



A Newsletter for GARDENERS OF ALL LEVELS

By Helena Area Master Gardeners

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Creating a Perennial Garden

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Charlotte Bowenhollow

After working in my vegetable garden I always look forward to stopping by the perennial beds – they are so easy, relatively speaking! Most of us plant a perennial garden for the predictable pleasures of colors, textures and shapes, the changing nature of seasonal blooms and leaves, and sometimes, for the cut flowers to enjoy inside. Also, there is something inspiring about a plant that sleeps through the winter and wakes up with the spring!

In this article I will describe broad techniques that will help you achieve the appearance you hope to see in your garden. I will discuss possible design guidelines, or lack thereof, and give an idea of sequence for determining plant material.

How to start

If you are ready for a whole new garden space, you must first determine the site location, size and general shape. It is okay to start small. You may even wish to begin slowly and add a few perennials to existing areas, which is one of the wonderful things about perennials! You may work with as many or few as you like.

Garden Style

The next step is determining the type of perennial garden you want. There are two primary concepts to keep in mind. First consider that of mass or group (more on this later), which allows you to think in terms of larger elements,

thus more easily design the overall appearance you want. Second, most groupings for the purpose of visual beauty are designed in odd numbers, such as three, five or seven.

Your choices include a traditional perennial garden, the **border**, which incorporates a blend of classic design elements (masses) for a pleasing composition. The border highlights re-

peating themes of plants and colors. A **mixed border** combines perennials with shrubs, bedding plants, ornamental grasses, bulbs or other elements. The masses you create will often be a triad (or larger) of plants that share cultural requirements and enhance each others' best qualities.

You may also arrange a garden around a **focal point**, with the goal of directing attention to the primary grouping, or object of focus, with the rest of the garden providing balance to this area.



Focal point in a garden

I read about a clever suggestion related to the idea of mass: "Simply stretch out your arms, and in an area of approximately that diameter, try to include a perennial that blooms in the spring, one in summer and one in fall...include a fourth plant that primarily has good foliage interest." I know this violates the rule of odd numbers so you'll need to place the "mass" of four plants in an attractive group arrangement. But, remember, it is your garden and you may try anything you want!

Plant Selection

Now you are ready to select the plants. With your chosen style of garden in mind, start with a list of your favorite plants and add to those. You can obtain an inventory of perennials that will grow in our Montana climate from many sources. What pleases you is important; but, for a successful garden, the plants you use must fit within the environmental conditions you are able to provide. These include the sun, shade, moisture, drainage, space and microclimate (e.g., wind) of your site. Many perennials need lots of sun, up to 10 hours a day in the middle



Border perennial bed

Creating a Perennial Garden - continued



Mixed perennial bed

of summer. On the most basic level, you will choose and group your plants primarily according to their needs for water and light, as well as tolerance for cold (hardiness).

Creating the Look you Want

You can decide on a “look” or “impression” you wish to convey through the plant arrangement. You can create a visual look that is bold and dramatic, calm and harmonious or simply eclectic, driven by the specimens that strike your fancy.

A reliable method of imagining plant location within a border garden is using two types of *masses*, known as **drifts** and **clumps**. Drifts are elongated groups (not rows) of one plant flowing throughout, and integrating sections of the garden; the repetition can highlight colors, textures or whatever is desired. Clumps are rounded groupings of one kind of plant, or one large circular specimen, serving the same design functions as drifts. You can vary the length of drifts as well as the height and diameter of clumps throughout the border.

Shape is another element to manage; plants with a distinctive form are more interesting. An upright variety positioned near a mounded type catches the eye. The more contrast among elements, the more attention is generated, while less contrast is more relaxing. Leaf shape, size, color and texture contribute to the overall plant appearance and these aspects too, may be massed and manipulated. When choosing plants that are not in flower consider how the type and color of the plant’s foliage fits in with your garden plan.

The *size* of each plant or grouping must fit with the overall proportions of the garden and your intended style. Some suggest that plant height might be limited to 2/3 the width of the garden; you will certainly use tall, medium and smaller plants, with the higher ones generally further back. Consider extending a taller specimen, or small group, into the medium heights, so the observer will look around and behind. Use plant *spacing* appropriate for the mature size of your plants, though massing for a single species may be tighter than for larger individual plants.

Colors are used to create an intended mood or appearance. Attention is generated by vivid hues and high contrast; a monochromatic palette (with various shades of one hue) will need attention to textures, sizes and shapes, but can be very pleasing and harmonious. White flowers and gray foliage can be used to separate conflicting colors. Warm reds and oranges stand out and appear closer while cool blues and purples recede and soothe.

Having a succession of *bloom periods* takes planning ahead. Most of us wish for a balance of color and bloom in every season. Early blooms occur in April and May. Summer or mid-season blooms come in June and July. Late bloomers occur from August through October. Most perennials bloom from two weeks to two months, with an average of three weeks. Plant two or three varieties that bloom at the same time together and spread the blooming periods throughout the garden. Take note of the foliage that will receive attention during the “off” season. Never fear moving a plant; that’s part of learning what works best for your garden.



Foliage incorporated into a perennial bed

Sources for article and pictures:

Montana Master Gardener Handbook, Fourth Edition, 2008, Montana State University Extension, Bozeman, MT.

“Perennial Gardening”, Gardening Series No. 7.402, 2000, Colorado State University Extension, Ft. Collins, CO.

The Undaunted Gardener Planting for Weather-Resilient Beauty, Lauren Springer, 2004, Fulcrum Publishing, Golden, CO.

Xeriscape Colorado The Complete Guide, C.L.Ellefson and D.Winger, 2004, Westcliffe Publishers, Englewood, CO.

<http://www.gardeners.com/Growing-Perennials/5073.default.pg.html>

Many thanks to Master Gardener Gayle Shirley for creating the Growing Zone logo on the first page!

