Yellowstone Master Gardener

NEWSLETTER Volume 15, Issue 4 • October/November/December 2025

IN THIS ISSUE

We want to hear from you!
Send your submissions for the newsletter to
ymastergardener@gmail.com
by January 1st for the next issue.

Master Gardener Laura Estes

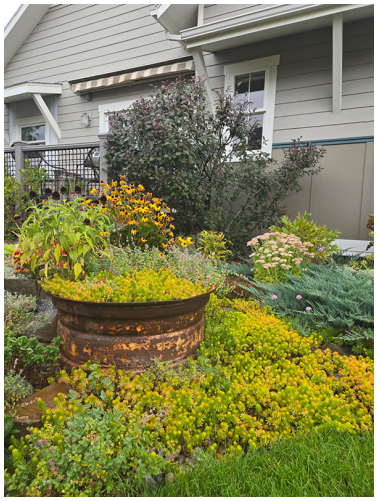
by Ann Guthals

Where did Laura, a Helena native, get the gardening bug? As a child she helped her father tend a large vegetable garden and plant a lot of trees. One year her mother offered her a garden plot to grow flowers for a local garden contest – Laura won first prize for young gardeners and was hooked on growing things!

Above: Laura Estes; below: Laura's yard

Laura's professional background is eclectic, describing herself as a "Jill" of all trades. She was a surveying assistant, did soil testing for the highway department, worked for the county health department and a private engineering firm, and spent several years working on grants with the MSU Extension Service in Bozeman. She moved to Billings in 2005 to take a position in the USDA Crop Insurance Program, retiring in 2020.

To help develop the yard in her first house in Billings, Laura took a class on landscaping presented by a local landscape architect and followed up with the Master Gardener classes in 2011. When she moved to her current house, she put her lessons to work in her yard. As a new development, the yard was at first only dirt (with little topsoil) overlaid with sod. She made a landscape plan and over time removed the grass and planted perennials. Because the developer had stripped the land of topsoil, Laura was challenged to grow in what she says was basically rocks! Being innovative, she made raised beds out of



continued on page 2

MASTER GARDENER LAURA ESTES *continued from page 1*

pipes and deck railing out of gravel sieves from a recycling center and another raised bed from a tractor wheel rim from her son-in-law's ranch. A trellis was made from an old wire bedstead from her family's place near Helena. Presently she is adding birdbaths, but proceeding cautiously as there are visiting cats. She has had vegetable gardens in the past but now grows tomatoes in pots and concentrates on her love of growing flowers, shrubs, and trees.

Old bedstead

A practitioner of organic gardening, the "worst" she uses in her yard is diatomaceous earth. Her favorite activities are making a landscape plan then watching the plants develop over time and observing all the wildlife that visits her yard (this year there are praying mantises, hummingbirds, big moths, dragonflies, and spiders). Laura volunteered at the zoo arboretum and this year at the downtown Farmer's Market. She is also a valuable member of our newsletter committee, writing articles and helping with publishing.

Her advice to fellow gardeners is to learn from your garden – when something doesn't work, try a new location or check your watering levels. Change something and see if you have success. Lessons learned in the garden, like flexibility in approach, can be applied in other areas of your life as well.

Thank you, Laura, for your contributions to the Yellowstone Master Gardener Program!

Parkland Gleaning Project

by Laura Estes

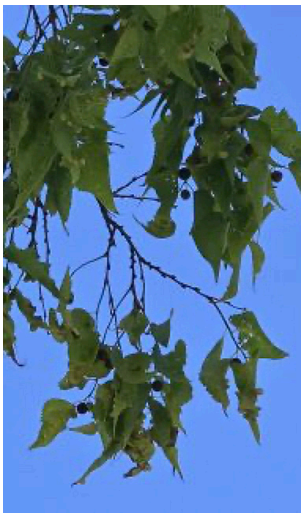
Gleaning is "gathering bit by bit." The Billings Parkland Gleaning project encourages collection of excess fresh food from edible trees and bushes, primarily in nine local parks (Comanche, Centennial, Highland, Kings Green, Lillis, Optimist, Primrose, Pioneer, and Rose Parks). That's certainly local food at its root!

The project was formed in 2018 through the efforts of Billings Metro VISTA and the Parks and Recreation Department. Fruiting trees were planted in city parks and berry bushes were added to the edible inventory in 2023. The project mission states: "Gleaning from public lands simultaneously helps to address the pressing issues of food insecurity and malnutrition in low-income neighborhoods as well as the global effect of food waste and resource consumption."

