



THE GARDEN SPADE



A monthly Gardening Publication of the University of Missouri Extension -- Southeast and East Central Regions

Moveable Drip Irrigation

by Sarah Denkler

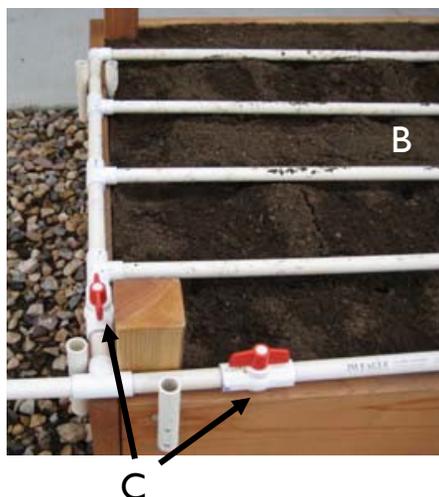
I have recently had the privilege of learning about a portable irrigation system that can be used for home gardens or lasagna beds. This system was created by Jeffrey E. Banks who works with Utah State University. More pictures and information can be found in a publication by Jeffrey Banks entitled *Designing a basic PVC home garden drip irrigation system*, www.extension.usu.edu.

One of the best irrigation systems for improved plant health, reduction in water and reduced disease pressure is a drip system. These polyurethane systems can be daunting to put into place and are usually not easily reusable if moved to a different location.

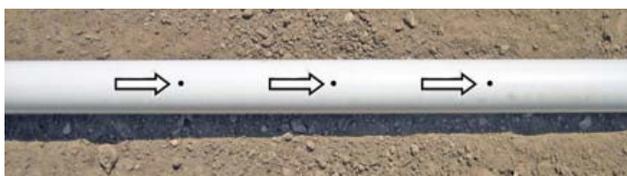
A moveable drip system is easy to install on a any scale, can be rearranged each year based on the size of the garden or landscape bed and once begun can provide the homeowner with additional confidence to move forward in other areas of the yard.

The first line or main line (A) is glued to maintain pressure for the secondary lines (B) after the manual valves (C). Begin with larger PVC pipe such as 1" pipe and move to smaller sizes based on need. Secondary lines can be

added as needed or end caps can be placed to close off a secondary line when a row is not in production.



A fertilizer injector (pictured on page two) can be placed in the primary line before the first manual valve so that fertilizer can be applied throughout the system.



Holes are drilled in secondary lines (pictured above) using a 1/16 drill bit. These are spaced based on the type of vegetables; tomato every 6 to 12" with one hole on each side of the plant while lettuce would be every 3 to 6

February 2013

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Moveable Drip Irrigation

by Sarah Denkler

inches at each plant. This depends on how far apart you space plants.

Make sure that the ground is level where pipes will be placed. The sun will reduce impact strength of PVC pipe over time so straw or mulch may be used to protect the system or pipe can be covered with tape if it is a concern. The pipe will be taken apart and removed each fall to reduce sun exposure.



Before use each season clean out the pipe by placing holes face up and filling with water. Use a wire to clean out any plugged holes. Once clean the holes may be placed down or up. If they are left up then add a drainage hole every few feet to prevent algae from building up in the pipe.

By using this system you may see higher production, higher quality vegetables, healthier plants, up to 75% water savings, up to 90% time saved in weeding and up to 90% time saved watering.

Planting Wonderful Sweet Peas

By Donna Aufdenberg

Sweet peas are one of my favorite flowers. Their fragrance and beauty is amazing. They also make a great cut flower for vases.

Sweet peas are cool-season plants that can reach 4 to 6 feet and bloom from May to June.

Most sweet peas are annual flowers, however there are a few perennial varieties which lack the fragrance of the annual varieties. They can be planted in full sun to partial shade (afternoon shade is preferable). They require moist, well drained soil with a neutral pH of 7.0-7.5. Heavy clay soil needs to be amended with organic matter for sweet peas to grow well.

One challenge in our area is they need about 50 days of cooler temperatures (under 60 degrees F) to perform well. Most of us don't think about planting flowers until May and then it's too late for sweet peas. The plants will not bloom well in hot weather. It is best to plant seed outdoors as soon as the ground is workable in very early spring - just don't forget to nick the seed!



Sweet peas can also be sown indoors in February and then transplanted into the garden about a month before our last average frost date. They are easy to start indoors. Scarify (nick or scratch seed coating) and sow several seeds in individual pots and keep in a warm location (60-75 degrees). Remember to use a good quality potting soil; keep the soil moist but not drenched. Once the seedlings sprout, give them as much light as possible to avoid leggy growth. Thin to one plant per pot after true leaves form. Keep seedlings cool and do not coddle!

