



The Growing Zone

A Newsletter for Gardeners of all Levels

By Helena Area Master Gardeners

Volume 1 Issue 4

October 2011



Winter Gardening gets a Jump on Spring

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Brent Sarchet, County Extension Agent

With a chill in the air and the leaves beginning to change color, you may think that the gardening season is coming to an end, but it doesn't have to. Even without season extension techniques such as row covers, hoop houses, cold frames and hot beds, you can still garden this fall and get a jump start on next year's garden.

Cool season vegetables that are typically planted early in the spring can be planted in the fall as well. Cool season vegetables suggested for fall planting include: lettuce, peas, spinach, broccoli, brussel sprouts, carrots and radish. Now is a great time to also plant your garlic.

If you are not using the season extension techniques mentioned above, here are some tips to have a successful fall planting: 1) clear your garden of all dead plant material and place in the compost pile; 2) add compost and other soil amendments as your soil requires (best to do a soil test to determine the nutrient levels in your soil) and till them into the soil; 3) plant seed as suggested on seed packages; you may want to increase the seeding rate slightly; 4) mark your rows with sturdy visible markers, and record the location of the seeded vegetables on your garden map; 5) cover the seeded area with a good inch of mulch such as straw, hay or shredded leaves; look for hay or straw that is certified noxious weed seed free; we have several farmers in our area who sell certified noxious weed seed free hay and straw; 6) if your garden is in a windy location, use chicken wire, cattle panels, or branches from a evergreen tree on top of the mulch to hold it in place. Try and do all of this just before the ground freezes. If the ground is frozen come time to plant your seeds, use a bagged potting soil to cover the seeds with.

If you are using a season extension technique, you have the opportunity to still get another crop out of your garden if the seeds were planted in the late summer to early fall. The same steps are followed above, but mulching isn't as necessary in cold frames, high tunnels, etc. Here are some examples of some vegetables to consider planting and their average days to maturity:

- Carrots – 50-95
- Beets – 56-70
- Peas and Beans – 56-75
- Lettuce – 45-120
- Swiss Chard – 50-60
- Spinach – 37-45

Carrots and other root crops like beets and turnips are very cold hardy vegetables. If you got carried away this year and have more than you know what to do with, don't worry. They will preserve very well in the soil even after the soil has frozen, but you should mulch them with a couple inches of straw, hay or shredded leaves. Carrots and other root vegetables left in the soil after a freeze will be sweeter than when they were picked in the summer. It is not recommended to leave potatoes in the ground after a freeze. The potatoes will rot in the ground.

If you are starting to already feel the winter blues, looking at all those green tomatoes and not knowing what to do, and you don't want summer to end, pick up your favorite garden tool and get to work. Garden work begins now, so get busy, and have fun!



For additional issues of The Growing Zone, go to <http://www.co.lewis-clark.mt.us/index.php?id=75>

Climate Resources for Master Gardeners

Karen Semple

Free Master Gardener Climate Resources Guide is Now Available!



Over the past year, the folks at CoCoRaHS headquarters have developed an online guide for master gardeners! The online version introduces elements of large scale and local

climate important to gardeners in addition to an overview of climate patterns and differences. Links to local climate information are also provided. Topics include: Climate & Gardening, Sunshine, Temperature, Humidity and Dew Point, Precipitation, Wind, Evapotranspiration, Climate Resources, Climate Change and CoCoRaHS.

I hope that you'll take a look at it and pass along the link to other gardeners you know who may be interested in gaining a better understanding of climate and how it might effect their local gardening. Go to the CoCoRaHS homepage at www.cocorahs.org and find the **Master Gardener Guide** tab in the left hand column.

What is CoCoRaHS?

It's an acronym for the Community Collaborative Rain, Hail and Snow Network, a unique, non-profit, nation-wide, community-based network of volunteers of all ages and backgrounds working together to measure and map precipitation (rain, hail and snow). By using low-cost measurement tools, stressing training and education (free online!), and utilizing an interactive Web-site, the aim is to provide the highest quality data for natural resource, education and research applications. CoCoRaHS is now in all fifty states.

The network originated with the Colorado Climate Center at Colorado State University in 1998 thanks in part to the Fort Collins flood a year prior. In the years since, CoCoRaHS now includes thousands of volunteers nationwide.