The Basics of Permaculture

Susan Hartman

Permaculture is a design science that uses nature as a template. Gardening is one of many areas that permaculture focuses on. The word permaculture comes from “**permanent**” and “**agriculture**” and was coined in the 1970s by Bill Mollison and David Holmgren of Australia. The movement has grown slowly over the years and is currently experiencing a boom in interest worldwide. As people are looking for ways to become more self-reliant, conserve energy and eat healthfully; permaculture has proven to be a way to provide for one’s needs on site.

Permaculture focuses on the relationship between elements in our environment (water, plants, animals, structures, etc). The aim is to provide for our needs without exploiting or polluting, while creating a system that is economically viable and regenerative. It takes that garden square hidden in the back yard and turns that space into a beautiful, edible landscape. Waste becomes resource and the yard becomes a producer rather than a consumer.

The initial design process includes looking at a site or yard in zones and sectors. Zones help place elements in relationship to each other and by frequency of use. Visualizing the interconnectedness between each element encourages efficiency and elimination of waste. Beginning at zone 1, directly out the main door, are the plants that need the most care and that will be used most often. Zone 2 is a little less intensively managed and may include chickens, fruit trees and



Photo courtesy California State University—Stanislaus

vegetable beds. This methodology continues on all the way to zone 5, the wild, an area where we observe nature’s processes. The zone technique can be applied to rural or urban settings although the amount of zones may vary. Much planning goes into designing each zone for best efficiency. Each element in this design should serve multiple functions.

Sectors take into account forces in our environment like fire, wind, sun and water. This design includes mapping out the directions these forces typically come from. How does water enter and exit the site? Which area should be prepped for fire mitigation? Sector analysis helps us to optimize desirable forces and minimize undesirable forces. We can even design for privacy and deer protection. Sectors and zones are specific to each site.

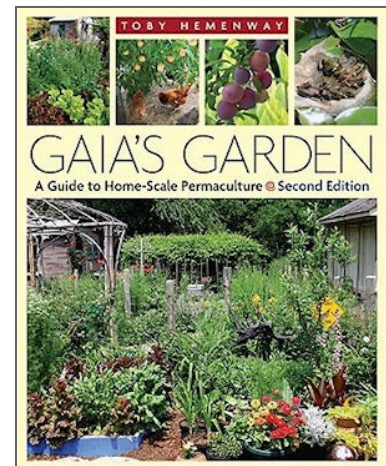
We can mimic nature’s resilient and regenerative design and increase its productivity by planting multifunctional, polyculture systems. By increasing diversity in the food production system there is less chance for crop failures. The emphasis is not on a large yield from any one crop but rather many smaller yields, providing a healthy, tasty selection of foods for harvest. More work in the initial stages of design and implementation sets up a stable ecosystem that maintains itself with minimal work.

Soil health is of utmost importance. Tilling of the soil is avoided and techniques of layering and building soil are used. In nature soil is always covered. Failing to cover or mulch soils encourages weeds to do it for us. Heavy mulches or ground cover crops can be used to protect soils. This will increase water holding capabilities, prevent erosion and minimize weeds. The jobs of weeding and watering are greatly reduced. Fertility of the soil can be increased by growing dynamic accumulating plants and nitrogen-fixing plants. Dynamic accumulators are plants such as comfrey and even dandelion that have deep tap roots that pull minerals up from deep in the ground and make them available to other plants. Nitrogen-fixing plants have a symbiotic relationship to a rhizobia bacterium allowing the plant’s

The word permaculture comes from “**permanent**” and “**agriculture.**”

roots to take nitrogen from the air and fix it into nodules on its roots. This nitrogen can be made available to plants.

Forest gardening is used in this landscape with an emphasis on layering of plants as seen in healthy forests. Starting from the top there are canopy trees, understory trees, shrubs, herbaceous plants, ground cover plants, root crop plants and vineing plants. This method allows for a greater level of diversity and production than an orchard. Plants are grown to attract pollinators as well as beneficial insects. Plants most often chosen for this type of agriculture include perennials and re-seeding annuals.



Classes are available in many parts of the country to teach people how to design their own permaculture system. Many books have been written on the subject. Some of my favorites are: *Gaia’s Garden* by Toby Hemenway, *Permaculture, a Designers’ Manual* by Bill Mollison, and *Earth User’s Guide to Permaculture* by Rosemary Morrow. The Internet is also a great resource for related material. Warning, you may never look at gardening the same way again!

Finding Useful Information on the Internet

Judy Halm and Brent Sarchet

The Internet has become the “go-to” source for information in an age when most of us have less and less time to spend researching topics. The Internet is fast, easy, and can supply an enormous amount of information on virtually any topic of our choosing.



If you have ever tried to find gardening information on the Internet, you know that any search terms you type in will be returned with hundreds of thousands if not millions of web sites – all in a fraction of a second. While it is nice to have choices, you may not be interested in a web site that provides information for gardening in Florida, a web site that wants to sell you plants not hardy to our Zone 4 climate, or taking the time to read through dozens of sites to determine if the information is useful to you.

Here are a few tips to save time and make your gardening searches on the Internet more useful to you.

- When searching on the Internet, use key words that describe your topic and add “+ extension” at the end. This will give you results from all the Land Grant University Extension Programs. An example of this search is “pruning fruit trees + extension.”
- When searching on the Internet, you can also list a specific university and the topic such as “Montana State University soil testing”.
- When looking at Internet sites that are not university sites, look to see if the site is sponsored by a company

or organization. Depending on the company or organization that is sponsoring the site, the information may be skewed to reflect the ideals of the company or organization; the information may not be unbiased.