The project provides an easy-to-use interactive map showing exact Billings locations and names of fruiting trees and shrubs. I spent some time exploring parks I had never visited and finding trees otherwise easily overlooked using the mobile version of the map on my phone. After this eye-opening experience, I started noticing edibles at every turn on my morning walk. It was quite a demonstration of how "gleaning" can involve food, information and/or ideas! The map was created by the global non-profit Falling Fruit which is a "…celebration of the overlooked culinary bounty of our city streets." Users are encouraged to contribute information of their own to enhance listings for their local community. Make sure you have a positive identification of the plant before adding it to the database or consuming the fruit.

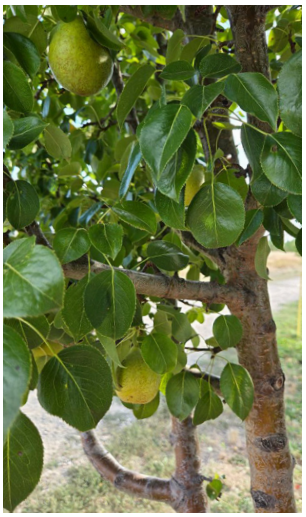
The project website has more information – Parkland Gleaning Project – Billings Parks and Recreation, including a link to the Falling Fruit map showing locations in the parks listed above and many more. It also has recipes for some of the more common gleanings – how about some honey roasted plums with thyme and olive oil?

They are looking for volunteers, both individuals and groups, to help glean and distribute what's collected to local organizations. Watch the volunteer video on the website or contact: millironj@billingsmt.gov



*Common hackberry (*Celtis occidentalis*) in Burg Park*

*Radiant Crabapple (*malus*) in Pioneer Park*



Parker Pear at Songbird Community Garden

Upcoming Educational and Event Dates

by Anthony Sammartano

OCTOBER 4TH
Invasive Insects and Fall Garden Preparation Workshop
Location: 4-H Building at Metra Park
Time: 1–4pm
Info: Hosted at the 4-H Building at MetraPark. This two part program will cover the topics of invasive insects and winter garden preparation.

Part 1: Join MSU Extension Specialist and Arthropod Diagnostician, Chloe Rice to talk about the I.D and management of Japanese beetles and brown marmorated stink bugs, and learn what to be on the lookout for to detect emerald ash borer beetle.

Part 2: MSU Extension Agent Francisco Gamboa Herrera will discuss practical garden planning and critical pesticide and equipment management to support garden productivity and stewardship.

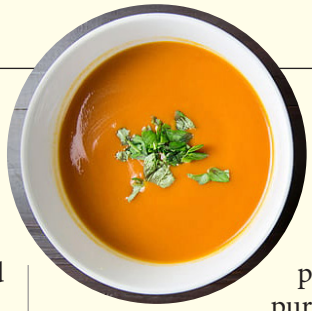
This is a MDA approved training. Applicants may earn 2–3 credits depending on license category.

Contact the MSU Extension Yellowstone County office at 406.256.2828 for additional information.

NOVEMBER 1ST
Buckthorn Bandits Volunteer Event
Location: Two Moon Park
Time: 9am–1pm
Info: Join the Buckthorn Bandits at Two Moon Park for a volunteer work party to help plant native plants in areas recently cleared of Russian Olive. Trees and shrubs will need to be planted, and native wildflower and grass seed will be available for those wanting to help plant a meadow. For more information, please contact Anthony Sammartano at anthony.sammartano@montana.edu

RECIPE *submitted by Ann Guthals*

Pumpkin Soup



Ingredients
2 tbsp. butter
½ green pepper, seeded and chopped
1 large tomato, chopped
2 green onions, including tops, finely chopped
1 tbsp. parsley, finely chopped
¼ tsp. thyme
1 bay leaf
2 cups cooked pumpkin puree
3 cups chicken stock
1 tbsp. whole wheat pastry flour
½ cup milk
½ tsp. nutmeg
½ tsp. sugar (optional)
½ tsp. salt, more or less, to taste

Directions
Melt butter and simmer green pepper, tomato, onions, parsley, thyme, and bay leaf for 5 minutes. Stir in pumpkin puree and chicken stock; continue simmering for 30 minutes. Strain mixture through a sieve, and return liquid to pan.

Blend flour and milk together; stir into soup. Season with nutmeg, sugar if used, and salt. Simmer soup another 5 minutes, then serve.

Note: When I make this, I add chopped carrots and celery with the onions.