This is a community project. Everyone can help, young, old, and in-between. The only requirements are an enthusiasm for watching and reporting weather conditions and a desire to learn more about how weather can effect and impact our lives. To sign up as a CoCoRaHS volunteer, go to www.cocorahs.org and look on the left side of the page for the **Join CoCoRaHS** tab. For more information, watch their YouTube recordings, www.youtube.com/cocorahs.

How does it work?

Once becoming a registered CoCoRaHS volunteer, you take

the self-paced online training (no tests!) and then get/set up your special rain gauge – you are now ready to begin reporting observations.

Each time a hail, rain or snow storm crosses your area, you take measurements of precipitation at your location and report them online daily before 9 am (or when the event happens for special reports.) If you're away from home for a few days, you simply submit a Multi-Day Accumulation report when you return. These precipitation reports are recorded on the CoCoRaHS Web site at www.cocorahs.org. The data is then displayed and organized for many end users to analyze and apply to daily situations ranging from water resource analysis and severe storm warnings to neighbors comparing how much rain fell in their backyards. Even when no precipitation falls, that too is also reported.

CoCoRaHS is used by a wide variety of organizations and individuals: National Weather Service, other meteorologists, hydrologists, emergency managers, city utilities (water supply, water conservation, storm water), insurance adjusters, USDA, engineers, mosquito control, ranchers and farmers, outdoor & recreation interests, teachers, students, and neighbors in the community are just some of those who visit the CoCoRaHS Web site and use the data reported by volunteers.



Karen's rain gauge and stand

One of the nice things about participating in this network is coming away with the feeling that you've made an important contribution to an ongoing citizen science project that helps others. By providing daily observations, you help fill in a piece of the weather puzzle that affects many across our area in one way or another.

CoCoRaHS observers are needed in Montana!

According to a recent check of Broadwater, Jefferson, and Lewis & Clark Counties, only one person in Jefferson County (me) and one in Lewis and Clark County are reporting daily observations! Please join us in collecting this important data. If you enjoy following the weather, here's an opportunity to learn more and share the information you gather in a meaningful way.

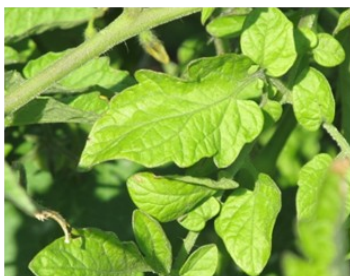
It is a small investment to purchase the necessary rain gauge and only five minutes a day to check it/log in your report.

You must have daily access to a computer and the web to participate. For more information or questions you may have, please email me at: karensem1@gmail.com

Beware – Herbicides in your Garden!

Judy Halm

Gardeners intent on improving their soil quality and productivity have access to many great soil amendments to help them reach their goals. These include compost, livestock manure, grass clippings and top soil. Unfortunately, more and more gardeners are discovering that the amendments they add to improve their plant production can have the opposite effect. Soil amendments contaminated with herbicides may damage sensitive plants.



Healthy tomato leaves

Herbicides (pesticides which work on plants) are an effective and efficient means to remove undesirable plants (weeds) from lawns, pastures, and hay and grain fields. We expect most herbicides to do their jobs and then break down to less harmful compounds in a short period of time, allowing us to go on with planting and growing our desired crops. However, certain herbicides have long residual activity in the soil and can persist in plant material for a long period of time. Consequently, plant material and soil with herbicide residuals can end up in your compost if you are not careful. Some herbicides break down very slowly in compost and other high organic matter environments.

One class of pesticides which has caused non-target plant damage is known as pyridine carboxylic acid herbicides. Symptoms have been reported on susceptible garden plants such as tomatoes, peppers, beans, peas, lettuce, potatoes, carrots and spinach, and on trees, shrubs and some flowers. These herbicides may persist for weeks, months or years, causing damage to garden plants long after their intended victims, weeds, have perished. If you purchase herbicides, check for the following active ingredients, which are pyridine compounds:

Active Ingredients in Pyridine Herbicides	Pesticide Product*
Picloram	Tordon and others
Clopyralid	Curtail and others
Aminopyralid	Milestone and others
Triclopyr	Spurge Power and others
Fluroxypyr	Colt and others
*Discrimination or endorsement is not intended with the listing of commercial products.	

