that are growing together, dying out in the center, and producing fewer and fewer flowers each year should be divided. Spring flowering perennials are best divided in the fall, but even some fall flowering plants can be divided then. In September, try this after the weather has cooled but the soil is still warm so that the new plants can settle in.

Daylilies, peonies, bearded iris, gaillardia, hummingbird mint, coneflower, oriental poppy, and yarrow are some of the more common perennials that can be divided in the fall. The Spokane County Extension Bulletin "Propagating Perennials" has an extensive list of perennials and instructions on when and how to divide or propagate them. There are some general things to keep in mind when dividing perennials, but knowing a bit about what works best for individual types of plants will help you get the best results.

Photo by Barbara Guilland

Here Are Some General Tips:

- Water the soil around the roots and let it soak in. The plants are easier to dig up in damp soil.
- If you're going to replant elsewhere in your own garden, work the ground for the new plants ahead of time.
- Divide healthy plants. Older plants may be difficult to re-grow successfully. You might be happier buying a new plant.
- Dig up the whole plant. Use a sharp spading shovel to sever the roots around the circumference of the plant's dripline. Lift the plant out of the soil with a spading fork or shovel.
- Clean dirt off the plant and cut through the crown of the plant or pull off pieces that have at least one or two eyes or buds. Discard woody pieces.
- Re-plant the healthy divisions as soon as possible at the same depth they were planted before.

- Once it's planted, water thoroughly to settle the soil around the plant and keep the soil moist through the warm fall days.
- When cold weather comes, you'll want to use a coarse mulch on the new plants for protection

Dividing Peonies

My peonies have outgrown the space in which I planted them. Or actually, other plants are crowding into their space. Either way, the plants have to be moved. It happens the other plants that are encroaching on them are daylilies, so I will be dividing and moving both plants.

Photo by Barbara Guilland

Peonies have a short bloom period (about 2 weeks) in the spring, but the bloom is so spectacular, and the foliage is so handsome into late summer when it starts to die back, that they are worth it. My family used peonies to decorate graves on Memorial Day. Luckily, peonies don't need dividing very often unless there is a reason. September is the ideal month if you're going to do it. Of all perennials that I have divided, peonies are the most temperamental about the level of the soil in which they are planted. I've had them go without bloom for several years because I'd planted them too deeply.

According to Sandra Mason in the *Homeowners Column* for Illinois Extension, each division should have 3 to 5 eyes ("They look like pink noses."). They are the shoots for next year. Let the divisions dry overnight after cutting them. The divisions should be planted 1-2 inches deep and at least 2-3 feet apart. They like soil rich in organic material and well drained. Dig in well-composted manure. A good covering of several inches of coarse mulch like shredded bark or pine needles will help keep them from freezing during the winter. They like full sun, but they do fade in hot sun so partial shade might help the bloom last longer. In the spring I dress them with a tablespoon of slow-release fertilizer. The only pest I've had in mine has been the root weevil which preys on the leaves in summer. I don't have a good solution for getting rid of these pests other than to search at night for the adult beetle and remove them by hand. Rather than resorting to hand picking, I plant other foliage around the plant to disguise the damage.

Dividing Daylilies

Late August-September is a good time to move daylilies after blooming, though they can be moved anytime except mid-summer. Daylilies range in size from 1 to 4 ft tall, and they should have about the same spread apart. Depending on the variety, plant them 2-4 ft apart.

Photo by Rebecca Finneran MSU

The variety *Stella D' Oro* (which is smaller - one of my favorites) will rebloom in late summer so you might want to wait until it finishes blooming before dividing it. Generally, daylilies bloom better if they are divided every 3-5 years. Daylilies are really no-fuss gardening, and for the most part easy to divide. Use a sharp spade to lift the entire clump out of the ground. Separate out the fans and cut the tops to about 8 inches. You should have at least four fans (or more) in a division, and you can discard the older parts out of the center of the original clump. Before you replant, amend your beds with 2 or 3 inches of well-rotted compost dug in to encourage new roots quickly and some slow-release fertilizer (like a tablespoon of bone meal). The loose amended soil will encourage new growth quickly. After that, you'll probably never have to fertilize until you need to divide them again. They need a good soaking at that time and moisture throughout the summer and into fall.

Daylilies are relatively insect and disease free. Sometimes they can attract thrips, a tiny insect that distorts the bloom. The insect attacks plants that have some kind of cultural problem, i.e., not enough or too much water, poor soil, or lots of disturbance. Daylilies like full sun to partial shade. In our area we would choose deciduous cultivars because they are hardier. It's an easy plant to grow and there are many, many beautiful colors.