- When searching out relevant books or magazines for our area, look to see where the author is from. An author who is from Montana or the Rocky Mountain area will have more pertinent information for our area. Also look to see if the author is credible; does the author have a degree in what he/she is talking about, has the person been working in the field of expertise for a long time and where? A freelance author who works in southern California and writes a book on vegetable gardening may not be the best resource for our area.
- Keep in mind that almost anyone can publish information on the Internet; just because it is printed does not mean it is accurate. Remember that many web sites would like to sell you products or information that you may not need.

If you have questions about the information you find on the Internet and its usefulness for you, contact your local Cooperative Extension Service Agent, who will have much useful information about your local area.

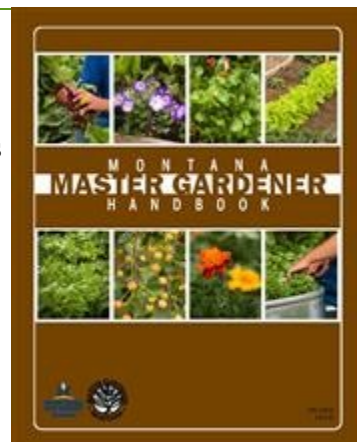
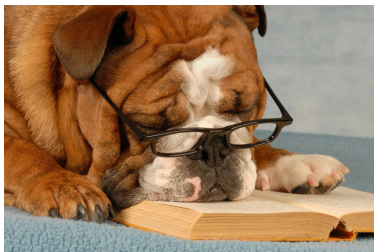
pruning trees

About 12,500,000 results (0.20 seconds)

This may be more information that you need—or want!

Revised Montana Master Gardener Handbook Available

A revised edition of the Montana Master Gardener Handbook is now available from the MSU Extension service. Contact your local Cooperative Extension Agent or go to http://www.msuextension.org/store/Products/Montana-Master-Gardener-Handbook__EB0185.aspx to order your copy. Former Master Gardeners can purchase the book at a reduced rate of \$30. Contact the Extension Office for more information.



Cloning Ancient Plants

Connie Geiger

Arctic campion grown from 32,000 year-old seeds!

In February while listening to the morning news on NPR, I was intrigued by the report of Russian scientists' claim that they had cloned a 32,000 year old arctic campion, similar to our current day narrow-leaved campion *Silene stenophylla*. Previously reported germination from an ancient seed came from a 1,300 year old lotus seed. Not knowing much about botany, cloning, or paleontology, I wondered just how that could be possible, and how could they do that? Here is a garden layman's "sound bite" answer:

The seeds were stored 30,000 years ago in a squirrel's burrow in Siberia, then were buried under sediment and permanently frozen in the permafrost until recently excavated. The seeds themselves did not grow under the scientists' care. But plants have a wonderful and fascinating ability to regenerate themselves from a single cell. Many of us "plant nerds" are already familiar with this on a bigger scale when we root a stem cutting, or plant potato plants from last years' potatoes, or cut and divide tuberous begonias or rhizomous plants. Because we're starting new plants from

a piece of a former plant we are "cloning" that plant. This vegetative propagation (vs. sexual propagation) is usually done using stem material or "stem cells". But other plant cells can be used as well. In a frequently used process called micropropagation, a few tiny cells from a shoot tip (meristem) are extracted and placed in a growth medium in a highly sterile and controlled laboratory setting. In the case of the seeds buried by a squirrel, there were no shoots or stems to use because of the age of the material. Instead the scientists extracted cells from the placenta, the organ in the fruit that produces the seeds. When grown in a petri dish, the cells produced roots and shoots, which grew into a plant which later produced flowers and seeds.

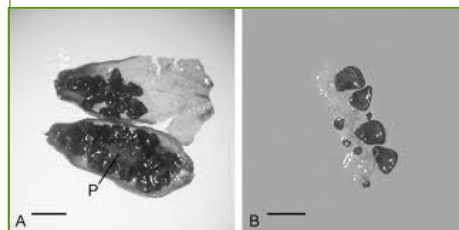
Sources:

<http://www.npr.org/2012/02/21/147217231/russian-scientists-clone-ancient-arctic-plant>

<http://www.nytimes.com/2012/02/21/science/new-life-from-an-arctic-flower-that-died-32000-years-ago.html>

<http://io9.com/5886851/this-ancient-arctic-plant-regenerated-after-being-frozen-for-32000-years>

Photo credit: *Images by Yashina et al. via PNAS*



A: Seeds attached to placenta (P); (B):seeds and placenta

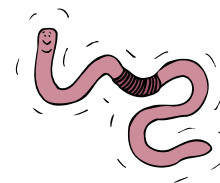


Campion grown from placental cells of 32,000 year-old seeds

Did You Know?

According to University of Illinois, a population of 500,000 earthworms per acre could:

- Produce a drainage system equal to about 2,000 feet of 6-inch drainage tile.
- Produce 50 tons of castings (a fancy word for worm poop) - an equivalent of roughly 1/3 inch surface applied manure per acre. That's like lining up 100,000 one pound coffee cans filled with castings.
- Add 2 pounds of nitrate nitrogen, 15 pounds of phosphorus, 36 pounds of potash, 45 pounds of magnesium and 250 pounds of calcium to each acre of soil annually.
- Help to increase the amount of air and water that gets into the soil. Their tunnels create a network of "pipes" so rainwater and air can infiltrate soil.



<http://web.extension.illinois.edu/cfiv/homeowners/100902.html>

Book Review: *All New Square Foot Gardening* by Mel Bartholomew

Karen Semple

The Square-Foot gardening method uses fewer resources and requires very little work, yet produces a crop equal to a single row garden five times its size.

I was introduced to the “square foot” gardening concept years ago through a friend, Chuck, who kindly loaned me his copy of Mel’s first edition, written in 1981. It was very worn and I could only have it for two weeks as it was precious to him. Chuck

saw the potential for using this concept in my landscape to relieve me of the less-productive, labor-intensive, row gardening I was practicing at the time.

I was quite skeptical at first, having been taught what I knew about gardening by grandparents who, using the information of the day, sowed in rows. Since it came from them, what I learned was hallowed ground. Dare I tread upon it by learning something new and different?