Manure from farm animals that have grazed on herbicide-sprayed grass may then produce contaminated manure. Added to a compost pile or directly to a garden, the contaminated manure can transfer amounts of herbicide that can harm susceptible plants. Clippings from a lawn that has recently been sprayed may contain enough herbicide to kill garden plants. Top soil from a field that has been sprayed to reduce weeds

may also contain herbicides. Plants impacted by pyridine herbicides may display leaf curling or cupping, and stunted growth.



Tomato, bean and pepper affected by picloram

Plant fruit may also be malformed and misshapen.

If you suspect your plants have been impacted by herbicides, contact your local County Extension Agent for confirmation. Your Agent may recognize the damage, or may send plant specimens to MSU for diagnosis. If herbicide damage is confirmed, do not eat fruit produced by the damaged plants, because it may also contain trace amounts of the herbicide. Dispose of the damaged plants, but do not add them to your compost, as they will carry the herbicide with them. You may plant non-susceptible plant varieties in the contaminated plot. Again, talk with your Extension Agent to determine the best course of action.

When you are considering adding amendments to your garden, question suppliers of compost, manure and top soil to determine if herbicide may be present in the product(s). If they are not sure, or don't know, do not purchase the product. Be cautious if friends want to give you grass clippings, as the clippings may

be contaminated by herbicides. If you have already purchased or been given soil amendments, you may have them tested for herbicides at a laboratory, although this type of testing is very expensive (generally over \$200 per sample). An easier test is to do a "bioassay" using the amendment to attempt to grow susceptible plants in pots.

Lewis & Clark County Extension Agent Brent Sarchet is preparing a YouTube recording about Herbicide Damage in the Garden; the presentation should be completed and ready for viewing later this fall. The photos of damaged garden plants in this article were taken in a garden plot Brent planted this spring. After noticing the damage to plants, Brent had the soil and plant tested at a laboratory. Both the soil and the plant tissue contained picloram, a persistent pyridine herbicide.

A helpful resource from MSU, from which much of the information in this article is taken, is "Minimizing Pesticide Contaminated Soil Around the Home and Garden". It is available from your Extension Agent.

Canning... but *not* like Grandma's Canning!

Kathy O'Hern

When I was a young girl, my Mom and Grandma taught me how to can and preserve foods. Over the years I've continued with this tradition – on and off. It depended upon the time I had available in my life, the free (or inexpensive) fruit and/or vegetable I was able to get my hands on, and the amount of free space in my freezer at the time.



I've followed the instructions given to me by Mom and Grandma, and (thankfully) have never had any negative results. Yes, there was the mold that I skimmed off of my paraffin "sealed" jams and jellies ("that's normal," I thought), and the leap of faith when feeding family and friends veggies that had been canned in a hot water bath. I had read lately that you shouldn't do this – but, no, not me, I knew what I was doing.

Then, in August, I attended two canning classes and really "got" that these old canning ways are no longer considered safe. I don't like to be overly-paranoid, but a story about a woman in Wisconsin hit home... she had been canning vegetables using the boiling water method for years. Then one year she 'tasted' the juice from a jar of home-canned carrots and got deathly ill. She ended up in the hospital on a respirator with stroke-like symptoms. All from only tasting the juice of the carrots that she had canned in a boiling water canner, rather than a pressure canner - the same way she had canned carrots for 44 years! She had been infected with a *Clostridium botulinum* spore that had not been destroyed in the boiling water process.

These "Boiling Water" and "Pressure Canning" workshops were sponsored by

the Lewis & Clark County Extension Department and the W.E.E.L. Growing Community Project. Kathy Revello from MSU's County Extension office was a dynamic instructor. She focused a portion of each class on safety when canning, and emphasized that there are no shortcuts in home canning. Canning is fulfilling, but takes time, proper processing methods, the right equipment, suitable cleaning of jars, and scientifically based process recommendations.

Kathy reviewed how, and why, food preservation guidelines have changed over time. The classes were well attended (in fact there was a waiting list,) fun, interesting and delicious! During the first class we made and canned salsa using the boiling water method. In the second class we canned fresh green beans using the pressure canning method. Both classes were free – a big THANK YOU to County Extension and W.E.E.L.

In the classes Kathy explained which type of foods should be processed in a pressure canner, and which foods can be processed using the boiling water method. This depends upon the acidity of the food. Acidity may be natural, as in most fruits, or added, as in pickled food. Acidic foods contain enough acid to block the growth of botulinum, or destroy them more rapidly when heated. The term "pH" is a measure of acidity; the lower its value, the more acid the food. The acidity level in foods can be increased by adding lemon juice, citric acid, or vinegar.

