Companion Planting with Herbs
By Megan Franke, Cape County Master Gardener

Companion planting with herbs sounds like working with kids. Cucumbers like beans but beans dislike fennel, and keep the sage away from the cucumbers. Plant tomatoes, asparagus, and parsley together; put the dill next to the cabbage but not next to the carrots. We know some plants have beneficial effects upon others. Companion planting is the practice of grouping plants that “like” each other; isolating those that don’t. Fennel, for example, needs to be planted by itself as most plants dislike it. These quirks have no scientific basis, but the phenomenon exists, signaling that certain types of plants have beneficial effects upon one another, and everything in nature is interrelated.

Herbs are vital in companion plant gardens, working as botanical aides. A companion garden without herbs doesn’t compute! Just as they provide medicines, and are an accompaniment for the cook, they are also a companion in the garden to repel/destroy insect pests. We already know plants can excrete substances to hinder germination, so it’s logical to assume that some plants can enhance the growth of nearby plants. Actually, these companion plants have evolved together for mutual gain; they complement each other. Granted, these associations are more “helpful” than actually “necessary,” but capitalizing on plant symbiosis enhances plant health and controls insects, thereby increasing yield.

Plants that help control pests have a common characteristic: a strong scent. Odor, more than anything else, attracts/repels insects. Garlic is the workhorse of the herbal pest repellant. Plant it near cabbage, beans, etc. to keep aphids or Japanese beetles away, and place a few cloves near the roses. Another popular plant for companion planting is marigold. Put some near the tomatoes but spread more around the garden. They deter asparagus beetle, tomato worm, and general garden pests. And speaking of tomatoes, if you plant tomatoes, you must also plant basil! It...
improves growth and flavor! Additionally, savory, mint, tansy, thyme, and borage are other helpful herbs to plant.

When planting companion gardens, put “like” plants together. Intercropping, or planting several companion plants in the same row, like designing zigzag rows with amenable plants next to one another, is workable strategy; breaking your garden into “sections” so your corn, squash, cucumbers, and pumpkins are in one section and the strawberries, spinach and beans are in another also works. Plant borders of marigold, wormwood, and yarrow in between. Growing near friends reduces stress!

Companion Planting with Herbs
By Megan Franke, Cape County Master Gardener

The Three Sister's Garden
One of the oldest examples of companion gardening is often referred to as the Native American “Three Sisters Garden.” “Three Sisters” are corn, beans and pumpkin/squash planted together in groups or hills. Native American myths speak of Three Sisters who could not get along, but are convinced to use their differences to help each other – so much so that they depend upon each other. Meals resulting from a Three Sisters garden – corn and squash for energy and beans for protein – provide delicious and nutritious dining.

* Information from Penn State Extension Master Gardener, Dorrie Mininger

Rose Rosette Disease
by Jessica Griffin, Madison County Master Gardener

As I was walking around my property recently, I noticed the dreaded Rose Rosette disease on most of the multiflora roses that grow in the woods. I am now keeping a close eye on my floribunda, climbing, and yes, even my knockout roses for this disease.

A mite that travels by wind can spread the disease from the weedy multiflora roses to cultivated roses. It can also be spread by grafting and pruning. The Rose Rosette Disease causes a witches broom on new growth on the multiflora roses. The first symptom will be red pigmentation of veins on the underside of leaves. Cultivated roses can also show a thickened, succulent stem with a plethora of thorns. Some other symptoms of the disease are abnormal flower color, distorted or dwarfed leaves, and deformed buds and flowers.

Purchase disease-free plants. Do not plant cultivated roses close enough that the mite can crawl from one plant to another. If possible, remove any multiflora roses at least 100 yards of your cultivated roses to keep this disease at bay. You can use pesticides to kill the mites on weekly intervals through June and July.

Transmission of the disease occurs between May and mid-July. Symptoms start appearing mid-July. Keep an eye on your cultivated roses at this time. Do not confuse normal, reddish new growth with this disease. If a rose does exhibit the Rose Rosette Disease, remove all of it, including the root, and destroy it. Do not compost it! Do not plant another rose in that area. Plants with the disease will live two to five years in a weakened state and could cause the spread of the disease to other roses.

