



THE GARDEN SPADE



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

Organic Pest Control in Vegetables

by Donna Aufdenberg

More and more, gardeners are seeking information on organic pest control for their vegetables. Reasons can range from health reasons to environmental. Regardless of the reasons, it is very important to understand basic concepts.

- Organic Control does not mean “not using chemicals” but there are chemical-free control methods that can be implemented to keep chemical use as a last resort.
- With organic control, perfect vegetables are not realistic. We have to tolerate a bit of insect damage on our produce at harvest time.
- Spend more time in the garden learning about pests and how to manage them.

The first and foremost important concept in pest control is identifying the pest and knowing it’s lifecycle. Just as important is knowing what stage is the pest and at what life stage is it most susceptible. Also, there are many beneficial insects that are mistaken for pests - know the difference! It is also important to

know what chemical-free control methods exist.

- The use of floating row covers is growing with gardeners because they screen out the pest until bloom time for certain crops.
- Crop rotation is one of the oldest and most effective cultural control methods. Most pests are host specific so allowing the same plant material in the same space year after year can be detrimental.
- Choose resistant varieties. Some varieties are less susceptible to insect damage.
- Hand picking is labor-intensive but it is very useful especially if you’re trying to control larger insect pests such as Colorado potato beetles.
- Sanitation is important. Eliminate weeds in and around the garden that might harbor pests. Clean up crop residues as soon as harvest is complete. Don’t leave anything lying in the garden that might serve as a hiding place for pests.



June 2011

In this issue:

Organic Pest Control	1,2
Hot Topic! Waterlogging	2
June Gardening Calendar	3
Garden Shovel Shape-Up	3
Plant of Merit - ‘Pesto Perpetuo’	4
Pest of the Month: 13 Year Cicada	4
Buckwheat - A Summer Cover Crop	5
Master Gardener Field Trip	6
Cherry Trees	7
Repurpose, Reuse, Recycle—Pass it on	7
Pictures From Advanced Trainings	8
Group News - What’s Happening!	9
Editor’s Corner	10

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Organic Pest Control in Vegetables

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- Inspect plants regularly, especially borders and outside rows. When you find a pest, determine the threshold level. How many aphids or white flies will you and/or the plant tolerate? Every insect pest will have a different threshold level!
- Be certain before you spray a pesticide—organic or not!

As a last resort, use organic chemical control. There are a number of naturally derived pesticides that are considered organic. Some work very well but need to be applied more frequently than synthetic



pesticides. Individual product labels will tell you the rate and how often to apply the materials on your vegetable plants.

Several organic pesticides are commonly found over the counter in garden centers and nurseries as well as farm stores and box stores. Organic insecticides available to home gardeners include Bt (*Bacillus Thuringiensis*), pyrethrums, rotenone, insecticidal soap, diatomaceous earth, neem and horticultural oils.

Hot Topic! Waterlogging

by Katie Kammler

Alright, already, I think everyone has had enough of all the rain in the past month! Pretty much all of southeast Missouri has seen some record rainfalls in April and May and outright flooding. The rain has kept many of us from planting gardens and if you have managed to get things planted, you have probably found that the plants aren't doing very well. Most of the plant problems that we are seeing in the local extension offices are caused by waterlogged soils. The soils have been saturated this spring and the continued rainfalls have not allowed them to dry out. All the pore space in the soil is filled with water and plants are drowning because their roots cannot obtain oxygen. The result of excessive soil moisture ranges from increased stress and reduced growth to injury to death of the plant. Leaf yellowing, leaf drop, reduced leaf size and shoot growth, and dieback are all symptoms of flood stress. Any plant that is stressed becomes

an easy target for insect and disease problems. Unfortunately, there isn't anything that can be done about it, just hope that Mother Nature will cooperate and bring us some sunshine in the weeks to come!



June Gardening Calendar

By Donna Aufdenberg

Ornamentals

- When choosing bedding plants, look for plants that are well-proportioned with sturdy stems. Leaves should have a rich, green color. Check for pests if the foliage appears mottled or the edges of the leaves are curled.
- When early spring flowers are spent, replace them with summer annuals such as nicotiana, portulaca, zinnia or celosia which can handle hot summer heat.
- Watch for small bagworms feeding on many garden plants, especially juniper and arborvitae.
- Apply mulches as the soil warms. Mulch helps to conserve moisture, discourage weeds and enrich the soil through decaying organic matter.
- Fertilize trees and shrubs before July 4th.



Vegetables and Herbs

- Consider planting pumpkins this month for Jack-o-lanterns for Halloween.
- To avoid disease problems in the vegetable garden, avoid overhead sprinkler systems and attempt to water in the mornings or earlier in the day to allow foliage to dry before nightfall. Soaker hoses work the best for disease management and water efficiency.
- To maximize top growth on asparagus, apply 2 pounds of 12-12-12 fertilizer per 100 sq. feet. Water well and renew mulches to conserve moisture.