Low-acid foods have pH values higher

than 4.6. They include red meats, seafood, poultry, milk, and all fresh vegetables except for most tomatoes. Most mixtures of low-acid and acid foods also have pH values above 4.6 unless their recipes include enough lemon juice, citric acid, or vinegar to make them acid foods. Therefore, you should only use tested recipes for salsa, stews, soups and sauces.

Acidic foods have a pH of 4.6 or lower. They include fruits, pickles, sauerkraut, jams, jellies, marmalades, and fruit butters. These foods can be safely canned using the boiling water method.

There are very good canning resources online, such as:

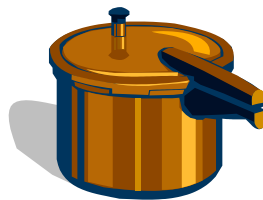
USDA Complete Guide to Home Canning, 2009 revision:
http://www.uga.edu/nchfp/publications/publications_usda.html

National Center for Home Food Preservation:
<http://www.uga.edu/nchfp/>

Free MontGuides through MSU Extension:
<http://www.msuextension.org/store/Departments/Family-and-Community-Topic-Categories.aspx>

I've done a fair amount of canning this summer and feel that, thanks to Kathy Revello's classes, it's the safest food that I've ever canned.

Happy (and safe) Canning to You!



Give your lawn it's fall fertilizer around Columbus Day (after the last mowing but about four weeks before the soil freezes).

Northwest Flower and Garden Show



Judy Halm

If you are looking for a bright spot in the cold, dark Montana winter, consider a visit to Seattle in February for the Northwest Flower & Garden Show. Nearly forty Montana Master Gardeners made the trip in February 2011, aboard a chartered bus, and were greeted and delighted by hundreds of thousands of bright and colorful flowers decorating a multitude of displays.

The Northwest Flower & Garden show, the second-largest show of its kind in the country, was established in 1989 by Duane and Alice Kelly, a Seattle couple who visited the Philadelphia and New England flower shows and who decided that Seattle needed a similar show. The Washington State Convention and Trade center in downtown Seattle became the home of the flower and garden show. The Center has 307,700 square feet of total meeting space, including a banquet/ballroom that can accommodate 10,000 people. The estimated attendance at the flower show was 60,000 over five days.

Foremost at the garden show were the elaborate **Show Gardens**, created by garden designers and landscapers of the Northwest. The show gardens covered six acres indoors and were filled with many species of flowers and design ideas to encourage gardeners of any level to start dreaming and planning for spring garden projects.

The 25 show gardens were designed around beloved storybooks and classic novel tales. The displays included “Wish Shoe Were Here, a garden of a modern design that takes liberties with the fairy tale of the Old Woman who lived in a shoe. The gardens most visible element is the shoe itself. Like all fairy tales the shoe is a fantasy and therefore lives in that world. The curves of the shoe itself are echoed throughout the garden along with some of the design elements from the shoe construction. The planting scheme is a combination of semi-tropical and common plants seen in traditional northwest land-



scapes. These plants are brought together to create harmonious and complimentary combinations.”



Alice in Wonderland and Alice’s Labyrinth used the Lewis Carroll classic to display gardening and growing methods to create a sanctuary for contemplation and enjoyment, and to encourage viewers to reflect on how

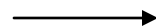
individual steps can help in moving closer to sustainability by treasuring resources, replenishing the earth, and developing healthy habitats.



There were many inspirational designs for outdoor living, edible gardening, sustainability, and more. For small urban spaces, the colorful Container Show, Floral Competition, Funky Junk and ‘Living it Up’ features illustrated methods to blend art with functionality.

Next came the **Marketplace** with over 300 exhibitors of all types. Those with enough luggage room were encouraged to stock up on the latest tools and accessories for home and garden, plants for the garden or patio containers, orchids, unique hand-crafted wares, or elaborate pieces of furniture or art to grace the garden. There was aisle after aisle of vendors and service providers, including a Plant Market, Artist’s Ally and the Power Ally for larger garden care equipment. A **Resource Center** was available to help gardeners connect with fellow gardeners who shared the same interests.

