Horticulture 2012 Newsletter
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Video of the Week: What? No Squash?

UPCOMING EVENTS

Kansas Turfgrass Field Day - August 2

Rocky Ford Research Center, Manhattan
For more information, go to

VEGETABLES

Vegetables Produce Flowers But No Fruit

Watermelon - female flower

Watermelon - male flower

If you have vegetables that are blooming but not setting fruit, you may have a problem with flower pollination. There are several possible reasons for this that usually vary by species. One condition that can affect several species at the same time is overfertilization. Too much nitrogen
causes the plant to emphasize vegetative growth, often to the detriment of fruit production. Overfertilization can lead to a delay in flower production and a decrease in fruit set among the flowers produced.

Squash, cucumbers, watermelon, and muskmelon can have a couple of other problems. First, the early flowers on these plants are usually all male. The production of both male and female flowers becomes more balanced as time passes. You can easily tell the difference between the two because only the female flower has a tiny fruit behind the blossom. If you have both, have not over-fertilized and still have a problem, make sure you have pollinators. Look for the presence of bees visiting the plants. If you don't see any, try hand-pollinating several flowers. Use a painter’s brush to transfer pollen from the anther of the male flower to the stigma of the female flower. If you get fruit on only those flowers you pollinated, you need more pollinators. Make sure you aren't killing them with overuse of insecticides.

Tomatoes are wind pollinated and therefore not dependent on pollinators. But they have another possible problem, which is temperature. Tomatoes normally won't set if the night temperature is below 50 due to sparse pollen production. They also won't set when nighttime temperatures are above 75 degrees F and daytime temperatures are above 95 degrees F with dry, hot winds. (WU)

"Tomatoes" on Potatoes

Under favorable weather conditions, potatoes produce fruit. These structures are borne on the top of the plant and look much like small tomatoes. (Tomatoes and potatoes are closely related). Potato fruits are not edible. They contain a toxic substance (solanine) that can cause illness if eaten. Also, potato fruits should not be saved for seed because progeny does not come true. Rather, remove and dispose of fruit so children do not eat them. (WU)

Blossom-end Rot

If you have tomatoes with a sunken, brown, leathery patch on the bottom of the fruit, you probably have blossom-end rot. Though most common on tomatoes, blossom-end rot can also affect squash, peppers and watermelons. Not a disease, this condition is caused by a lack of calcium in the developing fruit. It is often assumed that this means there is a corresponding lack of calcium in the soil. This is not necessarily the case, especially in Kansas. Most Kansas soils have sufficient levels of calcium.
So what causes blossom-end rot? Actually, there are a number of possible causes, especially on tomatoes. Let's look at some of them.

- Tomato tops often outgrow the root system during cooler spring weather. As long as it is cool, the root system can keep up. When it turns hot and dry, the plant has a problem, and water — with the calcium it carries — goes to the leaves and the fruit is bypassed. The plant responds with new root growth and the condition corrects itself after a couple of weeks.

- Heavy fertilization, especially with ammonium forms of nitrogen, can encourage this condition. Heavy fertilization encourages more top than root growth and the ammonium form of nitrogen competes with calcium for uptake.

- Anything that disturbs roots such as hoeing too deeply can encourage blossom-end rot. Mulching helps because it keeps the soil surface cooler and therefore a better environment for root growth.

- Inconsistent watering can be a factor. Keep soil moist but not waterlogged. Mulching can help by moderating moisture levels over time. You should also avoid damaging roots and watch fertilization. But there are some years you do everything right and the condition shows up due to the weather. In such cases, remember that blossom-end rot is a temporary condition, and plants should come out of it in a couple of weeks. You may want to pick off affected fruit to encourage new fruit formation.

Soils with adequate calcium will not benefit from adding additional calcium. If your soil is deficient in this nutrient, add 1 pound gypsum per 100 square feet. Gypsum is calcium sulfate and will not affect pH. Though calcium raises pH, sulfate lowers it and the two cancel each other out. Even if not needed, gypsum will not hurt anything.