For more information on roses, check out the MU Extension Guide G6601 Roses: Care After Planting and Virginia Cooperative Extension Publication 450-620 Rose Rosette Disease.
August Gardening Calendar
By Donna Aufdenberg, MU Extension Horticulture Specialist

Outdoor Flowering Plants and Ornamentals
- Keep newly planted trees and shrubs well watered.
- Clean up fallen rose and peony leaves. They can harbor disease and insect pests over the winter if allowed to remain on the ground.
- Think ahead! For dried winter arrangements, flowers with petals in bright yellow, orange, pink and blue colors preserve best. Red and purple become darker and less attractive; white flowers usually become buff or tan in a short time.
- During hot, dry August days, avoid deep cultivation in your flower beds. Loosening the soil under these conditions reduces water uptake and make plants often look much worse after cultivation than before.
- Continue spraying roses that are susceptible to black spot and other fungus diseases.
- Keep an eye out for spider mites on ornamentals! They love it hot and dry.
- Avoid any temptation to prune shrubs and trees. Doing so will promote new growth that will not harden by winter which can lead to winter damage.

Vegetable Gardening
- Many herbs self-sow if the flowers are not removed. Dill and sage seeds fall around the parent plant and come up as volunteers the following spring.
- Harvest winter squash and pumpkins by cutting with 2 or 3 inches of stem; they’ll keep better in storage that way than if stemless.
- Plant a winter cover crop to enrich your garden soil. Annual rye, red clover, and hairy vetch are good choices.
- Fall vegetables can be planted until the 15th of this month. Vegetables include lettuce, radishes, cabbage, broccoli, cauliflower, spinach and turnips.
- Compost plant materials from the garden as crops are harvested. Avoid composting any plants that are disease or insect infested.

Fruits and Nuts
- If your apples are lumpy, they may have apple maggots. Be sure that fruit is not left lying on the ground because the maggots live in fallen apples and then pupate in the soil.
- Heavy rains at harvest can dilute the sugars in melons. Watermelons can re-concentrate the sugar if left for a few dry days however cantaloupes cannot do this.
- To reduce the number of pests on your fruit tree for the coming year, pick up and destroy all fallen fruit. Worms hide in the fruit and then pupate into the soil. They will be ready to lay eggs next year.
- Watch for fall webworm activity now.

Harvesting and Storing Melons
Cantaloupe -
Harvest when the stem slips easily from the fruit. Lift the melon; if ripe it should separate easily from the vine. Store ripe melons in a refrigerator in a plastic bag for up to 10 days. Try a few boxes of frozen melon balls.

Watermelon -
Harvest when the underside of fruit turns from whitish to yellowish. The tendril at the juncture of the fruit stem and the vine usually dies when the fruit is mature. Thumping an immature melon gives a ringing metallic sound, while a mature melon gives a dull thud. Watermelons will store at room temperature for about 1 week and at a temperature of 45 to 50 degrees F for 2 or 3 weeks.
Bramble Varieties

by Katie Kammler, MU Extension Horticulture Specialist

Bramble is a term used to describe a prickly vine or shrub in the *Rubus* genus, covering a large number of plants found growing in the woods and fields. For a gardener, the term is used to refer to blackberries and raspberries. Another term that is often used is caneberries.

Brambles are relatively easy to grow in full sun with well drained soils. Because the fruit is highly perishable, they are not as readily available commercially as other fruits. Brambles are biennial plants, meaning they have a two year growing cycle. The first year’s growth is vegetative, called a primocane. The second year’s growth is called a floricane, which flowers and produces fruit. Some varieties of raspberries and blackberries will produce fruit on the floricane in the fall.

What varieties should you pick for your garden? It depends on what you are looking for: thornless versus thorny, primocane bearing versus floricane bearing, color of fruit, size, growing habit, harvest time, disease resistance, and taste. Variety information is from University of Arkansas Extension.