The Show offered a large roster of free horticulture **Seminars** running concurrently with the Show Gardens and Marketplace. Seminars offered lectures and hands-on demonstrations filled with valuable education and entertainment, taught by experts in the field. Seminars included pruning, choosing the right green-



Northwest Flower & Garden Show - (continued)

house, gardening in vertical spaces and dozens more.

The 2012 Northwest Flower & Garden Show will be held from February 8-12. For more information, visit the Show's web page at <http://www.gardenshow.com/>.

Toby Day, Montana State University Extension Horticulture Specialist and Master Gardener Coordinator, will be planning another Master Gardener trip to the Seattle show in February of 2012. Contact him at toby.day@montana.edu



Photos in this article are by Connie Geiger

2011 Montana Master Gardener Celebration in Hamilton!

October 29, 2011, 11:30 am to 5:00 pm

Bitterroot Inn Hamilton, MT

Cost: \$45

The Celebration Includes:

- Buffet luncheon
- 2011 Outstanding Master Gardener Awards
- Guest Speakers: Roger Joy of Canyonview Nursery and Sylvia McNeill, Master Arborist
- Tours: Canyonview Nursery, Daly Mansion & more

For more information:

Toby Day 944-6523 toby.day@montana.edu or Dara Palmer 944-2120 dara.palmer@montana.edu

Sutton's Harbinger Heirloom Peas

Karen Semple

The seeds for these peas were in a Growing Community Project raffle basket I won at the Real Food Store this past spring. They came from Seed Savers Exchange. Here's what they say about them: "Sutton's Harbinger, *Pisum sativum*, English introduction by Sutton Seeds in 1898; won an Award of Merit from the Royal Horticultural Society in 1901. Very early heavy-cropping variety. Excellent quality eating pea. Plants are 28" - 32" tall. (Mine are 48"!)

Shell, 52-60 days." While I'm a member of Seed Savers Exchange, I've never used seeds from them nor made seeds of my own available to others through them. I viewed them as doing a valuable work I wanted to support by joining. As a result of growing these peas, I want to explore more heirloom varieties of other vegetables. Their catalogs and magazine are filled with gardener eye-candy, too!

Tasting these peas took me back to my childhood while visiting my grandparents during the summers in the 1960s. They had a huge garden and always sent us home with bags of produce in the car. While my brother and I toiled pulling weeds with them in their garden, we were also permitted to graze along the way if we got hungry and saw something ripe. To this day, raw fresh peas and raw fresh green beans are still some of my favorite vegetables.

My grandmother would steam freshly picked peas in the pods; we would eat them like artichoke leaves, pulling the flesh from the pod with our clenched teeth, popping the peas into our mouths at the same time. This summer, when I tasted these peas fresh off the vine, I found myself in my grandmother's garden once again. I've never grown shell peas myself before because I had decided at some point I preferred snow peas. I'm going to have to find a way to grow both of them from now on because I've finally found a shell pea that is so delicious and satisfies the palate like those from the days of my childhood.

These peas only took 58 days to harvest, probably because they're originally English and love the cool, wet weather we had this year. I plan to save some of their seed for planting next year! I highly recommend trying them.



Recipes of the Month

Cathy Morris

Grilled Potatoes

2 medium potatoes sliced
 1 small onion sliced
 ½ cup green pepper chopped
 2 tbsp butter
 2 sheets of foil (large enough to cover the potatoes)



Put the two sheets of foil together creating a double thickness layer and spray with Pam. Put a couple pats of butter on the bottom of the foil, and then layer with potatoes, onions, and green peppers. Dot the top layer with butter. Salt and pepper the packet to taste. Seal the foil. Place on the grill over medium heat and cook for about 30 minutes.

Serves: 2

Sautéed Zucchini and Summer Squash

To prepare: Heat 12" skillet over medium heat

1 tbsp olive oil
 2 garlic cloves minced
 1 cup chopped summer squash
 1 cup chopped zucchini
 2 tsp Italian seasoning



Add the 1 tbsp olive oil to the skillet and heat over medium heat. When the skillet is warm add the garlic and sauté for about 30 seconds to 1 minute to soften garlic. Add the summer squash and zucchini and Italian seasoning and reduce heat to medium low. Cover and cook for about 2 to 3 minutes stirring occasionally until slightly softened.

Serves 4

Calling Helena Master Gardeners!

Helena South I-15 Interchange Make-over!