I thanked Chuck and then set about to try to understand what he was talking about by delving into the book. The ‘new’ edition, released 25 years after the original, has much better pictures (they were black & white line drawings in the first edition) as well as little “Mel says,” boxes throughout which focus on key concepts. (I *had* to have it once it came out since I couldn’t possibly remember all the new and different ideas!)

What is Square Foot Gardening?

For those who don’t know what “square foot” gardening is, in a nutshell, here is what Mel teaches: **1.** Don’t waste your time and energy digging up the ground and working to modify the soil so it will produce: use raised beds; **2.** Don’t use regular dirt/soil for your raised beds. Make a mix that is 1/3 vermiculite, 1/3 compost and 1/3 peat moss; **3.** Create a grid that overlays your bed (Mel shows you how) and sow each square with only the seeds you need, spaced in a way that he has determined to be the most productive though lots of research and experience. There are charts in the book, along with other helpful “at-a-glance” gardening information.

I was captivated by the ideas he presents and set out to find

the ingredients for his mix. Unfortunately, the vermiculite from the mine in Libby was contaminated with asbestos. The price for vermiculite from out of state was prohibitive, to say nothing of the peat moss cost. Maybe it works easily in locales where those two items are readily available and inexpensive, so I decided to stick with my soil and compost, but to create the raised beds of which he spoke.



One other thing Mel taught me was to use scissors to cut excess sprouts so I don’t disturb the roots of the one I leave behind. That was clever! There are lots of great time and energy-saving ideas in the book that are worth much more than the price!

I never dreamed I’d be writing a review like this or I’d have taken some photos of my beds over the years so you could see what they looked like when they were doing great. However, you can see lots of other square-foot garden beds at Mel’s new website: squarefootgardening.org. They are inspiring! You can grow so much food in so little space!

The Square Foot Gardening Foundation is a non-profit 501(c)(3) entity whose purpose is to end World Hunger by reaching out to families and teaching them how to grow healthy food for their daily meals, thus improving their diets and getting the family interactive with each other. The foundation teaches the original method of Square Foot Gardening created by their founder, Mel Bartholomew. This method uses fewer resources and requires very little work, yet produces a crop equal to a single row garden five times its size.



Example of a square-foot gardening grid. Photo courtesy of University of Guam Cooperative Extension Service

Although I’m not using “Mel’s Mix” because of the vermiculite and peat moss expense issue, and I use string tied to used chopsticks instead of constructing wooden grids, I’m using his other methods to save time, work, energy and resources. The Square Foot Gardening book is available for purchase at various locations in Helena, and many libraries also have it. I encourage you to check it out to see if some of his labor, money and time-saving ideas might work for you!

Gardening Calendar - Connie Geiger

Conditions during each spring in your location will determine the actual timing of your garden work. If you have questions regarding the timing of garden activities in your area, please feel free to ask a Master Gardener at HelenaMasterGardeners@hotmail.com.

April

- ♣ Late March – early April-Start vegetable and hardy annual seeds indoors, including broccoli, cabbage, cauliflower, celery, eggplant, tomatoes and peppers.
- ♣ Have lawnmower serviced; clean and sharpen garden tools.
- ♣ Clean up overwintering plants such as geraniums, begonias, coleus - cut off all leggy growth, trim back to a few buds.
- ♣ Pull weeds; remove old growth and debris from garden beds.
- ♣ On warm days start turning the compost pile to get it “working” again.
- ♣ Direct seed sweet peas, snap peas, snap dragons, pansies, violas, spinach, arugula, lettuce, chard, radishes.
- ♣ Start cucumbers, squash, and pumpkin, indoors for transplant.
- ♣ Seed bare spots on your lawn.
- ♣ Spot spray lawn with broadleaf herbicide, but be careful to keep drift away from garden plants and trees, or dig out broadleaf weeds with hand tools while ground is soft and moist.
- ♣ Pot tuberous begonias.
- ♣ Prune and repot house plants.
- ♣ Keep Easter lilies in a bright, cool location out of direct sunlight. Water as soil begins to dry.



May

- ♣ Harden off houseplants and over-wintered flowers for transfer outside.
- ♣ Plant half-hardy vegetable seeds (2 weeks before last frost) - broccoli, Brussels sprout, cauliflower, and celery from transplants; potatoes from seed-pieces; and parsley and radish from seed.
- ♣ Start hardening off transplants – exposing them to outside temperatures during the day.
- ♣ Direct seed beans, seed potatoes and annual flowers.
- ♣ Remove mulches from around perennials and strawberries.
- ♣ Helena’s “Average” Last Frost: May 18th (give or take 2 weeks)
- ♣ Plant corn and transplants of tomatoes, eggplant, peppers, squash, cucumbers, melons, and annuals.
- ♣ Start checking for insects such as aphids, slugs, flea beetles, and cutworms.
- ♣ Power rake, aerate and fertilize lawns.
- ♣ Prune Spring flowering shrubs after flowers fade.
- ♣ Apply compost or fertilizer to annual flower beds before planting flowers.
- ♣ Pinch chrysanthemums and annual flower plants to keep them compact and well-branched.
- ♣ Remove blossoms from newly set strawberry plants to allow better runner formation.