Fruits

- Thinning overloaded fruit trees will result in larger and healthier fruits at harvest time. Thinned fruits should be a hands-width apart.
- Renovate strawberries after harvest. Mow the rows; thin out excess plants; remove weeds; fertilize and apply a mulch for weed control.
- Spray trunks of peach trees and other stone fruits for peach tree borers.
- If you are going to do any summer pruning, make sure to disinfect pruners between cuts to keep from spreading disease from one plant to another.

Lawns

- Keep turf mowed.
- Water newly planted grass regularly to keep it going until cooler weather arrives in the fall.
- Zoysia can be fertilized now while actively growing. Do not exceed 2-3 pounds of actual nitrogen fertilizer per 1000 sq. ft. per year.

Garden Quote: "The man who has planted a garden feels that he has done something for the good of the world." -- Vita Sackville-West

Garden Shovel Shape-up

Wash any dirt off the shovel when you are done to prevent rust.

Wash the shovel with warm, soapy water if it was used around chemicals, fertilizers or manure.

Dry the handle and blade.

Spray the blade with a penetrating oil, such as WD40.

Rub the handle with linseed oil to prevent cracking and rotting if the shovel has a wooden handle.

Use a hone to sharpen the shovel blade.

Use a metal file to smooth the edges and remove nicks from the blade.



Plant of Merit - *Ocimum basilicum* 'Pesto Perpetuo' Basil

by Sarah Denkler

This annual edible is easy to grow, preferring sun and warm weather. Pesto Perpetuo does not produce flower spikes and has a wonderful green and creamy white variegated leaf. It grows about 18 inches in height but may get taller at the end of the season. If you plan to harvest leaves for flavor then do not fertilize as rapid growth reduces flavor. Flavor is sweet with a hint of lemon.



Picture courtesy Jimmy Turner of the Dallas Arboretum & Botanical Society.

Pest of the Month - 13 Year Cicada

by Sarah Denkler

The cicada that has emerged with a noisy introduction is known as a periodical, 13 year cicada. This one inch insect is smaller than the annual, green winged cicada that signals the end of summer each year. Each periodical cicada is part of a brood, or group, based on where and when they emerge. Brood XIX, the largest population of the 13 year cicada, has emerged this year.

The adult periodical cicada is black bodied with orange wing veins and red eyes. Emerging the end of May, they have begun to sing and mate by now. These adults will die within 6 weeks of emerging.

Areas with a large number of older trees see the greatest concentration as larvae feed on tree roots during their underground exile. Tips of small twigs may die as the female deposits eggs in the wood. Smaller trees can suffer a great deal from the physical damage caused by females. Areas with few trees may not see adults due to a lack of roots for feeding.

If you are concerned about smaller trees you can

try the following control strategies:

- Wrap young trees with cheesecloth or mosquito net within 5 weeks of the first song to prevent the female from depositing eggs in twigs.
- Prune and destroy small twigs that have been damaged by females before July to remove eggs.
- Do not plant new trees until this fall as they will be most susceptible to damage.



Picture Courtesy of MDC.

Buckwheat - A Summer Cover Crop

by Katie Kammler

When you hear the word buckwheat, you probably associate it with buckwheat pancakes or the TV character. Buckwheat is actually a versatile, easy-to-grow, short-seasoned grain crop that can provide a lot of benefits as a summer cover crop. It can tolerate poor soils and be used to improve those soils. The history of this crop goes back thousands of years where it was domesticated in Asia, then spread to Europe before being brought to the American colonies in the 1600s. Thomas Jefferson and George Washington grew it on their Virginia farms to help improve their soil quality. Very little buckwheat is grown in the Midwest except for small acreages for special purposes such as cover crops, wildlife food plots, or a pollen source for bees.

Buckwheat is a broadleaf, herbaceous plant that flowers prolifically over a period of several weeks. The small, white flower clusters quickly develop into triangular brown seeds roughly the size of a soybean seed. Buckwheat is an indeterminate plant, meaning it will continue to produce flowers until harvest or frost. It emerges quickly in warm soil conditions and reaches a height of 2 to 4 feet. The plant has a fairly small, shallow root system so it isn't particularly drought tolerant. It will form a dense canopy within a few weeks of planting.



Buckwheat has many uses, one being a flour source for products such as pancake mixes. Buckwheat flour is high in protein and low in fat so it may be something interesting to try in your home garden as a food source. The main reason buckwheat is grown in this area is as a cover crop. As a green manure, it only produces

modest biomass but offers very rapid growth so when it is tilled in, it improves soil tilth and makes phosphorous more available. It is also used as a smother crop because it's quick, aggressive growth allows it to out compete any weeds, particularly in late summer.

