UNIVERSITY OF MISSOURI
MU Extension

# Garden Talk!

*for the Heartland Garden Enthusiast*

http://outreach.missouri.edu/adair/horticulture/gardentalk.shtml August 2004

## What's Inside



## HORTICULTURE/AGRICULTURE…….. HONEYMOON ADVENTURES

In the July issue I let you all know that I was getting married. For our honeymoon we went on a cruise to the western Caribbean. We drove to New Orleans and took a cruise to Jamaica, Cayman Islands, and Cozumel, Mexico. It was a good experience and we had fun.

In Jamaica we took a two hour bus trip from Montego Bay through the countryside to a place called Dunn's River Falls. Along the way we saw banana and sugar cane plantations. A lot of sugar cane is grown on the islands and made into rum. We saw one banana plantation that had been infected with a terrible disease and nearly the whole planting was wiped out. We saw how the natives live, farm, and work. Jamaica is a poor nation, with many of its' citizens living in poverty. People in the countryside live in very small, poorly constructed shacks. A lot are painted with bright colors of yellow, blue, pink, and orange. There is a lot of trash scattered around the island.

Farm animals such as goats, cattle, and chickens roam free. I didn't see any fences or pens. Cows and goats were laying near the side of the road, and chickens were running across the road. They do not have yards with grass, trees, and flowers, but rather dirt, sparse clumps of grass, and livestock. We arrived at Dunn's River Falls, a rock waterfall more than 900 feet above sea level. We climbed the falls and enjoyed the cool, fresh water.

The next day we arrived in the Cayman Islands (Grand Cayman). We took a tour of the island which included a stop at a government run turtle farm. The green sea turtle is an endangered species and protected by the government. Thousands of turtles are raised at the farm (very similar to fish farms we have here in Missouri). Some of the turtles raised at the farm are slaughtered for their meat, which is the main meat eaten in the Cayman Islands. We went snorkeling and swam with the sting rays. Grand Cayman is beautiful. Yards are nicely landscaped, and the towns are clean. It is the fifth largest banking center in the world. The beach was also clean and beautiful.

The last stop was Cozumel, Mexico. This was a clean, nice place to visit. We took a jeep ride through the countryside, and then traveled by boat to a small island off the coast, called Passion Island. There we had a buffet lunch under a cabana, and we swam in the ocean and laid on the beach.

English is the official language in Jamaica and the Cayman Islands, and most people in Cozumel speak it or understand it enough to get by. There are white sandy beaches, palm trees, and beautiful blue/turquoise water in all three countries. In all three, we saw beautiful bougainvillea and flamboyant trees. Flamboyant trees (Poinciana) are a Caribbean wonder, and are certainly one of this world's most beautiful trees. They have beautiful orange flowers and are used as street trees in the tropics, and are an outstanding specimen tree for gardens or parks. Croton, Century plant, and Sansevieria (Mother-in-laws tongue) grow has shrubs in the landscape on the islands. We had a good time on the cruise and it was a great honeymoon.

# Secret to Tomato Flavor Can Be Read in the Leaves

"Tomatoes today taste like tennis balls. What happened to the tomatoes I had as a kid?"
This tale of woe wafts down produce aisles and garden rows like summer swelter creeps into August according to Cynthia Fauser, nutrition specialist, University of Missouri Extension. "Thankfully, no culinary expertise is needed to distinguish the full-bodied flavor of an in-season, home-grown tomatoes compared to those shipped in the rest of the year," said Fauser.

But even many home-grown red orbs lack the flavor punch of those remembered from years gone by. "Hybrids, people hiss, they just bred out the flavor." According to Fauser, it is true most seedlings sold are hybrids, bred for greater yield and disease resistance. But the secret may lie as much in the height of the plant, as in its hybridization.

The secret to tomato flavor is to grow "indeterminate" tomato varieties rather than "determinate", according to Lewis Jett, UMC vegetable crops specialist. "Determinate" varieties develop all their fruit over a short period of time, and the vine growth slows or stops once the fruiting starts. They are ready to harvest earlier in the summer. Determinate varieties are also favored for commercial use because they can be harvested all at once.

Slower to fruit, indeterminate varieties continue to get taller and produce fruit throughout the summer. Jett points out that these varieties have more leaves, which photosynthesize greater amounts of acids and sugars and "tomato flavor." "Heirloom" tomatoes are capturing a lot of interest because many feel they retain that old-time flavor, and unlike hybrids the seeds can be saved from one season to the next.

Jett's theory still holds, since most heirloom varieties are indeterminate. Caution is advised however, because heirloom varieties lack the disease resistance of the newer hybrids. "Next year I plan to be more patient, and grow indeterminate varieties like Better Boy, Early Girl and Heartland. For now, if I run across some heirloom tomatoes at the farmer's market I am going to give them a try. Once picked, all tomatoes will remain on my counter, not in the refrigerator, until I'm ready to use them to keep that sun-kissed flavor," said Fauser.