June

- ♣ Spot treat lawn for broadleaf weeds, or remove by hand.
- ♣ Water and fertilize container plantings regularly to encourage growth and flowering.
- ♣ If you haven’t already; Plant lettuce greens, spinach, arugula, chard, kale and radishes.
- ♣ Cover new growth if frost suspected.
- ♣ Check soils for moisture content – if dry 2-to-3-inches down, water.
- ♣ Apply compost and fertilizer to bulbs and perennials.
- ♣ Apply foliar fertilizers in the cool of the mornings.
- ♣ Consider planting another row of leafy greens and radishes later in the month.
- ♣ Install or hook up drip irrigation systems.
- ♣ Install rain barrels under gutter down spouts.
- ♣ Plant perennials with a water soluble root booster to help get them established.
- ♣ Plant perennial shrubs and trees now before the heat of summer hits.
- ♣ Start watching for garden pests that require action.
- ♣ Renovate June-bearing strawberry plants after harvest drops off.
- ♣ Fertilize newly planted raspberries.
- ♣ Pinch back chrysanthemum to encourage flower budding in fall.
- ♣ Fertilize roses after first blooms; pinch spent flowers.
- ♣ Pinch back herbs to encourage more growth.



The National Phenology Network

Karen Semple

Edited and submitted from the Co-CoRaHS and NPN websites

You may remember from a previous article that CoCoRaHS focuses on measuring precipitation and learning about rainfall patterns. Many CoCoRaHS volunteers are also farmers, gardeners, and naturalists who pay close attention to more than just rain and snow.

Here is a citizen science project that may interest some of us, whether a Master Gardener or not.

What do a robin building a nest, a butterfly emerging from a cocoon, and a cherry tree in bloom all have in common? All are examples of phenology, or seasonal life cycle events in plants and animals. Throughout history, people have used phenology to make decisions about when to plant crops and when and where to hunt for particular animals. More recently, phenological observations such as the timing of bird migrations, insect molts, and flowering have proven to be very valuable in documenting species and ecosystems' responses to changing climate conditions.

Using Nature's Notebook, a program of the USA National Phenology Network, you can track the phenology of plants and animals in your yard. By doing so, you'll join thousands of other individuals who are providing valuable observations that scientists, educators, policy makers, and resource managers are using to understand how plants and animals are responding to climate change and other environmental changes. Your observations make a difference!

Want to help? Here's how it works:

Go to: www.usanpn.org

Learn about the plants and animals you can observe. Find out which species in your area are on the list - learn more about them and the phenophases to look for. Learn how to observe. Learn how to select a site, select your plants and animals, and record your observations. Sign up to be an observer. Become an official participant and set your username and password. All you need is an email address and Internet access. Now you're ready to register your site location and the plants and animals you will observe, and start reporting! As you collect data during the season, log in to your account at "Nature's Notebook" and enter your observations.

If you don't want to help, there are still great resources available for you. For example, you can look up target species, animal, plant, insect and get more information about them. See the sidebar for an entry on the NPN site with information on the bumblebee.

I certainly never knew about the bumblebee's feet before reading this! So, that explains why I noticed bumblebees coming to my tulips last spring and not returning to the flowers any of them had been at!



Bombus spp.

Bumblebee

Alpinobombus spp., Bombias spp., Cullumanobombus spp., Psithyrus spp., Pyrobombus spp., Subterraneobombus spp., Thoracobombus spp., bumble bee

Photo Credit: Derrick Ditchburn



“Did you know?”

Bumblebees have smelly feet. After feeding on a flower, they leave a chemical scent to warn other bumblebees to avoid that flower because the nectar has already been taken.

What does this species look like?

Bumblebees are large, robust bees, typically with yellow-black coloration. They have two sets of transparent wings with black veins. The front set of wings is larger than the hind set. Females have pollen baskets on their hind legs. The body is covered with hair of various colors, often yellow and black; the body color below the hairs is black.

Similar species: Bumblebees can be confused with carpenter bees. Carpenter bees have a shiny, smooth, all-black abdomen, whereas bumblebees have a fuzzy abdomen that typically has yellow or white coloration, in addition to any black that may be present. Carpenter bees bore into wood, but bumblebees do not.”

Gardening is cheaper than therapy, and you get tomatoes. ~Author Unknown

Hungry for the Asparagus Patch

Libby Henrikson

As I look out my window I am once again longing to see little green things starting to emerge from the earth. But today, it's completely covered in snow – again.

Soon though, one of my favorite plants will be sending up green spears of flavor--Asparagus.

I developed a passion for asparagus years ago while living in Minnesota. There you could still find patches of wild asparagus growing along the old country roads.

When I first planted asparagus I was a little intimidated by all the folks who said it was hard to grow. Starting a bed does take a bit more work than is required for other vegetable beds but the effort is worth it because asparagus is one of the tastiest, easiest vegetables you can grow.



Photo courtesy Michigan State University Extension Service

Long live a Bed of Crowns. Asparagus is a perennial crop, its long green fingers coming up year after year. So when you make your bed, do it carefully. Your asparagus may be growing in it for 20 years or more. A sunny well-drained part of the garden will yield the best crop. Asparagus, a good candidate for raised beds, should be planted in soil with a pH of 6.5-7.5.

Consider weather in selecting a variety. New hybrid asparagus varieties abound. The old standard “Mary Washington” has long been good but research and breeding have produced some fine alternatives. New Jersey breeders are offering all male

plants, which yield more than female plants since they don't use energy to produce flowers and seeds. In my old garden, the Jersey Giants variety tips tend to loosen if the temperature got above 80°F, resulting in many undesirable spears.

Seeds vs. crowns. You can start your asparagus with seeds, but they take six weeks to germinate and add another year of growing time before the first harvest. Most people use the asparagus crowns, the root mass and buds. When buying crowns, look for fresh, firm-fleshed roots. If they are shriveled or feel like paper, they may be old and won't produce well, if at all.

Plant crowns early. Crowns should be planted while they are dormant. They should be planted when the ground is workable. As long as the crowns are covered with about 2 inches of soil, they won't suffer in hard freezes. A few crowns can be planted merely by digging individual holes for each plant. If you want to plant more, dig a trench. If the soil is heavy clay, the trench should be deep enough to accommodate a layer of compost under the crowns. The optimum depth to plant crowns is 6 – 8 inches. Shallower plantings yield many spindly spears, while those planted deeper produce fewer spears of larger diameter. Place the crowns in the furrow and cover initially with 2 – 3 inches of soil. Keep adding to the trench as the spears emerge. By the seasons end, the trench should be full.