From **Cooking in the Orchard**
by Megan Mallory

MONTANA STATE UNIVERSITY
EXTENSION

P.O. Box 173150
Bozeman, MT 59717-3140

Sarah E. Eilers
Montana Master Gardener Coordinator
Phone: 406.994.2120
sarah.eilers1@montana.edu

Abiya Saeed
Extension Specialist
Phone: 406.994.6523
abiya.saeed@montana.edu

Anthony Sammartano
Horticulture Extension Agent
Phone: 406.256.2828
anthony.sammartano@montana.edu

MASTER GARDENER • MONTANA •

Yellowstone County Extension Office
301 N. 27th Street, Suite 330
P.O. Box 35021
Billings, MT 59101-5021
Office hours: 8am–5pm

BOOK REVIEW *by Ann Guthals*

The Self-Sufficieny Garden

by Huw Richards and Sam Cooper

Permaculturalist Huw Richards set a goal for himself: to build a kitchen garden in a relatively small space (33 ft. x 41 ft. plot) that would grow enough vegetables for him to be self-sufficient in produce over the course of a year.

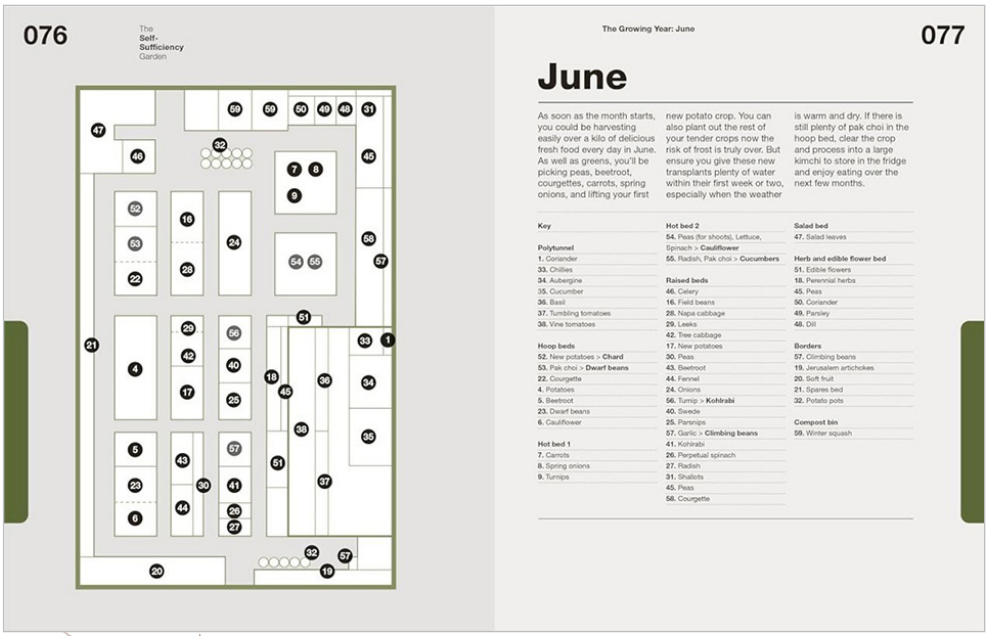
On his property in Wales, Huw has many permaculture experiments going, which he explores in his popular YouTube channel. In 2024 he decided to re-make his existing kitchen garden with a new plan, layout and approach to grow all the veggies he needed for the next year. He would keep detailed visual and written records and, if the plan worked, he would write a book about it. The plan succeeded and Huw wrote and published *The Self-Sufficiency Garden*.

Wales has a different climate than Montana – not as cold and very much wetter. There is winter but the temperatures do not get as low as here. Could we duplicate his experiment here and succeed? I think we could come close but, for example, instead of a hoophouse you would probably need a heated greenhouse. And even using season-extending techniques, I doubt we could grow as much in the colder months as Huw did. Notwithstanding this, his ideas and approach are worth learning about but not necessarily with the hope of veggie self-sufficiency.

The book is tightly organized and presented. The text is concise and precise – no wasted words. It behooves the reader to actually read all the text, not skim, so as not to miss important bits of advice. I would say it is not intended as a beginner's book – sometimes Huw suggests actions that he does not elaborate on, seeming to assume the reader already has the necessary experience or knowledge of that particular activity.

The book's four sections are: Creating the Garden, The Growing Year, In the Kitchen, and Growing Skills. In the first section we learn how to design and build raised beds, a hoophouse, hot beds and hoop beds. Detailed plans are included.