Don't we live in a lovely town? Aren't we a wonderfully welcoming community for travelers and friends alike? While we may have great intentions and a warm community, many of our visitors probably aren't getting a great first impression when they exit the highway onto the "new" south Helena interchange. Populated with dead or damaged trees, no grasses or perennials, no welcoming sign that Helena is friendly, the roundabout is in dire need of some master gardening TLC. We hope to have an informational meeting in late October, early November to discuss planning for spring/summer 2012 to improve this entry point into our town. People interested in joining a planning committee for this project should contact Stacey Anderson at 406-442-4228 (cell).



Gardening Calendar

Joy Lewis

Conditions during each season 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.

October

- Fertilize lawns and stop watering as soon as ground freezes.
- By mid-month stop all planting of perennials, including trees and shrubs.
- Plant spring bulbs including daffodils, crocus and tulips.
- Pull dead annual flowers from beds and pots.
- Cut back dead perennial stems and remove all diseased debris such as powdery mildew, but leave ornamental grasses. Bag diseased debris and discard.
- Pull out old vegetable stems and /or turn over in bed, and mulch bare soil.
- Plan new beds and dig out areas, adding compost, organic matter and raked up leaves.
- Watch for aphids on container plants that will spend the winter inside. Rinse with steady spray of water and treat with insecticidal soap thoroughly. Consider re-potting in new soil.
- After frost kill dig up gladiolus and dahlias and store in cool dark location.
- At the end of the month apply slow-release lawn fertilizer.



November

- As soon as soil freezes, mulch strawberries.
- As a general rule do not mulch perennial beds until after the top inch or two of soil has frozen, to discourage rodents from nesting.
- Prune dead branches from trees and shrubs.
- Water evergreens well as long as soil stays unfrozen, and protect from drying winter winds with burlap or other type shield.
- Remove old large fruit from trees.
- Mulch perennials if exposed to drying winter winds or steady sun.
- If dry spell occurs and soil is dry one inch down, water perennials early in the day.
- Start gathering and cleaning tools, sharpening blades and oiling handles.
- Collect and store plant stakes and supports.



December

- Inspect stored vegetables, fruits and bulbs for any damage.
- Start planning what vegetables to plant next spring and where. Plan on rotating crops to discourage pests and diseases.
- Take seed inventory before garden catalogs arrive. Plan and order early.
- As dry spells occur, check the soil around trees and shrubs and other perennials and again, water early in the day.
- Have nice dreams about next year's garden. Pray for perfect weather!



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 wasps/bees in my house/garage, what should I do?

- A. This time of year our office gets lots of calls from people who have paper wasps, yellow jackets, bees, etc. in their house, barn or garage and they are looking for ways to get rid of them. I am always willing to come out and assist with removal if I can access the hive or nest, so give me a call, or call a local beekeeper if you are sure they are honey bees. I just recently returned from trying to rescue a honey bee hive that had established itself in an old school house; time will tell if they will survive in their new home. It is important to remember that while bees are important pollinators that we want to preserve if we can, some wasps can be beneficial, so it is important to understand an insect's role in nature before we look to kill it. Make sure you know the identity of an insect before you pursue any type of control options. If you are unsure of the identity of the insect, bring a couple specimens to your local Extension Office, and we will be glad to get them identified for you.



Sometimes wasps can be confused with bees and vice versa. Know what you have. Paper wasps such as the Yellowlegged Paper Wasp (*Mischocyttarus flavitarsis*) are less known for their pollinating work, but they do pollinate to some extent while searching for suitable food. They feed on less desirable insects such as cabbage loopers, cut worms and other larvae found in the yard and garden. Baldfaced Hornets (*Dolichovespula maculate*) and Aerial Yellow Jackets (*Dolichovespula arenaria*) are for the most part beneficial as well. They feed their young strictly on a diet of living insects, particularly caterpillars that may be eating your garden. Yellow Jackets (*Vespula* spp.) are less desirable however because they do not primarily feed on live insects and their larvae. Instead, they feed on dead insects, earthworms and other carrion. They can also forage on sweet material like honey and fruit late in the season. Yellow Jackets are known to be robbers of honey.

While most people are familiar with the honey bee which is not native to North America, most people know very little about all of the native species of bees we have such as Blue Orchard Bees, Metallic Green Bees, Western Bumble Bees, Mason Bees, and Miner Bees to name a few. In most situations, our native bees are actually more efficient pollinators than honey bees.