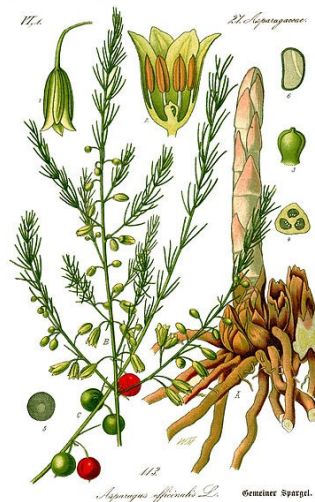
Asparagus stays healthy with breathing room. Remember when planting to space the crowns to allow for good air circulation to protect against disease. I plant my crowns 15 – 18 inches apart in rows 5 feet apart. Figure on 10 plants for each person in the family.

Modest care pays dividends. When you've established your asparagus bed, the hard part is finished. Still, you must follow good garden practices to assure future healthy crops. Weeds must be controlled or they will run wild. Weed control can be done mechanically with a hoe, cultivator or rotary tiller. To avoid damaging the asparagus roots, don't till deeper than 2 inches. Weed blocking fabric and mulch will also help.

Except under desert-like conditions, asparagus, with its extensive root system doesn't need irrigation. I've learned that asparagus drowns much more quickly than it dies of thirst.

A vegetable worth the wait: Although a harvest period is about 6 weeks long, it's over just as many people start thinking about local summer produce. Spear growth depends on temperature. If it's cool, the asparagus may need to be harvested every three days, if it's hot, every day. Older varieties had to grow for three seasons before they could be harvested. With the increased vigor of the new hybrid varieties, gardeners can harvest for about two weeks during the first season, a year after planting. A light harvest seems to stimulate the plant to produce more spears. A full six week harvest season may follow in year two, provided the average size of the spears is larger than a pencil.

Fern formation is critical to next year's growth. The asparagus will keep growing throughout the summer. But difficult as it may be, you must stop harvesting so some of the spears can go to fern, the stage when the tips turn feathery. Ferns should not be removed from the asparagus plant until after several killing freezes. The ferns also transfer carbohydrates to the roots by photosynthesis. This process is crucial to the development of spears for the next year's harvest.



Recipes of the Month

Garden Fresh Asparagus Soup - contributed by Libby Henrikson

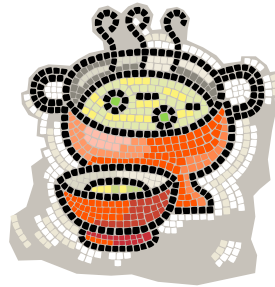
1 lb. fresh asparagus
 ½ c. chopped onion
 1 can chicken broth or vegetable broth
 2 T. butter
 2 T. flour
 1 t. salt
 1 cup milk or fat free half and half
 ½ cup sour cream
 1 t fresh lemon juice



Cut asparagus into small pieces. Put the asparagus, onion and ½ cup of the broth into a saucepan, cover and bring to a light boil. Reduce heat and simmer uncovered until asparagus is tender, about 15 minutes. Process the mixture in a blender to puree the vegetables. Set aside. In the same pan, melt the butter and blend in the flour, salt and pepper if desired. Cook, stirring constantly for 2 minutes; don't let the mixture brown. Whisk in the remaining chicken broth. Raise the heat and cook, stirring constantly until the mixture boils. Stir in the asparagus puree and the milk. Put the sour cream in a small bowl and ladle a little of the hot mixture into the sour cream to warm it, stir to blend. Add the sour cream mixture and the lemon juice to the soup and stir. Don't allow the soup to boil; serve promptly.

Cream of Asparagus Soup – contributed by Kathy Rucker

2 C chicken broth
 3 C water
 1 cup chopped onion
 2 T margarine
 ¼ C flour
 ½ - 1 tsp. dill weed
 1 pound fresh asparagus
 1 C powdered milk
 ½ tsp. salt
 White pepper
 Dash of soy sauce



Break off the tough asparagus bottoms and discard (in the compost bin). Cut off the asparagus tips and set aside. Chop the stalks in ½ inch slices or smaller.

Melt margarine in a large pan. Sauté chopped asparagus and onions until the onions are translucent. Sprinkle flour over the onions mixture and stir. Gradually add chicken broth and stir until thickened.

Plant Your Garden with your Dinner Table in Mind

Cathy Morris

To help make your decision about what to plant in the spring consider what vegetables you enjoy eating. Zucchini, carrots and potatoes can be tossed into a soup. You can also slice zucchini, put it in a microwavable container, add a little water and cook on high for one to two minutes. Once cooked, drain the water and grate some parmesan cheese over the zucchini and serve. Many vegetables can be boiled or steamed. For carrots put in a pan, add water to about an inch above the carrots, bring to a boil, cover and reduce heat to medium low and cook for about 10 to 12 minutes. Drain the water, add a little butter and serve. To steam vegetables use a steamer basket that fits inside a sauce pan and add an inch or two of water to the bottom of the pan. Place the vegetables in the basket and steam until cooked. For added flavor add a teaspoon or two of brown sugar with the butter. Use a fork to test for doneness. Vegetables should be firm and not mushy, so be careful not to overcook. Overcooking reduces the nutrient value of the vegetable. Most vegetables are very easy to cook, and there is nothing better than fresh produce right out of your garden.



Ask the Experts

We all have questions about our gardens, lawns, trees, flowers or other landscape projects from time to time. Ever wish you could ask an expert in the field for answers to your questions? Here's your chance! In each issue of the newsletter we will answer one or more questions posed by our readers. Send in your questions to HelenaMasterGardeners@hotmail.com and we will pass the questions on to our expert panel for answers.