## AROUND THE REGION

**Here is a list of diseases and disorders that have been observed in this region at this time:**

- Galls on woody ornamentals
- Rose Rosette
- Tar Spot on Silver Maple
- Fungal leaf spots on various trees, shrubs, and flowers
- Powdery mildew on lilac, zinnias, monarda, and vine crops
- Catfaced tomatoes
- Blossom end rot on tomatoes and peppers
- Early Blight on tomatoes
- Tomato fruitworm in tomatoes
- Squash vine borer in pumpkins

*Pictured Above is Jennifer standing under a beautiful Flamboyant tree (Poinciana) in the Caribbean.*

*At right is Jennifer and David swimming with the stingrays.*

# SQUASH VINE BORER OR BACTERIAL WILT?

Do you go out to your garden and your squash and pumpkins look fine, and the next day you notice they are a little wilted, and the day after that they are nearly dead? The problem is most likely one of two things, the squash vine borer or bacterial wilt. I came back from my honeymoon to find all of the pumpkins in the extension garden yellow, wilted, and nearly dead. After close observation, I found small holes in the base of the stems. I slit

The squash vine borer larvae bore into the stems of your plants, usually in the lower one part of the stem near the base. Stems can be girdled by borers, which prevents water and nutrients from circulating in the plant. The point where a borer enters a stem is marked by a hole with yellow granular or sawdust-like frass exuding from it. Injured vines often decay and become wet and shiny. Infested plants may be weakened or they can die. The ultimate effect on the plant depends on the number of borers and their location. Over 100 larvae have been found in a single plant. I usually only find 3-5 in the plants I look at here in northeast Missouri.

The larva is a fat grub-like caterpillar with a white wrinkled body and a brown head. A fully grown larva is about 1 inch long. It overwinters as a fully grown larva in cocoons in the soil, one to six inches deep. It pupates in the spring and the adult (a moth) emerges in June. Moths are active during the daytime and in the evening they rest on leaves. This is different than the behavior of most moths, which are active at night. The moths fly slowly in zig-zags around plants, and lay eggs singly on stems; eggs are usually found on the main stem near the base, but are also found on leafstalks or on the undersides of leaves. Moths are active for about one month. Eggs hatch in 9 to 14 days. Larvae enter the stem at the plant base within a few hours after hatching from the eggs. Larvae feed inside the stem for 4 to 6 weeks. Fully grown larvae leave the stems and crawl into the soil to pupate.

Squash, zucchini, pumpkins, and gourds are susceptible to attack. Butternut squash is less susceptible than other squashes. Cucumbers and melons are usually not attacked.

Control methods include:

- Destroy vines soon after harvest to destroy any larvae still inside stems.
- Disk or plow the soil in fall or spring to destroy overwintering cocoons.
- Cover vines at leaf joints with moist soil, to promote formation of secondary roots that will support the plant if the main root and stem are injured.
- Borers can be removed from vines if detected before much damage is done. Examine stems in early summer; once holes are detected, slit the stem longitudinally with a fine sharp knife, remove the borer, then cover the wounded stem with moist soil above the point of injury to promote additional root formation.
- Stems can be covered with a barrier, such as strips of nylon stockings, to prevent egg laying.
- Catch and destroy the moths, especially at twilight or in early morning when they are resting on the upper side of leaf bases.
- Hand-pick the eggs before they hatch.
- Squash vine borer can be killed by chemicals but the trick is in the timing of the application. An insecticide is effective when applied at the time that eggs are hatching. A preventive treatment regime is to apply an insecticide when vines begin to run, and re-apply every 7 to 10 days for 3 to 5 weeks. The application should be directed to the base of plants, at crowns and runners. Chemicals used for borer control in gardens are methoxychlor, rotenone, pyrethrum, malathion, or carbaryl (Sevin), applied as sprays or dusts. Restricted-use insecticides used for borer control by commercial growers include endosulfan (Thiodan) and pyrethroids (Ambush, Asana, Pounce).

If a plant wilts but there is no evidence of borers, other possible causes are root feeding by larval cucumber beetles, or a bacterial wilt infection.

Bacterial wilt is caused by a slimy ooze which plugs the entire water-conducting tissue of the plant. The wilted plant will not recover, even if water is adequate in the soil. Other pathogens cause wilt, but bacterial wilt may be distinguished by cutting a severely wilted stem at the base of a lateral branch or just above ground level and squeezing the cut end. Ooze will exude from the water-conducting tissue. By touching the ooze with your finger then slowly drawing your finger away, the milky, sticky ooze will string out into fine strands up to one-fourth inch long. Another test is to place a freshly cut stem from a wilted part of the plant in a glass of water. If bacterial wilt is present, a milky exudate will appear at the cut ends. Both of these tests require patience, as the bacteria are in a sticky material and may not readily ooze from the cut stem.