### Blackberries

<table>
<thead>
<tr>
<th>Variety</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chickasaw</td>
<td>Erect, thorny</td>
<td>High yielding with large fruit. Disease resistance to anthracnose and orange rust. Mid-season harvest with medium storage potential. Requires approximately 500 chill hours.</td>
</tr>
<tr>
<td>Choctaw</td>
<td>Erect</td>
<td>High yielding cultivar; medium fruit size. Disease resistance to anthracnose and orange rust. Early ripening. Low storage potential.</td>
</tr>
<tr>
<td>Kiowa</td>
<td></td>
<td>Very large fruit. Ripens over a long period. Storage and handling potential very good, among the best of the thorny varieties. Requires approximately 200-300 chill hours.</td>
</tr>
<tr>
<td>Shawnee</td>
<td></td>
<td>High yield with medium to large fruit size. Disease resistance to anthracnose and orange rust. Early to mid-harvest season with low storage potential.</td>
</tr>
</tbody>
</table>

### Blackberries

<table>
<thead>
<tr>
<th>Variety</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apache</td>
<td>Erect, thornless</td>
<td>High yield with large fruit. Disease resistant to anthracnose and double blossom. Late harvest season with high storage potential. Requires approximately 800-900 chill hours.</td>
</tr>
<tr>
<td>Arapaho</td>
<td></td>
<td>Moderate yield with medium fruit size. Disease resistance to anthracnose and double blossom. Early to mid-harvest season. High storage potential.</td>
</tr>
<tr>
<td>Navaho</td>
<td></td>
<td>Moderate yield with small to medium size fruit. Disease resistant to anthracnose and double blossom; susceptible to orange rust. Late harvest season with very high storage potential. Requires approximately 800-900 chill hours.</td>
</tr>
<tr>
<td>Ouachita</td>
<td></td>
<td>Early to mid-season ripening. Resistant to double blossom/rosette. High storage potential. Requires approximately 400-500 chill hours.</td>
</tr>
</tbody>
</table>

### Blackberries

<table>
<thead>
<tr>
<th>Variety</th>
<th>Fruiting Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prime Jim</td>
<td>Primocane</td>
<td>Thorny, erect. Floricane yields comparable to floricane fruiting thorny and thornless varieties. Primocane yields vary greatly by location. Floricane are susceptible to double blossom/rosette, but primocanes avoid this disease because it does not appear until the second season on the canes. Low storage potential. Requires approximately 300-400 chill hours.</td>
</tr>
<tr>
<td>Prime Jan</td>
<td></td>
<td>Thorny, erect. Similar to Prime-Jim, requires approximately 300-400 chill hours.</td>
</tr>
</tbody>
</table>

### Raspberries

<table>
<thead>
<tr>
<th>Variety</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heritage</td>
<td>Red</td>
<td>Everbearing (primocane), erect canes, medium size bright red berries. Hardy and vigorous.</td>
</tr>
<tr>
<td>Josephine</td>
<td></td>
<td>Everbearing (primocane), fruits later than Heritage, large firm fruit with good flavor.</td>
</tr>
</tbody>
</table>

### Raspberries

<table>
<thead>
<tr>
<th>Variety</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bristol</td>
<td>Black</td>
<td>Large, firm fruit. Vigorous, upright canes, ripening in July.</td>
</tr>
<tr>
<td>Jewel</td>
<td></td>
<td>Large, glossy black fruit with good flavor. High yields and excellent fruit quality. Less susceptible to disease than other black raspberry varieties.</td>
</tr>
</tbody>
</table>

### Raspberries

<table>
<thead>
<tr>
<th>Variety</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brandywine</td>
<td></td>
<td>Large, firm fruit. Vigorous, upright canes. Primocane bearing.</td>
</tr>
<tr>
<td>Royalty</td>
<td></td>
<td>Large purple fruit that preserve well. Floricane bearing in August.</td>
</tr>
</tbody>
</table>

### Raspberries

<table>
<thead>
<tr>
<th>Variety</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anne</td>
<td>Yellow</td>
<td>Large yellow fruit that freeze well. Primocane bearing.</td>
</tr>
</tbody>
</table>
Many times when taking a look at younger trees that have died quickly the damage was caused the day the tree was planted. The sad truth is that it is sometimes caused by landscapers who should know better but have perhaps been taught improperly.

The important steps when planting a tree are:

- Do not dig the hole deeper than the root flare. The point where the trunk connects to the root (often flared) should be planted at or slightly above ground level. Do not plant this point too high, exposing roots to air.

- Please dig the hole three times as wide as the root ball giving the roots plenty of room to grow. Do not crowd roots inside the planting hole. Space them out around the hole before filling. If the roots will not move and are growing in a circle then prune them. Do not be afraid to break the root ball. This can help encourage roots to grow outside of that space. Filling the planting hole with humus can be a good idea although in a high clay soil, more of the original clay should be used to prevent the creation of a natural pot in the ground.