In the second section, Huw presents a detailed layout of the garden, and he denotes for each bed and structure what is to be planted or harvested during that month. He uses a lot of succession planting so what is in a bed this month might differ the next month. He grows more than one thing in each bed, so simple crop rotation would be difficult. He grows many kinds of plants, so the plan and accompanying key are somewhat intimidating, I found. But the idea is good and your garden could be much simpler and still use his recording and planting approaches. His detail on plant spacing is most helpful. He extends the description to include a summary of a second year using this plan.



The third section is contributed by co-author and chef Sam Cooper. Sam presents an approach to building food dishes that is flexible and creative rather than just including specific recipes (though there are enough of these as well). He shows how to create salads, soups, curries, pastries and condiments and how to preserve food by fermentation. A very useful part of this section is the Flavor Chart that lays out in detail how each vegetable that was grown in the self-sufficiency

continued on page 5

BOOK REVIEW *continued from page 4*

garden can be used: how to cook by a variety of methods, how to pair with other foods, and how to preserve, plus special tips for each veggie.

HOOP BEDS

Hoop beds are essentially raised beds with a "hoop house," a mini polytunnel, on top. They are filled in the same way. Providing fantastic under cover growing space outside, these beds are designed to produce early harvests as well as late-season crops. I'm sharing how to make a 10ft (3m) x 4ft (1.2m) hoop house, which works in my space, but you can adjust the width to suit. I used standard lengths of timber and plastic sheeting to make the hoop house, then attached it to the raised bed frame with hinges along one side so it could be opened (see below) for easy access.

Kit list

3 x 10ft lengths of 2 x 3 timber
2 x 10ft lengths of 25mm x 50mm roofing batten
2 x 4ft lengths of 2 x 3 timber
2 x 2ft lengths of 2 x 3 timber
8 x 10ft lengths of 22mm thick alkathene pipe
3 stainless-steel door hinges
161/2ft x 61/2ft UV plastic sheeting
80mm stainless-steel screws
40mm stainless-steel screws
8ft total length of thin wood strips (any lengths)
Nails (longer than the wood strips)

Tools

Hammer
Wood saw
Tape measure
Pencil
Drill
25mm drill bit

1. Assemble materials and tools, cutting timber to the correct size if necessary.

2. Make the frame by laying the 2 x 10ft (3m) timbers and 2 x 4ft (1.2m) timbers on a flat surface to form a rectangle. With the wider sides of the wood facing upward, use 80mm screws to join the corners together securely.

The last section is a compendium of tips on good practices in the garden. I especially liked the Minimal Disturbance Gardening suggestions and the segment of making your own garden amendments to boost plant and soil health, which I hope to try next season.

If read with patience and care, and if paired with Huw's enlightening and informative YouTube videos, this book is an informative and helpful addition to any gardener's library.

Garden Professors

by Laura Estes

At the 2025 Turf to Trees workshop, I discovered a great blog – gardenprofessors.com. It presents science-based gardening information in unique and manageable sound bites covering a wide range of topics. One recent post was about using long-range weather outlooks in fall gardening plans, explaining the difference between probabilistic and deterministic forecasts and how to read a NOAA map. It included a bonus link to the USDA fall foliage map to track fall's progress in the trees. Another covers unintended consequences of bee hotels and the most recent post spotlights one of the endlessly fascinating insects that gardeners may encounter.

Marigold fruit fly

Photo taken at Elizabeth Gamble Garden in Palo Alto in 2015 by © selwynq, some rights reserved

There's a new post each week, written by a member or guest of their team of scientists. You can subscribe or just check them out on the web site. A well-organized archive allows searching past posts by date, subject or keyword. This is a great way to keep gardening skills up to date through the non-gardening months ahead.

The Turf to Trees workshop takes place each August at the MSU Plant Growth Center with a different slate of speakers sharing insights and knowledge of interest to Master Gardeners. This year's presentations were: Montana's Native Pollinators and Sustainable Landscaping, Creating Sustainable Landscapes with Native Plants, Native Trees and Shrubs Tour, Water Resource and Quality Considerations for Landscape Irrigation, and Getting to the Root of It: How Soils Influence Plant Success.

The Many Lives Of Zucchini

by Erin Gregory, MSU Family & Consumer Sciences Agent, Yellowstone County

"Slice 'em, dice 'em, grill 'em in the pan,
Bake 'em, stuff 'em, fritter if you can.
Zoodles in your stew, chips nice and thin –
So many ways, where shall we begin?"

If your garden is anything like mine, you have zucchini coming out of your ears! This green overachiever can feel overwhelming now, but in a few short months you will be glad you stashed some away.

When you are "saving for later," your big three for zucchini are freezing, pickling, and drying. Choose your method based on how you will use it later.