Buckwheat is also a favorite of honeybees. It is great for attracting pollinators to a garden and buckwheat honey is popular for its distinctive flavor and dark coloring. It can also be used in livestock feed and the seeds are also attractive to pheasant and quail.

Most people think of using cover crops in the wintertime when there aren't any vegetables in the garden. Since buckwheat is a summer crop it is ideal for places that might be bare over the summer, such as after harvest of spring crops and before fall crops. Seed can sometimes be purchased locally but if you can't find it, Johnny's Selected Seeds and Territorial Seed Company have it available. Buckwheat is an interesting crop and I am going to try some in my garden this year.



MASTER GARDENER Field Trip

Perennial Shade Gardening

Thursday

June 30, 2011

10:00-1:00 p.m.

@ Homestead Farms

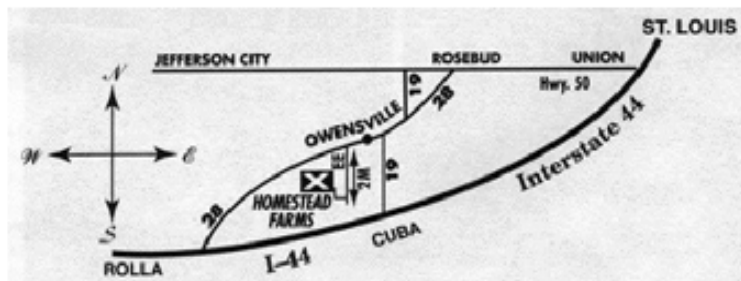
3701 Highway EE, Owensville, MO

Travel is required, Carpool is optional.

RSVP by June 27,
to Butler County
University of Missouri
Extension Center
at 573-686-8064

If you have questions,
please contact Sarah Denkler
at 573-686-8064 or
denklers@missouri.edu.

Travel is required. Carpool
is optional. Caravan will
meet at the Farmington
Wal-mart and leave at 7:00
a.m.. The class is also open
to the public. Anyone can
take this trip.



Be prepared to walk...this is an Outdoor Activity!!!

Directions:

From Cuba - Go north on Highway 19 across I-44 turning left at Highway 28 (west) in Owensville. From 28 turn left at Highway EE (south). Go two miles, the small wooden sign is on the right.

Shortcut From Cuba - From the I-44 overpass go north on Highway 19 approximately 18 miles, turning left (west) at County Road 611 (Price Road) before getting to Owensville. Follow for 2+ miles until you come out at Highway EE and the farm.

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Cherry Trees

by Sarah Denkler

Cherries are a fruit that can successfully be grown in Missouri on well drained soils. Sour cherries do not require cross pollination while most sweet cherries do.

Sour cherries are reasonably well adapted to Missouri when planted on soils that drain quickly after rainfall. Standard cultivars make trees the size of peach trees. There are also some natural dwarf cultivars.

- **Montmorency** - large, red, sour (pie) cherry. Self-pollinated. Heavy bearing, vigorous tree that ripens in mid to late June. Requires several sprays to control diseases.
- **North Star** - natural dwarf tree with red, sour (pie) cherries. Self-pollinated. Bears at an early age and ripens in early to mid-June.
- **Meteor** - semi-dwarf light red, sour (pie) cherry. Self-pollinated. Ripens in mid-late June.

Sweet cherries - marginal growth in Missouri as they often have blossom damage due to late frost in spring. Birds are interested in the berries once they are ripe so be wary of losing the crop before you are able to pick it. Cross-pollination is required for sweet cherries. Although Stella and Lapins are two varieties that will self-pollinate, cross-pollination will produce more fruit. Some varieties have specific pollinator requirements. Bing, Lambert and Royal Ann (Napoleon) are intersterile and cannot fertilize each other but still need cross-pollination.

- **Stella** - large, heart-shaped, black cherry. Self-

	Black Tartarian	Royal Ann	Ranier	Van	Bing	Hardy Giant	Black Republican	Stella	Hedelfingen	Royalton	Lambert	Lapins	Gold	Sweetheart
Black Tartarian														
Royal Ann														
Ranier														
Van														
Bing														
Hardy Giant														
Black Republican														
Stella														
Hedelfingen														
Royalton														
Lambert														
Lapins														
Gold														
Sweetheart														

Varieties that are not suitable to be cross-pollinators.
 Varieties that should be pollinated by another variety for best yield.

From University of Missouri Guide sheet G6001 - Pollinating Fruit Crops.

pollinated. Moderately susceptible to cracking, not hardy in zone 5. Fruit ripens in June.