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"Delightful Daylilies", Rebecca Finneran for http://migarden.msu.edu: Michigan State University
"Dividing Perennials", Marianne Ophardt, WSU Extension Faculty, wsu.edu
"Hardy Plants for Waterwise Landscapes" *Hemerocallis* spp. daylily wsu.edu
"Propagating Perennials" C101, Bulletin Spokane County Extension.wsu.edu. This bulletin has an extensive list of perennials with information on how, when, and what method to use for propagation.
"Time to Divide Peonies", Sandra Mason Extension Educator, Illinois University Extension

Happy Dance at the Moses Lake Demonstration Garden . . . *by Cynthia Calbick*

It was "happy dance" time as a dedicated party of energetic MGs and some wonderful volunteers worked at the Moses Lake Drought-Tolerant Demonstration Garden to complete two big jobs at the garden next to the public library (418 E. 5th Avenue) in July. Soaker hoses were replaced in the drought-tolerant section of the garden, and weeds were greatly reduced in the native plant section. Work, which had been postponed for several weeks because of extremely hot weather, took place early on Thursday, July 16th, and Friday, July 17th.

Dan Fowler, Don Calbick, and Karen Fowler manage the hoses

The Thursday work group included Karen and Dave Fowler, Don and Cynthia Calbick, Judy Kent, George Roper, and Barbara Guilland. They lifted and removed the old hoses, laid out and threaded into place the new hoses, and connected all the parts into a functioning system. In addition, they dug up the ever spreading Russian sage. MG husbands Don Calbick and Dave Fowler were the lead hose team, who coordinated efforts with MG Karen Fowler and frequent garden volunteer Judy Kent.

George Roper fits hoses together

On Friday, Pat McAfee, Jean Anderson, and Cynthia Calbick pitched into the weeds in the Native Plant garden. The most numerous weed was prostrate spurge. While weeding, it was interesting to observe which native plants had set seed and were flourishing this summer. These included delphinium nuttalii, Sphaeralcea munroana orange globe mallow, Oenothera caespitosa desert evening primrose, Antennaria microphylla rosy pussytoes, Eriogonum niveum Douglas snow buckwheat, Penstemon palmeri Palmer's penstemon, and Eriogonum umbellatum sulfur-flower buckwheat.

Judy Kent tends to weeding

On Friday morning Robert Kent, a garden friend volunteer (Judy Kent's husband), stopped to visit with our garden work party. We happily answered his questions and sought his advice in updating the water control box that links the garden to the City of Moses Lakes park sprinkler system. In prior years, when the city has blown out its underground water lines in the fall to prevent pipe damage through the winter, the increased pressure going through our system has damaged the timer and pressure regulator.

Robert Kent looked at the control box and we could practically hear the solution gears sliding into action in his brain. After asking a couple of probing questions, he proposed a cost-effective solution that had everything working. Our system has two handles for turning on the irrigation water. The first allows us to turn water into the irrigation system. The second directs water to a spigot and hose that are supplemental to the irrigation system. Kent's solution was to turn off the water to our irrigation system in the fall before the city blows it out and

Cynthia Calbick wields a pruner

remove the handle that controls access to our irrigation system. The city has access to our supplemental faucet and hose so they can blow out city park water lines, but they would not directly damage our irrigation system.

The Master Gardeners are grateful to the Kents for their continuing garden maintenance participation at the Moses Lake Demonstration Garden. Thank you to all the master gardeners who participated in this exercise.

Jean Anderson pounds out a solution

Barbara Guilland uses a wheeled traveler to facilitate weeding

Schedule for Fall Master Gardener Basic Training Classes 2015

Editor's Note: Master Gardener training classes are open to the public for a fee if arrangements are made ahead of time by contacting the WSU Grant/Adams Extension Office (*ga.mgvolunteers@ad.wsu.edu*)

Topic	Presenter	Date	Location
Tree Fruit	**Karen Lewis, WSUE Regional Tree Fruit Specialist**	**Wednesday, 9/23/15 12-4 pm (potluck at noon)**	**Field Trip-Sunshine Orchards, Hwy 28**
What Gardeners Should Know about Soils in the Columbia Basin	**Andrew McGuire, WSU Crop Production & Soil Quality Specialist**	**Thursday, 10/8/15 1-3 pm**	**Moses Lake Fire Station Meeting Room 701 3rd St., Moses Lake**
Vegetable Gardening & Integrated Pest Management	**Kris Nesse, President, Grant-Adams Master Gardener Foundation**	**Wednesday, 10/21/15 1-3 pm**	**Grant County Public Works 123 Enterprise Ephrata, WA**
Growing, Maintaining, Pruning Landscape Trees in Eastern WA	**Tim Kolhauf, WSUE Agent/MG Program Coordinator, Spokane**	**Thursday, 11/9/15 1-3 pm**	**ATEC Bldg, Big Bend Community College Moses Lake, WA**
Growing & Maintaining Turf in Eastern WA	**Jared Whitaker, Planet-Turf.com**	**Thursday, 11/19/15**	**Moses Lake Fire Station Meeting Room 701 3rd St., Moses Lake**