Brent Sarchet, Lewis & Clark County Extension Agent

Q. I have 20 raised garden beds, 4' x 6', which have excellent soil. However, over the years the soil has compacted and become difficult to work. What is the best way to restore the soil? Should I till it or just hand work the top 3-inches of the soil? What about adding amendments to loosen the soil? I cover the beds that are not growing green manure with a thick layer of mulch that I work in come spring. It has been recommended that I add gypsum, but I'm reluctant to do that. Any suggestions are greatly appreciated.

Karole
Clancy, MT



Raised garden beds

A. Thanks for the question, Karole. Our soils tend to have high level of clay, which I am assuming yours might. Clay soils tend to be more fertile due to a high cation exchange capacity, but they can also be difficult to work with. The key is finding the balance of enough clay, silt, sand and organic matter to make the ideal soil. The ideal soils are sandy loam and silt loam soils that contain 45% mineral, 25% water, 25% air and 5% organic matter. The typical recommendation for compacted soils and soils with a high clay content is to incorporate more organic matter such as compost and composted livestock manure, but without knowing the nutrient levels of your soil first, I would be reluctant to recommend this because your soil may already have high levels of phosphorus and potassium; adding compost can increase those levels. Plus, I wouldn't know how much compost to recommend applying. The importance of soil aeration should never be forgotten. Healthy active soils need oxygen, which can be incorporated through aeration. Adequate soil pore space is needed so the oxygen and water have a place to hang out.

Gypsum is hydrated calcium sulfate. It is most commonly used as a soil amendment in soils with high levels of sodium. The calcium in the gypsum displaces the sodium in the soil given adequate soil drainage. Our soils typically have plenty of calcium, so unless you have high levels of sodium in your soil, save your money.

Here are my following recommendations:

- Test your soil. I assume the soil that comprises the beds is similar. Take a subsample from each bed and make a composite sample to submit to the laboratory of your choice for testing. Make sure you request the basic five tests be completed (nitrogen, phosphorus, potassium, pH, % organic matter) along with a texture test and an electric conductivity test to test for sodium levels. We have soil probes that the public is welcome to borrow. Tests usually cost about \$25 to \$30.
- Review the recommendations on the results from the laboratory. If no recommendations are given, or you have questions about the recommendations, contact me and we can go over your options.

Brent Sarchet, MSU/Lewis & Clark County Extension Agent
bsarchet@montana.edu
447-8350

Plant Profile: *Clematis* - A Showy Climber for your Garden

Joy Lewis

If you've ever had the pleasure of seeing a showy, big-flowered vine blooming in early to-mid summer and twining its way upward, chances are you've witnessed the *Clematis*. The *Clematis* comes in all sizes and colors and is a member of the Ranunculaceae or buttercup family. The Greek derivation means "vine" or creeping plant. There are approximately 250 hardy species and many garden hybrids. *Clematis* grow quite well in Montana and many varieties are hardy to Zone 3.

History

Clematis were bred in China and Japan in the 1850s and eventually made their way to Europe in the 1890s where many hybrids were developed. Some of those hybrids are still popular today. Many varieties can live 25 years or longer.



Clematis montana

Choosing a Variety

Clematis varieties and hybrids come in big, open flower shapes, bell or vase-shaped, and smaller open flower shapes. They generally fall into three categories or groups depending on whether they flower on first or second-year wood and when they flower. These groupings have everything to do with how the plant



is pruned. Some say if you plant them correctly and give them minimal care, they need very little additional work, while others abide by the recommendations for each group religiously. However you treat your *clematis*, it is always a good idea to consult your local nursery to pick the right variety for your location and plant it properly. This is a good rule of thumb for any perennial you plant.

Growth Needs

Clematis need about six hours of sun a day but also benefit from afternoon shade. Dig a hole 18 inches deep and in diameter, and mix in compost. *Clematis* prefer an alkaline soil profile, which isn't too hard to come by in Montana. Carefully remove the *clematis* from its nursery pot without disturbing the roots too much. Place the plant in the hole, so that two to three inches of the stem (or two sets of leaf nodes) are below the ground level. The important thing to remember is to cut back the stems to the lowest pair of strong buds and water well after planting. *Clematis* need to have their "feet" cool. Use four inches of mulch around the base of the plant, or plant an annual or perennial that will shade the plant's feet. Feed weekly with a granulated 10-10-10 fertilizer. In mid to late-August, stop fertilizing. Plant *clematis* in the fall as long as the vine has enough time to settle in before winter arrives. It's also a good idea to have

a structure in place on which the vine can climb and establish itself. As a general rule most *clematis* will take approximately two years to develop a main framework. Follow pruning directions below for each group.

Group A

This group includes all *Clematis* species and hybrids that flower in summer and then later in autumn on new seasonal growth. Prune these varieties back to near ground level or the lowest pair of strong buds in the late winter. Some varieties include: *C. viticella*, *C. flammula*, *C. tangutica*, *C. x jackmanii*, *C. maximowicziana*, 'Perle d'Azur,' 'Royal Velours,' and 'Duchess of Albany'.

Group B

This group consists mainly of vigorous spring-flowering species that flower between April and June on new short shoots from the previous season. Prune first and second year stems back to strong lower buds. This helps develop and form a basic framework. Gently train new growth onto an established upright structure. By third and following years, cut away all flowered wood right after it has bloomed to within a few inches of main framework. This stimulates new growth that can be trained and guided onto the structure. Continue this yearly process for a full and showy blooming vine. Do not winter prune. Some varieties include: *C. alpina*, *C. macropetala*, *C. armandii*, *C. montana* and *C. chrysocoma*.