Don't over-fertilize! Harden the transplants before moving them outdoors.

Pinch growing tips on young plants to encourage branching. For vine-type sweet peas provide support such as a trellis at the time of transplanting.

Plant in a location with good air circulation and water in the morning time to avoid powdery mildew. Mulch plants well after planting to keep the roots cool. Water regularly to keep plants thriving and blooming.

February Gardening Calendar

By Donna Aufdenberg

Ornamentals

- Inspect summer bulbs in storage to be sure none are drying out. Discard any that show signs of rot.
- Toward the end of the month, seeds of slow-growing annuals like ageratum, verbena, petunias, geraniums, coleus, impatiens and salvia may be started indoors.

Vegetables

- Don't work garden soils if they are wet. Squeeze a handful of soil. It should form a ball that will crumble easily. If it is sticky, allow the soil to dry further before tilling or spading.
- Season extending devices such as cold frames, hot beds, cloches and floating row covers will allow for an early start to the growing season.
- If soil conditions allow, take a chance sowing peas, lettuce, spinach and radish. If the weather obliges, you will be rewarded with early harvests.
- Sow seeds of broccoli, cauliflower, Brussels sprouts and cabbage indoors now for transplanting into the garden later this spring.
- When sowing seeds indoors, be sure to use sterile soil mediums to prevent diseases. As soon as seeds sprout, provide ample light to encourage stocky growth.



Fruits

- Check fruit trees for tent caterpillar egg masses. These are laid on twigs in tight clusters that resemble an oblong brown lump of gum wrapped around the stem. Prune off these twigs or destroy the eggs by scratching off the clusters with your thumbnail.
- Dormant sprays may be applied to trees now. Do this on a mild day while temperatures are above freezing

Houseplants

- Re-pot any root-bound house plants now before vigorous growth occurs. Choose a new container that is only 1 or 2 inches larger in diameter than the old pot.
- Begin to fertilize house plants as they show signs of new growth. Plants that are still resting should receive no fertilizers yet.
- Take cuttings of wandering jew, spider plant and Swedish ivy to start new hanging baskets and to have them full to the brim with foliage by spring.

Lawns

- To avoid injury to lawns, keep foot traffic to a minimum when soils are wet or frozen.
- Did your lawn perform poorly last year? Consider having a soil test done for your lawn.

Lady Bug Trivia

Ladybugs are called Ladybugs only in North America, mainly the United States. Most of the world knows them as ladybird beetles.

450 Species live in North America.

There are over 5,000 types of ladybugs in the world.

The life stages of the ladybug are: egg → larva → pupa → adult.

The average life span of a ladybug in the wild is two or three years.

Ladybug larvae can eat about 25 aphids a day whereas, adults can eat over 50 aphids a day.



Ladybugs chew side to side instead of up and down like humans.

Ladybugs also eat whitefly, mealybugs, mites and scale insects. They are completely harmless to humans.



Local Plant Favorites

by Donna Aufdenberg

This month, we have two more Master Gardeners who wrote about their favorite plants.

Teresa Jansen from Advance says, "My favorite plant is the **Double Knock Out Rose**. My son bought me three of them three years ago. They are beautiful, dense and dark green. I think they are the best blooming rose for the entire summer. When I give a special gift, I try to give one of those roses. I don't spray or do anything for it. It just looks lovely with no care involved."



Melody Hagans responded about her favorite plant, "I would have to choose three. One is the **Oriental Poppy**. The bloom is bold in color;



the plant, enduring, even in drought. Poppies are also a symbol of remembrance on Memorial Day. So I think of all those service men and women who died defending our nation as the poppy sways in the wind. Second is the **Butterfly Weed**. It brightly blooms beside the road through drought, dust from vehicles whizzing by, and competition from all the other roadside plants. The third plant is the **Hydrangea**. I transplanted three small hydrangea starts that bloomed a beautiful blue to our farm house in Jackson. Those beautiful blue blooms are a brilliant magenta in color. Amazing! how the hydrangea reacts to the pH of the soil. I'm in awe!"



Natives

by Sarah Denkler

What other beneficial insects can be attracted with native plants? Ladybugs are likely the #1 beneficial but the hoverfly is close behind and may not be as well known. Looking much like a bee, quickly darting near and moving away, this insect does not sting but lays eggs which hatch and begin eating aphids, scale, thrips and mealybugs.

Natives are an important part of encouraging this insect to live and work for the benefit of your yard.

True Missouri natives that will attract hoverfly include: [Achillea millefolium](#) Common yarrow, [Callirhoe involucrata](#) Purple poppy mallow (left picture), [Monarda fistulosa](#) Wild bergamot (shown right), [Rudbeckia fulgida](#) Black-eyed Susan and [Veronica spicata](#) Spike speedwell.