Freezing (best for baking)

Zucchini is mostly water. When frozen, ice crystals break cell walls, so thawed zucchini turns watery and soft – perfect for breads, muffins, cakes, and other baked goods.

- Freeze sliced or grated zucchini in measured portions (two cups is a handy baking size).
- If it thaws watery, discard the liquid before using. Your batter will thank you.
- For grated zucchini, brief blanching before freezing preserves quality; skipping blanching means enzymes keep working and the shreds can get tough over time.
- Pro tip from my kitchen: after grating you can sprinkle lightly with salt, let it "sweat," then rinse and drain. Label flat bags for easy stacking.

Canning & Pickling (researched recipes only!)

Plain zucchini is not suitable for canning: as a low-acid food it is unsafe for water-bath canning, and pressure-canning temperatures cause the squash to disintegrate. No safe, research-established processes exist for canning plain summer squash.

The workaround? Acid. Add vinegar and make pickles or relishes – now you have a high-acid product suitable for water-bath or atmospheric steam canning. The vinegar (and sugar) help the pieces stay firm.

- Research-tested options include Summer Squash Relish and Pickled Bread-and-Butter Zucchini.
- Want a pressure-canned option? The National Center for Home Food Preservation includes a tested Tomatoes-and-Zucchini recipe – follow that formula exactly.
- Bottom line: Use researched recipes only (The National Center for Home Food Preservation or University Extension are good sources).

Drying

Dehydrated zucchini makes delightful chips for dips and crunchy add-ins for soups. Two keys: proper pretreatment and storage.

- Slice ¼-inch thick, steam-blanch 2½–3 minutes, cool to about 120°F, drain, and place on drying trays.
- Dry 10–12 hours until brittle or crisp.
- Store airtight (or freeze for longer storage). Dried squash reabsorbs moisture from the air quickly – keep it sealed until you are ready to serve.

Prepared Zucchini Products

Baked zucchini goodies – zucchini bread, chocolate zucchini cake – freeze beautifully. Cool completely, wrap tightly, then freeze. They will be firm when frozen and need to thaw before serving.

Overwhelmed?

We do not grow vegetables because it is convenient – we grow them because they are delicious, nutritious, and worth the work. Let the overflow spark ideas, not stress:

- Shredded → breakfast fritters, quick breads, muffins.
- Cubed → stews, sautés… even "candied" skillet zucchini with a dash of brown sugar.
- Purée → silky soup base or a veggie boost in sauces.
- Roast → olive oil + parmesan, ~20 minutes at 400°F
- Zoodle → spiralize for a pasta

My favorite recipe: Zucchini Fritters

Ingredients

- 2 cups shredded zucchini (squeezed dry)
- 1 egg
- ½ cup flour (or breadcrumbs)

continued on page 7

New MontGuide

by Laura Estes

Native Plants for Montana's Home Gardens, new August 2025. By Abiya (Abi) Saeed, MSU Extension Horticulture Specialist; Andrea Berry, Big Horn County MSU Extension Agent; and Noelle Orloff, Schutter Diagnostic Lab Plant ID Diagnostician. Both Abi and Andrea were speakers at the 2025 Turf to Trees workshop. The guide covers choosing and caring for native plants that are likely to thrive in a variety of Montana's rural and urban home gardens. It includes a sizable plant list with key characteristics for each plant. Available for free download – https://www.montana.edu/extension/montguides/montguidepdfsforstore/MT202503AG_Native_Plants_new08.25.pdf

Bumble bee collecting pollen from a Blanketflower (Gaillardia aristata)

Photo by Abiya Saeed

Search and download the full MontGuide collection at: Home – Montana State University Extension

---

THE MANY LIVES OF ZUCCHINI *continued from page 6*

- ¼ cup grated parmesan (optional)
- Salt, pepper, herbs, veggies to taste (scallions, shallots, garlic, onions, parsley, basil, rosemary, etc)

Instructions

Mix all ingredients in a bowl (mixture should be thick not runny)
Heat a little oil in a skillet.
Drop spoonfuls of batter, flatten slightly.
Cook 2–3 minutes per side until golden brown.
Serve hot with sour cream or a yogurt dip.

Master Gardeners Back At Farmers Market

by Laura Estes

After taking a couple years to rest and rejuvenate, Bob Wicks once again organized the Master Gardener Information Booth at the 2025 Farmers Market. Visitors are happy the booth is back and bring many interesting questions. From "how can I learn to use my new pressure canner?" (Extension Agent Erin Gregory can help with that) to "what's up with these ridges on my tomatoes?" (such fruit are *not* poisonous as a Google search reported). A fun one is "I just can't get anything to grow…" which starts a conversation among all Master Gardeners present and leads to a wealth of take-home references.