- Rough up the roots to allow them to escape the root ball shape. If needed, prune larger roots that will not correct their growth to move outward from the tree.

- Remove the wire basket completely. To leave the basket is to girdle roots later in the life of the tree. If a company is planting for you do not allow them to leave the basket. If there is no basket then remove the string holding the burlap on.

- Remove as much of the burlap as possible. On smaller trees you should remove it all. On larger trees it can be hard to remove the bottom of the burlap but get as much as you can. Although burlap is supposed to decompose in time, the tree will grow faster than the burlap can decompose, restricting root growth and killing the tree through lack of root growth or from girdling.

Do not backfill with soil over the root flare. This may actually require you to remove several inches of soil.
of soil from the top of the root ball. During the digging process at the nursery, the root flare often becomes buried below the soil line. Check this during planting.

- While mulch is important to help reduce the loss of moisture in the ground, do not place mulch against the bark of the tree. Do not place sod too close to the trunk of the tree. This will also trap moisture up against the bark and when the grass is trimmed will likely caused damage to the trunk from the grass trimmer.

- Do not add any wire support to the tree until the tree demonstrates an inability to keep itself upright. If wire support is necessary, remove it in 6 months. The tree will grow causing the wire to cut into the trunk and branches girdling the tree. Just as important a tree needs to be allowed to sway in the wind as this teaches the roots how to hold the tree upright. If the tree is never allowed to sway, the roots will not understand part of their purpose.

By following proper planting practices each tree or shrub will stand a better chance of living for many years of enjoyment. It may mean that you have to educate your professional installation company, but it is worth it in the end.

The support was left on too long and girdled this trunk. The tree has been stressed from lack of water and nutrients needed to survive. Time will tell if removing the wire will help. - picture courtesy Yourleaf.org.

The arrows point to burlap that has yet to fully decompose showing above the root ball and likely surrounding it restricting root growth. Arrows also point to protruding wire from the sire basket that was not removed. This is a hazard above ground and will girdle roots below. - Picture courtesy of twowomenandahoe.com.

The Garden Spade
### Group News - What's Happening

#### August 2014

<table>
<thead>
<tr>
<th>Sun</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thu</th>
<th>Fri</th>
<th>Sat</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Parkland MG, 6:30pm @ Memorial United Methodist</td>
<td>Poplar Bluff MG Meeting 6:00pm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ste. Genevieve MG, 6:30pm @ Ste. Gen. Co. Ext. Center</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24/31</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td>Perry Co. MG 6:30 pm, Perry Co. Ext. Center</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### August

- 4 - Parkland MGs 1st Monday at 6:30pm, Memorial United Methodist, Fmgtn, MO
- 5 - Poplar Bluff MG 1st Tuesday at 6:00pm at Holy Cross Episcopal Church
- 14 - Ste. Genevieve MG 2nd Thursday, at 6:30pm, Ste. Gen. County Ext. Center
- 21 - Cape Girardeau County MGs 3rd Thursday at 7:00pm, Cape County Ext. Center
- 25 - Perry County MGs 4th Monday at 6:30pm, Perry County Ext. Center

If you have a horticultural related event for the calendar call 573-686-8064 or email it to Denklers@missouri.edu.

### Upcoming Events

- September 4 to November 14 - Pulaski County Master Gardener Core Training, contact mopcmg@gmail.com
- September 4 to November 13 - Master Gardener Training in Perryville. Contact Donna Aufdenberg 573-238-2420.
- September 8 to November 17 - Master Gardener Training in Park Hills. Contact Katie Kammler at 573-883-3548
- September 10-12 Butler County Fair, Poplar Bluff, MO
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.

Editors:
Katie Kammler, Horticulture Specialist
255 Market St., Ste. Genevieve, MO 63670
573-883-3548

Sarah Denkler, Horticulture Specialist
222 North Broadway Street, Poplar Bluff, MO 63901
573-686-8064

Donna Aufdenberg, Horticulture Specialist
304 High Street, PO Box 19, Marble Hill, MO 63764
573-238-2420

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 to share experiences and write 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

Disclaimer: No special endorsement of mentioned products is intended, nor is criticism implied of similar products not mentioned.

August 2014 Garden Spade