From the pictures shown it is apparent that an ornamental factor contributes to the beauty of the landscape while promoting insect predators to the garden. Most natives are used in mass.



Select the location based primarily on sunlight but also using soil requirements. Don't forget to place them close to plants that suffer from aphid or thrip attack.

Other plants that may be considered which are in a Missouri native *Genus* but have a related species are:

[Lobelia erinus](#) Edging lobelia, [Penstemon strictus](#) Rocky Mt. penstemon, [Sedum kamtschaticum](#) Orange stonecrop, [Sedum spurium & album](#) Stonecrops and [Solidago virgaurea](#) Peter Pan goldenrod.

Natives listed are from Missouri Botanical Garden.

Vegetable Crop: Potatoes

by Katie Kammler

Potatoes are a fun and easy crop to grow in the garden. I can still remember the excitement of digging potatoes as a kid, seeing who would find the biggest or the funniest shaped one. White and red-skinned potatoes are the most common but now potatoes come in different colors, shapes, and sizes.

Planting potatoes starts with the purchase of certified seed tubers to help reduce disease problems. Seed potatoes should be firm and un-sprouted. Seed tubers are cut so they have at least one good eye (growing point) on them. Most gardeners plant them immediately after cutting. Plant in late winter from about mid-March to mid-April in our area. Plants will resist a light frost, but hard frosts and freezes may set back growth. Plant the pieces in furrows with the cut side down, 2-3 inches deep and 10-12 inches apart. Then pull a ridge of soil over each row when planting. Another method is to place potato pieces on top of the soil and cover with 12-18 inches of straw. The tubers will form in the straw, making harvest easier.

If using the traditional method, after the potatoes

break the surface of the ground, gradually build up a low ridge of loose soil by cultivating or hoeing toward the plant. This ridge might get as high as 6-8 inches by summer. This helps to prevent the greening on potatoes, eliminates weed competition, loosens and aerates the soil and ridges the row. If using the straw method, just add more straw as the potatoes grow.



Problems in potatoes include green skin caused by sun exposure, early blight which causes yellowing and dying leaves, common scab which causes scabby, rough skins, and Colorado potato beetle. "New potatoes" are dug when the vine is still green and when the tubers are large enough to eat. Harvest after the vines have died. Potatoes can be stored at 40-50 degrees with 90% relative humidity for 6-8 months.

Varieties for Missouri include Irish Cobbler, Kennebec, Red Norland, Red Pontiac, Norgold Russet, and Yukon Gold. If you want to try something new, you might try one of the purple, red, yellow or even one of the fingerling varieties. Kids get a kick out of purple mashed potatoes!

Seasonal Recipe: Comfort Food!

by Katie Kammler

Cream Cheese Brownies

2 pkg (8 oz each) cream cheese, softened
2 cups sugar, divided
3 tablespoons milk
1 cup butter, softened
1 cup chopped nuts

2/3 cup instant hot cocoa mix
4 eggs
2 teaspoons vanilla extract
1-1/2 cups all-purpose flour



In a small bowl, beat the cream cheese, 1/2 cup sugar and milk until fluffy and set aside. In a large bowl, cream the butter, cocoa mix and remaining sugar until light and fluffy. Beat in eggs and vanilla. Stir in flour and nuts and mix well. Pour half of chocolate mix into greased 9x13 baking pan. Spread with the cream mixture. Top with remaining chocolate batter. Cut through batter with a knife to swirl cream cheese. Bake at 350 degrees F for 35-40 minutes or until a toothpick inserted near the center comes out clean. Cool and then cut into bars. Yield: 2 1/2 dozen.

Emerald Ash Borer Update

Story Source, Hank Stelzer, Forestry Specialist, MU Extension

The recent discovery of the emerald ash borer in Kansas City is a surprise and concern. No one expected it to show up that far west. This unwelcome invader is a threat to all untreated ash trees, but it's a crisis in slow motion.

Ash trees have no natural defense against this insect, which destroys the vascular tissue under the bark, cutting off water and nutrients to the tree. The insect usually starts at the top of the tree and moves down the trunk with each succeeding generation of borers. It can take several years for EAB to kill a large tree.



Insecticide treatment is the only effective way to protect an ash tree, but there's no reason to throw money at the problem too soon, said Hank Stelzer, forestry specialist for University of Missouri Extension. "If a home is within 15 miles of a known location of EAB, then you need to be thinking about protecting that ash tree, especially if it is providing shade for your house" Stelzer said.

Treating for EAB takes money and commitment. Once treatment stops, the ash borer will be back.