Plant Profile: *Clematis* continued

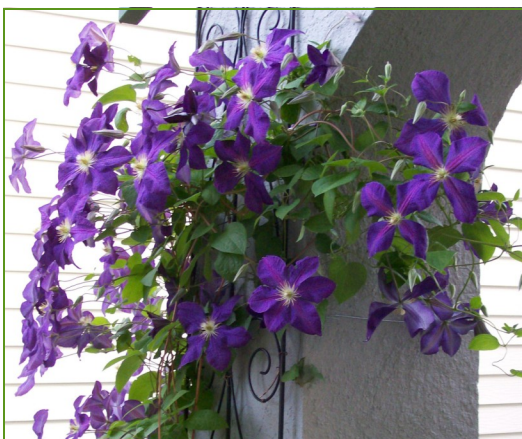
Group C

This group includes all hybrids that have large showy flowers and bloom from May to July on the previous year's wood. A second flush of medium size flowers occurs in late-summer and early fall on new growth. This group is the most difficult to maintain because it requires a good deal of pruning work. Prune out weak and dead stems in late winter. Establish the main framework during the first two years by pruning back to the lowest strong buds. In the third and following years cut one-quarter to one-third of the mature stems (within a foot of the base) right after flowering. Water well and fertilize. In August and September train new growth onto the structure. If left unpruned this hybrid becomes bare near the base of the plant while blooms and new growth dominate the top. Varieties in this group include: 'Nelly Moser,' 'Miss Bateman,' 'Lasurstern,' 'The President,' 'William

Kennett,' 'Duchess of Edinburgh,' and 'Mrs. Cholmondeley'.

Clematis hybrids are susceptible to "wilt" which is caused by a fungus called *Ascochyta clematidina*. Stems start to die back just before blooms open. Remove the affected stems cutting below the soil level if necessary. Usually the plant will recover. Powdery Mildew

(another fungus) can affect *Clematis* usually in late July and August. Use a fungicide as soon as it is noticed. Making sure that the plant has good air flow around it goes a long way toward preventing this disease. Aphids may also attack new growth early in the growing season. Use an insecticidal soap spray if a hard spray from a garden hose doesn't do the trick.



Clematis on trellis in Helena

Information gathered for this article comes from the following sources:

Rodale's Illustrated Encyclopedia of Perennials, Ellen Phillips and C. Colston Burrell, Rodale Press, Inc., 1993.

<http://ohioline.osu.edu/hyg-fact/1000/1247.html>

<http://www.homeofclematis.net/index.htm>

http://www.clematis.com/html-docs/Article_012.html

I appreciate the misunderstanding I have had with Nature over my perennial border. I think it is a flower garden; she thinks it is a meadow lacking grass, and tries to correct the error. ~Sara Stein, *My Weeds*, 1988

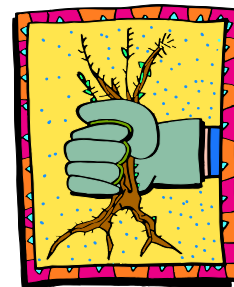
Gardening is a kind of disease. It infects you, you cannot escape it. When you go visiting, your eyes rove about the garden; you interrupt the serious cocktail drinking because of an irresistible impulse to get up and pull a weed. ~Lewis Gannit

"So many seeds -- so little time."

"Spring is nature's way of saying, "Let's party!"-- Robin Williams

A weed is a plant that is not only in the wrong place, but intends to stay. Sara Stein

If only I could grow green stuff in my garden like I can in my refrigerator!



Event Schedule

Know of an upcoming event related to gardening?

Let us know at [HelenaMasterGardeners@hotmail.com!](mailto:HelenaMasterGardeners@hotmail.com)

Helena Community Gardens 2012 Class Calendar:

Bedding Plant & Seed Exchange

Plymouth Congregational Church
May 19, 1:00 - 4:00pm

Successful Organic Gardening

County Extension Office-Fairgrounds
June 5, 6:00pm

Hot Water Bath Canning

L&C County Fairground Kitchen
August 14, 6:00pm

Pressure Canning

L&C County Fairground Kitchen
August 21, 6:00pm

Freezing/Drying/Fermenting

Plymouth Congregational Church
September 11, 6:00pm

Cooking from the Garden

L&C County Fairground Kitchen
September 18, 6:00pm

Putting the Garden to Bed

Disability Rights Montana
October 6, 2:00pm

Level I Master Gardener Class

Thursdays, April 5 – May 31, 2012
5:30 – 8:00 pm
UM-Helena Campus Lecture Hall

Bringing Nature Home—a Case Narrative for Gardening Last Chance Audubon Society

April 16th, 7 pm
Video of Doug Tallamy, chair of the Department of Entomology and Wildlife Ecology at the U of Delaware, discussing the food web that encompasses native plants.
Montana Wild Center
2668 Broadwater Avenue

Spring Private Applicator Workshop

Thursday, April 26, 2012 Augusta Youth Center
10:00 am – 2:00 pm
3 private applicator credits and 2 commercial applicator credits for the entire session
RSVP is required by sending registration form with payment, cost is \$10.00

2012 Spring Poultry Workshop

Saturday, May 12, 2012
Morning classroom session: 9:00 am to 12:00 pm
Afternoon farm visits start at 1:00 pm
UM-Helena Lecture Hall
\$20 for adults if paid before May 5th or \$30 after May 5th, youth 18 or younger are \$10

Useful Links

MSU Extension Yard & Garden: <http://www.msuextension.org/category.cfm?Cid=5>

Missoula Plant Diagnostics Database: <http://www.co.missoula.mt.us/extension/plantdata/>

National Center for Appropriate Technology gardening publications: <http://www.attra.org/horticultural.html>

National Garden Association: <http://www.garden.org/>

Helena Garden Club: <http://helenagardenclub.wordpress.com/>

Lewis & Clark County Extension Office Web site: <http://www.co.lewis-clark.mt.us/index.php?id=75>

MSU Master Gardener Program: <http://www.mtmastergardener.org/>

Helena Community Gardens: <http://helenagardens.org>

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