Newly featured in the booth are seed giveaways (from the MG Seed Library), a QR code that can easily deliver any MontGuide to your phone, and sign-ups for the possible fall master gardener class and monthly seed library seminars. The booth also provides information about other Master Gardener efforts such as Billings Community Gardens, the Seed Library, and ZooMontana Botanical Society.

The booth builds relationships with the Billings community at large as well as within the Master Gardener community. During a question lull, booth volunteers share tips and experiences: making jam, growing citrus (indoors in winter/outdoors in summer for pollination), the new squash they grew (ever heard of the "red warty thing" variety?), and overcoming fear of cutting back perennials too early (after a freeze, the task is not so pleasant). Stop by the booth or add to your volunteer hours by staffing it. As one volunteer said, "*master* just refers to the fact that we all keep learning together because everyone has different knowledge to share."

Fall Planting

by Ann McKean

Although we think of autumn as a time of winding down in the garden, fall is a great time for planting because the warm soil is conducive for fast root development and because roots have two seasons to get established before they must support leaves and flowers in the spring.

Dividing your perennials and replanting can increase the number of plants in your garden for free. It's also fun to share divisions with friends and neighbors. Some examples of plants to divide in fall are ornamental grasses, daylilies, hostas, and peonies. If your perennials have a bald spot in the center, look either weak or just too big, or lodge (flop over) more than they used to, it may be time to divide. By dividing in fall while the ground is still warm, plants experience minimal stress because the weather is cooler, and they do not have to support top growth. Remember that they still need water before and after you divide.

Fall is the ideal time for tree planting because, again, dormancy and cool weather allow for minimal stress, the warm fall soil is ideal for root development and winter gives them time to strengthen their roots before the upcoming growing season. Water them before and after you plant, and be sure the roots never dry out all winter.

Crocus can stand up to freezing temperatures

While it's hard to picture the lushness of spring at this time of year, if you plant ornamental bulbs now, you will be rewarded with cheery spring blooms. Bulbs, especially crocus, are some of the earliest plants to flower and can provide much needed food for early bees. (There are even fall blooming crocus that bloom in November.) Bumble bees can forage when it's only fifty degrees, long before other perennials get going. Crocus will be there on early warm spring days and can survive snow and spring freezes. Many bulbs can be planted well into fall if the ground is not frozen.

Fall is also a great time to plant pollinator friendly native perennial and grass seeds because planting seeds in the fall mimics the natural cycle of these plants. Though now is the time to overseed thin spots in your bluegrass and fescue turf for a thicker lawn next year, you could, instead, remove some of that turf and use your new bed area to plant native seeds. Some native seeds need a cold period for stratification in order to break dormancy. Others will sprout and begin to put down deep roots in the warm fall soil and the winter moisture. When spring arrives, they will be ready to take off and outcompete weeds. Sow your seeds about a month before the ground freezes.

If you aren't ready to give up your lawn but still want to help nature's pollinators, consider either overseeding your turf with micro clover instead of more grass seed, or better yet, ditching your grass lawn and replacing it with a xeriscape clover lawn seed mix. This keeps your open space for children and pets to play and provides flowers for pollinators while reducing lawn water requirements. Remember again that seeds need water to get established, so try to start your seeds a month before your irrigation is turned off or be prepared to water by hand as necessary.

Just because summer is over, doesn't mean there isn't work to be done and fun to be had. The time you spend prepping your garden and planting new plants now will bring you and our wildlife huge and early rewards next season. Happy fall gardening!

Far left: You can reduce or eliminate your turf area and plant native seeds instead.

Left: Yarrow which has a bald spot and is lodging. This is ready to divide!

Fall Ornamental Garden Prep For Wildlife

by Ann McKean

If you have planted a garden for wildlife habitat, kudos to you, but even if you have not, wildlife will still be grateful if you do your fall garden prep with them in mind.

Remove and dispose of all diseased material to curb future outbreaks. Then, cut back and compost any material that will collapse to the ground and potentially make a mat, such as peonies, Hosta and Nepeta. Leave ornamental grasses and all plants with seedheads such as stiff-stemmed Echinacea, Rudbeckia, Eutrochium, asters, and many others, which will provide overwintering protection for insects in their stems and feed the birds with their nutritious seeds. It's ok to cut back unruly remains like salvia if they look too messy. Leaving perennials standing also holds moisture for their roots and protects their crowns from drying winds while providing cover for wildlife and visual winter interest. Leave all berries and fruit on shrubs for birds and other vertebrates.