Regardless if you have a species of bee or wasp that is the nuisance, either can deliver a painful sting if provoked. If you are taking care of the situation yourself, make sure you have protective clothing such as a bee suit before you begin doing anything near the site. If you are stung, make sure to monitor the site and seek immediate medical assistance if the location swells up or is extremely painful. If you have bees, contact the Extension Office or a local beekeeper for assistance in removal. If you have wasps or hornets that you need removed, contact a local professional pest specialist.



Plant Profile: *Gladiolus*

Connie Geiger



Gladiolas is one of my favorite cut flowers, and sometimes I become very attached to a particularly spectacular beauty and want to preserve it for next year. However, they are only perennial in zones 8-10 and are too tender to survive Montana winters. To have them each year in Montana you must dig them up in the fall for winter storage or buy new ones every spring.

History: Glads, in the Iridaceae (Iris) family, were originally a small-flowered plant from the river banks of tropical jungles of Africa. They have since been hybridized into the larger showy flowers we know today, as well as several diverse species, including new Orchid glads, which are bred to have shorter stems and a shorter production time. Glads are widely grown as a colorful late summer flower, and are often grown to be sold at Farmers Markets. Old fashioned species include: *Gladiolus callianthus*, *G. communis*, *G. byzantinus*, *G. tristis*. Older varieties often need staking or extra support as they mature. Newer varieties have been bred with sturdier stems.

Planting in Spring: Glads are grown from corms, which is a solid food storage unit. Plant after last frost when soil is at least 50 degrees at night. Since most garden glads bloom 65-100 days after planting, you will

want to plant them as soon as possible when the soil is ready. You can even start them early in shallow damp peat. Add a layer of manure or compost, and a dusting of bone meal, to the bottom of the planting hole. Plant corms with the pointed side up, about four times as deep as their diameter. Plant 2"-6" apart depending on corm size. Depth depends on the size of corm: 1/2" size = 3 in deep. 1/2-1" size = 4-5" deep; 1 1/4" or more in size = 6-8" deep. They prefer full sun, and rich well-drained sandy soil. Planting an assortment of cultivars will space out the blooming time. They prefer an inch of water a week, and do best if mulched to maintain even moisture. They are heavy feeders that need regular additions of compost and aged manure (i.e. when plants are 8" tall and especially after buds form) to encourage bigger flowers. Hilling the plants with 6" of soil helps to provide support and lessen the need for staking.

If you plant the small cormels, to "build" bulbs for future years, break the hard shell and peel each clean, and then plant like peas.

Practice "crop rotation" by planting glads in different locations from one year to the next. If plants are yellow or stunted then bulbs should be destroyed since this may be a sign of virus infection.

Harvesting: cut when half of the flowers on the stem are open, cutting stems at a slant to expose more cells to absorb more water. Try not to cut the leaves, since keeping 4 or more leaves (if possible) on the plant will build up the corms.

After all blooms have faded, or been harvested, rake away the mulch, and apply another feeding of manure, to help fortify and enlarge the corms for next year. Then replace the mulch.

Glads exhibit "negative geotropism", which means they turn away from gravity. If they flop over and are laid flat the tips will bend upward.

Even after cutting, if placed in a tub leaning against the side, they will develop a curve to the stem. Once cut, if you add sugar to the water it will encourage the other buds to open. However, placing them in a cool temperature after cutting will inhibit bud opening.

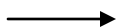
Storage: During the growing season the original corm will be used up but new corms will form around it, with one larger one to replace the original, which will bloom next year. Smaller corms (cormels) will also form which when planted the following year can produce foliage and grow in size to produce flowers during later years. Lift corms using a spading fork after the leaves have died back. Keep corms that are relatively tall and plump, rather than wide and flat. Thick corms produce good quality flowers. Toss any that look odd or feel soft or crumbly.

Cut off the stem just above the corms. Lay out to dry in a warm shaded airy place for 2-3 weeks. Break away the old spent corm from the base of the new corm. Gently remove the roots and rub off dried soil. Remove the cormels and save any over 1/2" in diameter.

Store corms and cormels in a dark, cool (35-40 degrees), dry area with some air circulation.

There are several recommended methods for storage: in single layers in flats or trays; stuffing them in mesh onion bags, cloth bags, or old pantyhose, and hanging them

in a cool, dry basement; placing them in paper bags; or leaving the stems attached to the corms and then tying them together



Plant Profile - *Gladiolus* (continued)

and hanging them (like onions or garlic). Place cormels in a shoe box or paper bag.