It affects curcurbits including cucumbers, muskmelons, squash, pumpkins, white gourds, wild gourds, wild cucurbits, and watermelon. The most effective disease control is prompt elimination of cucumber beetles. The beetles can transmit squash mosaic virus as well as bacterial wilt and can cause severe damage by feeding on the leaves. Control should begin either when the first beetle is sighted or when the first cucurbit seedlings emerge. Remove or destroy any infected vines. Controlling all weeds in or near the cucurbit patch, avoiding damage to cucurbits when the plants are wet, not planting cucurbits near weedy woods or brush where the cucumber beetles may overwinter, and storing squash only from healthy vines may prevent bacterial wilt from infecting your plants.

# August Gardening Tips

***Ornamentals***

- Deadhead annuals and perennials as needed.
- Continue spraying roses that are susceptible to black spot and other fungal diseases.
- Roses should receive no further nitrogen fertilizer after Aug. 15th.
- Divide bearded iris now. Replant so tops of rhizomes are just above ground level.
- Prune to shape hedges for the last time this season.
- Evergreens can be planted or transplanted now to ensure good rooting before winter arrives. Water both the plant and the planting site several days before moving.
- Soak shrubs periodically during dry spells with enough water to moisten the soil to a depth of 8-10 inches.
- Once bagworms reach full size, insecticides are ineffective. Pruning off and burning large bags provides better control.
- Spray black locust trees now to protect against damage by the locust borer.
- Watch Scotch and Austrian pines for Zimmerman pine moth damage. Yellowing or browning of branch tips and presence of pitch tubes near leaf whorls are indicative. Prune and destroy infected parts.
- Hummingbirds are migrating through gardens now.
- Monitor plants for spider mite activity. Hose these pests off with a forceful spray of water.
- Second generation pine needle scale crawlers may be present on Mugo pine now.

***Vegetables***

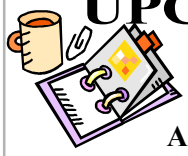
- Compost or till under residues from harvested crops.
- Broccoli, cabbage, and cauli flower transplants should be set out now for the fall garden.
- Cure onions in a warm, dry place for 2 weeks before storing.
- Sow beans, beets, spinach, & turnips now for the fall garden. Spinach may germinate better if seeds are refrigerated for one week before planting.
- Begin planting lettuce and radishes for fall the last 2 weeks of August.
- Pinch the growing tips of gourds once adequate fruit set is achieved. This directs energy into ripening fruits, rather than vine production.

***Fruit***

- Prop up branches of fruit trees that are threatening to break under the weight of a heavy crop.
- Thornless blackberries are ripening during the first week of August.
- Spray peach and other stonefruits now to protect against peach tree borers.
- Sprays will be necessary to protect late peaches from oriental fruit moth damage.
- Cultivate strawberries. Weed preventers can be applied immediately after fertilizing.
- Watch for fall webworm activity now.

***Turfgrass***

- Apply insecticides now for grub control on lawns being damaged by their activity.
- Lawns scheduled for renovation this fall should be killed with Roundup. Have soil tested to determine fertility needs.
- During the last week in August, dormant lawns should be soaked to encourage strong fall growth.



## UPCOMING EVENTS

**August 2:** Fabius Master Gardener meeting and pinic; 6:30 pm, Lake Show Me, west of Memphis

**August 3:** Salt River MG club meeting, 7 pm, Nutrition Center, Palmyra, MO

**August 3:** Sullivan County, MG club meeting, 6:30 pm, Milan, MO

**August 7:** 5th Annual Small Farm Field Day, 8:00 am to 2:30 pm; LaGrange Lion's Club Hall and Russ Heindselman's Farm; Registration starts at 7:30 am at the Lion's Club Hall.

**August 17:** Kirksville Area MG club meeting, 7 pm, Adair Co. Extension Center, Kirksville

**July 23:** Macon-Shelby MG club meeting, 7 pm, Macon, MO

**August 12-22:** Missouri State Fair, Sedalia, MO

**September 13:** Master Gardener training starts in Moberly; contact me at 660-665-9866 or the Randolph county extension center at 660-269-9656.

**September 20:** Master Gardener training starts in Columbia. Contact Don Day at daydr@missouri.edu or call him at 573-445-9792.

**September 24-25:** State Master Gardener Conference, Columbia; see this website for conference registration information. http://outreach.missouri.edu/boone/mg.html If you do not have internet access, call your county extension center for more information.

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Jennifer Barnes, University of Missouri Extension
Horticulture Specialist
503 E. Northtown Road, Kirksville, MO 63501-1999
barnesje@missouri.edu