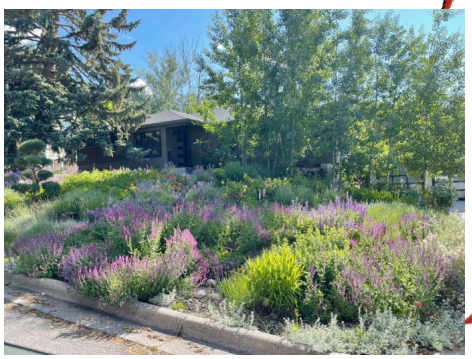
If you are collecting perennial seeds for the seed library, remember to follow the same rules as wild collecting. Never take all of anything, and leave plenty for wildlife.

Allow fallen leaves to remain in place where they will act as mulch, suppressing weeds while returning their carbon and nutrients to the soil. They will also provide food and shelter for larger arthropods (including some butterfly and moth larvae) and the invaluable microscopic animals in the leaf litter and soil. As the leaves break into smaller pieces, mycorrhizae will spread and decompose them further, completing the circle by offering nutrients back to the roots of the plants. Birds and mammals also rely on leaf litter for food, shelter, and nesting material. Only rake and compost any large quantities of leaves that could suffocate your (hopefully minimal) turf. Sending leaves to the dump causes the release of greenhouse gases.

If you allow leaves and plant material to compost in place, you likely won't need to add supplemental compost every year, especially in native plantings. If you prefer to add compost, just a light scattering is enough for maintenance. If you are trying to build up more organic material in poor quality nutrient-starved soil, especially in your veggie garden, then go ahead and add an inch or two. Do not conflate manure with compost. Manure should not be added to gardens every year.

Add natural wood mulch to maintain a depth of three inches in the ornamental beds where you use mulch. This helps conserve moisture and keeps soil temperature more stable. A thick layer of mulch also inhibits weed growth. Never let the mulch touch woody stems and remember to leave some small areas of bare soil for native bee nesting sites.

continued on page 10



The salvia bursts in June.

The salvia has gone to seed and the birds feast on it.

The salvia has finished and the asters shine.

Frost has finished the asters, but the birds are still picking at the last of the salvia seeds and the fall crocus hangs on.

The birds have eaten all the salvia seeds, and it has been cut and tidied away. The fall garden prep is complete, and nature will work quietly till spring.

Seed Stratification

by Anthony Sammartano

Native plants and their cultivars are being increasingly pushed to be used around our homes for our decorative landscaping. These plants can provide beauty to our landscapes, help us to be water wise, and provide beneficial food and shelter to support local wildlife. Native plant materials and varieties of nativars can become a costly endeavor for those working to revegetate large landscapes with plugs and saplings, but using native seeds is becoming a norm.

A cheaper way to get native plants growing in your landscape is to use seed. Seed is often much cheaper to purchase when compared to plugs and saplings and can prove to be fruitful to those with patience. Much like our garden variety fruit and vegetable seeds, native plant seed will only germinate once the conditions are right e.g. soil temperature being just right or the photo period being long enough. But unlike our fruit and veggie seeds, native plants can be a bit pickier regarding the ideal conditions to germinate. The process of creating the ideal conditions to cause seeds to germinate is called seed stratification.

The methods used in seed stratification aim to mimic the specific conditions in nature where these plants are normally found. I will share a few of the most commonly used stratification methods, but if you are curious to explore other methods, I encourage you to look through Prairie Moon Nursery's Stratification Guide (https://www.prairiemoon.com/how-to-germinate-native-seeds.html).

Cold stratification is a common germination technique that mimics a seed's time spent out in the elements during the winter. Columbines and milkweeds are examples of plants whose seeds need a prolonged period spent wet and cold. Often the easiest way to start these plants is to surface sow seeds in the late fall and allow them to overwinter. It may help to make a label and mark the spot in the garden where you sowed your seeds to remember what the plants are

continued on page 12

FALL ORNAMENTAL GARDEN PREP FOR WILDLIFE

continued from page 9

If needed, add sulphur, iron or other amendments to give them time to break down in the soil and feed the roots, increasing winter survival and giving plants a jump start in the spring.

Now is also the time to put out new nest boxes so wary birds can get used to them and to clean out existing ones so that old boxes will be ready when the birds are.

Don't be put off by the idea that leaving more plant material makes a messy yard; quite the opposite is true. The rich colors and textures of winter plant skeletons are full of structure and beauty. By working with nature and adopting a gentler method of fall cleanup, you will save loads of time and reap the benefits of a healthier and more beautiful ecosystem that supports wildlife in your own yard.