Thrips: One of the most common and serious pests of gladiolas is the thrip, a tiny insect about 1/16th of an inch in length. Thrips overwinter on the corms in warmer locations, but cannot survive Montana's cold winters. Once corms are planted and the stems develop, the insects



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Agriculture and Consumer
Services

crawl into the bud sheath where it is very difficult to reach them with sprays or dusts. They use rasping mouthparts to feed on gladiolus foliage and flowers. Thrip damage is characterized by white or silver streaks on leaves and flowers. Damaged buds may never open, or the sheaths dry out or are straw colored, and some corms may never germinate. Infested corms are sticky, corky and russeted, and their size is usually diminished.

Using a hand lens you can examine damaged flower tissue and may be able to see the thrip. Immature ones (nymphs) are

1/50" long and are pale yellow. Adult female thrips are a long shiny black insect, 1/16" long, with a white band at the base of the front wings. Males are smaller and the white band is not as conspicuous.

Thrip Management: Some extension sources recommend spraying the plants when you first see damage, using acephate (Orthene and others) or carbaryl (Sevin). However, the most effective management of thrip is during the storage of corms over winter. There are several recommended treatment methods:

- Maintain a storage temperature of 35 to 40 degrees F, without freezing the corms, because thrips can't survive at that temperature.
- Dust corms with carbaryl, or Diazinon, shaking them in a bag with a small amount of the dust (just 2 teaspoons per hundred corms).
- Soak corms for six hours in a mixture of 4 teaspoons Lysol ® or other disinfectant and one gallon of water. Allow corms to dry before storing them. (you can also dip corms immediately prior to planting in the spring)
- Dip corms in very hot--not boiling--

water (160°F) for two minutes. Allow corms to dry before storing them.

- Store the corms with naphthalene flakes or balls (mothballs). Use one ounce for one hundred corms and enclose them in a paper or cloth bag.



Thrip damage to Gladiolus petal

VA Gardens Update

Kathy Rucker

Gardens at VA Montana Health Care System at Fort Harrison are growing. We already have a rock creek, rose bushes that have been nibbled by the deer, and even some trees located in an area between the hospital building and the new mental health facility. Some call this the "secret garden" but the unofficial name is "Inner Piece".

Hospitalized Veterans are able to view the gardens from their rooms. Veterans have also helped create and maintain the gardens.

Big dreams continue with plans to have a shade garden, flower gardens and vegetable gardens. We would like to build another fenced area on the grounds of Fort Harrison VA to have raised beds for vegetable gardens.

If you are interest in providing a donation, please contact Kathleen Henson or Kerry Richmond at VA Voluntary Services, 447-7407. Any donation either in monetary or materials will be appreciated. These materials may include plants, shrubbery, rocks, benches, artwork or other garden supplies. Monetary donations will be used to purchase materials to complete this project. All work on this project is done by volunteers.

Please contact Desiree Fehr at 447-6040 for more information.



Event Schedule

Know of an upcoming event related to gardening?

Let us know at HelenaMasterGardeners@hotmail.com!

2011 Montana Master Gardener Celebration

October 29th, 11:30-5:00

Hamilton MT

Contact: Toby Day, 994-6523 toby.day@montana.edu

Dara Palmer 994-2120, dara.palmer@montana.edu

AERO Annual Meeting

October 30—31

Glacier Camp, Lakeside on Flathead Lake

<http://www.aeromt.org/>

Montana Master Gardeners visit the Northwest Flower and Garden Show

February 8-12, 2012

Contact: Toby Day, 994-6523 toby.day@montana.edu



The Growing Zone Logo Challenge!

The Newsletter Committee would like to extend a call to artistic gardening enthusiasts to design an appropriate logo for *The Growing Zone*. Submit your design to HelenaMasterGardeners@hotmail.com or deliver it to the County Extension Office. Please submit your design as a .jpg file or on a document that can be scanned. The winner of the Logo Challenge will receive a 1-year subscription to the “Big Sky Small Acres” magazine.

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://gardenguide.montana.edu/mgardener/mgardenerindex.asp>

Growing Community Project: <http://helenagcp.wikidot.com/>

Contact Information

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Brent Sarchet, Lewis & Clark County Agricultural Extension Agent: (406) 447-8346 bsarchet@co.lewis-clark.mt.us

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