Homeowners can purchase Imidacloprid, a nicotine-derived insecticide. The label will identify it as 12-month tree and shrub treatment. "It's what we call a soil drench. It's applied at the base of the tree only and not under the tree's canopy," he said. "That's an annual treatment that needs to be done in early spring." A professional arborist is required for the other type of treatment, because only a pro can inject insecticide directly into the tree. Stelzer said this option is more expensive but provides protection for 2-3 years.

Stelzer suggests homeowners do their homework first. "The Missouri Departments of Conservation and Agriculture can help determine if a home is in a known EAB area."

The emerald ash borer can move only a few miles

on its own. Unfortunately, humans expand its range by transporting infested firewood, nursery stock or anything made from ash. A harsh lesson learned already by several states. Since EAB began killing ash trees in Detroit in 2002, it has spread to

16 states and killed tens of millions of ash trees in the United States and Canada.

The Missouri Department of Conservation reminds everyone:

- Never take firewood with you.
- Only use local sources of firewood.
- If you have transported firewood, burn it thoroughly.

Slowing the advance of EAB is also important for protecting forests and urban tree populations. "Ash trees only make up about 4 percent of state's forest trees, but we have a lot of green ash in Missouri towns and cities because they were used to replace elm trees that were killed by Dutch elm disease," Stelzer said.

If your home is not near an EAB area, there's plenty of time to evaluate landscapes and make decisions. Diversity is your best protection against disease and insect problems. You don't want to have all ash trees in your yard, or all walnut trees. You don't want to have more than 20 percent of one kind of tree in your yard," Stelzer said.

While EAB is a crisis in slow-motion, growing a tree from a sapling is an endeavor of decades. Stelzer urges homeowners not to procrastinate. "The old adage is: The best time to plant a tree is 50 years ago. The second-best time is now."

For more information, visit Missouri Emerald Ash Borer Program: extension.missouri.edu/emeraldashborer/

This article was written by Debbie Johnson, Senior Writer, University of Missouri Cooperative Media Group and revised by Donna Aufdenberg.



Group News - What's Happening

February 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4 Parkland MG, 6:30pm @ Botkin Lumber Co. in Farmington Industrial Park	5 Poplar Bluff MG, 6:00pm at the Poplar Bluff Ext. Center	6	7 Madison MG meeting, 6pm, Fredericktown Ext. Center Ste. Genevieve MG, 6:30pm, @ Ste. Gen. Ext. Center	8	9 Perry Co. MG Symposium, Perryville Higher Ed Center
10	11	12 Farmers Market Prog. Black River Electric, Fredericktown, MO REG: 573-238-2420	13	14 Cape Girardeau MG 7:00pm, Cape Co. Ext. Center	15	16
17	18	19	20	21	22	23
24	25 Perry Co. MG 6:30 pm, Perry Co. Ext. Center	26 Organic Vegetable Prod. Colton's Annex, Poplar Bluff, MO REG: 573-686-8064	27	28	Contact your local Extension Center if you have questions about any event on the calendar.	

March

- 4 - Parkland MGs 1st Monday at 6:30pm, Botkin Lumber CO, Frmgntn Industrial Park
- 5 - Poplar Bluff MGs 1st Tuesday at 6:30pm, Poplar Bluff Ext. Center
- 11 - Madison MGs 2nd Monday at 6:00pm, Fredericktown Ext. Center
- 14 - Ste. Genevieve MGs 2nd Thursday at 6:30pm, Ste. Gen. County Ext. Center
- 14 - Delta Area MGs 2nd Thursday at 7:00pm, Medical Arts Building, Sikeston, MO
- 21 - Cape Girardeau MGs 3rd Thursday at 7:00pm, Cape County Ext. Center
- 25 - Perry County MGs 4th Monday at 6:30pm, Perry County Ext. Center

Upcoming Events

- March 2 - Garden Symposium; Mineral Area College in Park Hills, MO
- March 9 - Cape Girardeau County Spring Symposium, Cape Girardeau, MO
- June 14 to 16 - Missouri Native Plant Society Field Trip to Grasshopper Hollow Natural Area
- 2013 - Advanced Trainings and Tours

If you have a horticultural related event for the calendar call 573-686-8064 to add it.

Editor's Corner

The Garden Spade is published monthly by University of Missouri Extension staff for individuals and families living in Southeast and East Central Missouri. This newsletter is provided by your local extension council.

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We welcome and encourage Master Gardener groups and individuals to submit items to the newsletter. We encourage the submission of any news such as upcoming volunteer opportunities, community events related to gardening, warm wishes or congratulations to fellow gardeners. We also encourage Master Gardeners sharing experiences and writing articles on timely topics.

All entries into the group news sections must be received by 4:30 on the 15th of each month for the following months news.

Email News to: kammlerk@missouri.edu, denklers@missouri.edu, or aufdenbergd@missouri.edu

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