- **Lapins** - semi-dwarf, red cherry. Self-pollinating. Ripens in early summer. Good pollinator for other varieties.
- **Hedelfingen** - large, glossy, black cherry. Cross-pollinate with Van, Gold or Stella.
- **Van** - medium to large ruby red cherry. Cross-pollinate with Stella or Hedelfingen.
- **Gold** - medium, firm, yellow cherry. Cross-pollinated by most. Often used to make maraschino cherries.

Repurpose, Reuse, Recycle - Pass It On

By Barb Gray

Save empty spice bottles to save seeds, the shaker lid can help spread the seeds when planting.

When you purchase a round cake, save the domed lid and attach it to hanging pots to catch and hold the water when you water the plants.

Pictures From Advanced Trainings By Donna Aufdenberg



March 25, 2011 - Berry School with Patrick Byers teaching about fruit.



March 25, 2011 - Berry School with Patrick Byers demonstrating pruning.



March 25, 2011 - Berry School with Patrick Byers demonstrating pruning.



April 30, 2011 - Shiitake Mushrooms with Marty Calvert preparing logs.



April 30, 2011 - Shiitake Mushrooms with participants preparing and inoculating logs.



April 30, 2011 - Shiitake Mushrooms with participants sealing inoculated logs.



May 2, 2011 - Vegetable Grafting with Donna Aufdenberg teaching about methods..



May 2, 2011 - Vegetable Grafting with participants grafting melon onto gourds.



May 2, 2011 - Vegetable Grafting up close.



May 6, 2011 - Tree Identification with Mike Keeley teaching about trees.



May 6, 2011 - Tree Identification with Mike Keeley teaching about trees.



May 6, 2011 - Participants really enjoyed the beautiful weather!



Group News - What's Happening

June 2011

Sun	Mon	Tue	Wed	Thu	Fri	Sat
<p>Contact your local Extension Center if you have questions about any event on the calendar or if you have a horticultural event for the calendar.</p>			1	2	3	4 Culinary Herbs - MG Adv. Training, 9am-noon, Cape Girardeau Ext. Center, Jackson, MO , Fee: \$20
5	6 Parkland MG, 6:30pm @ Courthouse Annex (3rd floor)	7 Culinary Herbs - MG Adv. Training, 9am-noon, United Methodist Church, Poplar Bluff, MO , Fee: \$10 Poplar Bluff MG, 6:30 pm @ PB Ext. Center	8	9 Delta Area MG, 7 pm, Library, Sikeston Native Plants Field Trip – MO Wildflowers Nursery, Jefferson City, MO; Greenhouse and Demo Gardens; Shaw Nature reserve.	10	11
12	13	14	15	16 Cape Girardeau Co. MG, 7 pm, Cape Co. Ext. Center	17	18
19	20 Ste. Genevieve MG Meeting, 6:30pm, at the Ste. Genevieve Co. Ext. Center	21	22	23	24	25
26	27 Perry Co. MG meeting, 6:30 pm, Perry Co. Ext. Center	28	29	30 Field Trip - Homestead Farms, 3701 Hwy EE, Owensville, MO, Begin at 10:00 AM at the farm.		

Upcoming Events

July

- 4 - Parkland MGs 1st Monday at 6:30pm, Farmington Courthouse Annex (3rd Floor)
- 5 - Poplar Bluff MGs 1st Tuesday at 6:30pm, Butler County Ext. Center
- 14 - Delta Area MGs 2nd Thursday at 7:00pm, Medical Arts Building, Sikeston, MO
- 18 - Ste. Genevieve MGs 3rd Monday, at Ste. Gen. County Ext. Center at 6:30pm.
- 21 - Cape Girardeau County MGs 3rd Thursday at Cape County Ext. Center at 7pm.
- 22 - Butterfly Garden Adv. Training from 9AM to 12PM. Mo Dept Cons. Nature Center in Cape Girardeau Fee: \$15
- 25 - Perry County MGs 4th Monday at the Perry County Ext. Center at 6:30pm.

August

- 1 - Parkland MGs 1st Monday at 6:30pm, Farmington Courthouse Annex (3rd Floor)
- 2 - Poplar Bluff MGs 1st Tuesday at 6:30pm, Butler County Ext. Center
- 11 - Delta Area MGs 2nd Thursday at 7:00pm, Medical Arts Building, Sikeston, MO
- 18 - Cape Girardeau County MGs 3rd Thursday at Cape County Ext. Center at 7pm.
- 22 - Perry County MGs 4th Monday at the Perry County Ext. Center at 6:30pm.
- 25 - Ste. Genevieve MGs 3rd Monday, at Ste. Gen. County Ext. Center at 6:30pm.

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,
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