Yellowstone County Master Gardener Newsletter MISSION STATEMENT

The mission of the Yellowstone County Master Gardener newsletter is to "educate and inform," not to advocate or persuade. The Newsletter Editorial Board takes no position endorsing or opposing, approving or disapproving, any of the assertions or arguments in the contributed information. Information submitted to the newsletter is for your interest only.

NEWSLETTER EDITORS

Suri Lunde • Ann Guthals
Ann McKean • Laura Estes
Sheri Fredericksen

CONTRIBUTORS

Anthony Sammartano
Erin Gregory

When All Hail Broke Loose!

by Ann Guthals

At 10:13pm on July 28, 2025, I was reading in our living room when I heard the first pings of hail hitting the roof. Very quickly the sound of the hail increased in volume dramatically and it was obvious the hail was hitting everywhere. Within a couple of minutes it sounded as if we were being bombed, which, in a sense, we were. The ping pong ball size hail continued uninterrupted for 35 minutes. My husband and I watched helplessly as the storm shattered every skylight and in the family room opened the room up to the full force of rain and hail, which along with wet plaster soon flooded and coated the majority of the room. The dangerous hail made it impossible to go outside to get tarps or help stop the damage in any other way. I could only imagine what was happening to the roof and the landscaping and garden.

We cleaned up shattered skylights and wet plaster and mopped up water the best that we could until midnight when we gave up and went to bed. Luckily the next day several professionals came to our rescue. Our carpet cleaner is also a disaster restoration professional and came out right away to work for three days on cleaning up the family room. Our roofing company tarped the skylight holes and then replaced the house roof within a week. Our handyman cleaned up the inches thick piles of leaves on the driveway and front yard. Within the week, our carpenter removed trees that fell on the roof of my chicken yard and we were able to get the truck windshield replaced on site.

After dealing with the worst of the house damage, it was time to view the garden. With a heavy heart, I walked out and saw what looked like total destruction. Everything was beaten to the ground. Virtually all of the apples were on the ground, as were the tomatoes. The zucchini plants were almost unrecognizable. On and on.

For some reason, I didn't give up hope. I decided to clean up the debris and assess the situation. I gave the surviving plants a side-dressing of vermicast and some extra compost. We did the same for the flowerpots near the house. And then I waited.

To my amazement, so much recovered. I would not have thought it possible. I lost my grapes, apples, plums, and tomatoes. But though I lost the green plants, the potatoes and onions were okay. The carrots rebounded as did the zucchini. The grape vine grew new leaves and will live. The cool crops like kale were under shade screening and

continued on page 12

Shredded flowering plants

Zucchini bed after storm

Apples on the ground

WHEN ALL HAIL BROKE LOOSE! *continued from page 11*

survived well. Low plants like strawberries and herbs were barely damaged. The tomato plants have re-grown but I don't think the green tomatoes will have enough time to ripen. I will bring them in when frost threatens. All but one of the flowers in pots recovered. And all the deciduous trees lost leaves but are recovering (evergreen trees and shrubs were undamaged).

Before the storm, I was growing the best garden ever, partially thanks to a friendly spring and my efforts to build healthy soil. I think having a healthy, thriving garden helped the recovery. The screening over the cool crops really helped avoid hail damage and I am still thinking of covering the rest of the garden as even the sun-loving plants suffered in the extreme heat of the last several summers and could use some shade. And not giving up hope and giving everything extra nutrients and time to recover turned out to be a strategy that paid off. I have a plan going forward but I do hope never to have to go through a storm like that ever again.


Recovered vegetable bed


Recovered zucchini bed


Recovered flowers


Recovered flower box

SEED STRATIFICATION *continued from page 10*

that you see coming up in spring.

If you are interested in doing cold stratification "artificially", begin by placing seeds in a starting medium, such as a damp paper towel, coffee filter, sand, or other horticultural use medium. Store in a refrigerator for an extended period between 33-40°F. The time required in cold storage is entirely dependent upon what species of plant the seed is from. I recommend learning as much as you can about the seeds you are interested in, so you can be sure that the seeds spend enough time in the wet and cold.

Cold stratification is a relatively simple method of seed stratifying, and for those of you looking for a seed starting challenge, I suggest you read further. Some native species of legumes require an introduction or inoculation of soil borne organisms for successful germination, and wildflowers like Indian Paintbrush require a companion planting that supports a hemi-parasitic relationship. The world of seed starting is a fun science practicum, and if you are curious to learn more, please visit Prairie Moon Nursery's website.