We have also found that spraying plants with calcium doesn't work. The fruit's waxy surface doesn't allow absorption of the material and calcium does not move from the leaves to the fruit. (WU)

**Raccoons and Sweet Corn**

It seems the official sweet corn inspector should be the raccoon, which seems to harvest sweet corn the day before it is to be picked. The only effective control measure I have had success with is the electric fence. Here are some suggestions based on my experience. Other designs may very well work but this is what has worked in my garden.

- Two or more wires must be used. Place the first about 5 inches above the ground and the second 4
inches above the first (or 9 inches above ground). Raccoons must not be able to crawl under, go between or go over the wires without being shocked.

– Fence posts used for electric fences work well for this application (go figure), as do the insulators used to support the electric wire.

– It is much easier to use the woven electric wire with strands of wire embedded than to use a solid metal wire. The woven wire is easier to bend around corners and to roll up when done for the year.

– Though both the plug-in and battery operated fencers work, the battery operated types allow more versatility in where corn is grown. Battery types can either operate off of D-cells or a car battery. One set of D-cells is usually sufficient for the season. In my case, I pull the battery out of an old tractor that is not used much. It will also last the season if fully charged at the beginning. My fencer is probably on for a total of a month.

– Start the charger before the corn is close to being ripe. Once raccoons get a taste of the corn, they are more difficult to discourage.

– Control weeds near the wire. Weeds can intercept to voltage if they touch a wire and allow raccoons entry beyond the weed.

– Check the wire occasionally to make sure you have current. This can be done easily (but unpleasantly) by touching the wire. There are also tools that will measure the voltage available for sale. They are worth the money. (WU)

**ORNAMENTALS**

**Bark Shedding**

Trees naturally shed bark as they grow. The amount of bark shed varies significantly from one year to the next and is usually not noticeable. But some trees, such as sycamore, London Planetree and silver maple, shed bark in large patches or strips. During a year with heavy shedding homeowners may become concerned that the tree is sick or dying. Such usually is not the case. Sycamore and London Planetree normally show a bright green color on the branches when the bark first falls off but soon return to normal. Maple reveals an orange color after shedding but it, too, soon returns to normal. There is nothing wrong with the tree as long as the shedding bark simply reveals underlying bark rather than bare wood. (WU)
PESTS

Japanese Beetles

Though we have seen Japanese beetles in the Kansas City area for a number of years, 2012 has seen an explosion in the population and the damage they cause. Also, the Wichita area has had several reports of Japanese beetles and it appears they are becoming established in that part of the state as well. Many Kansans are unfamiliar with this insect. The following gives a short overview.

Japanese beetles feed on over 300 species of plants including rose, birch, linden, crabapple, grape, Virginia creeper, and buckeye. Adults are approximately 7/16-inch long and metallic green with coppery wing covers. They sport a series of white dots made up of tufts of hair that project from under the edges of the wing covers on the back half of the insect. This characteristic is used to distinguish Japanese beetles from other similar beetles. Japanese beetles feed on leaves, flowers and wounded or mushy fruit.

Adults often feed on the green material on the upper surface of the leaf leaving a lacelike or “cellophane” appearance. Most feeding activity occurs over a 4 to 6 week period though individual beetles usually live about 30 to 45 days.

Japanese beetles tend to be gregarious and feed in groups, starting at the top of a plant and working down. Warm, sunny weather is preferred with beetles favoring plants in full sun. When disturbed, adults fold their legs and drop from foliage.

Adult beetles can be killed by shaking the beetles from the plant into a jar or bucket containing soapy water. This is best done in the morning when the insects are sluggish.

Numerous insecticides can be used including pyrethroid products such as cyfluthrin (Tempo, Bayer Multi-Inset Killer), bifenthrin (Hi-Yield Bug Blaster II, Bug-B-Gon Max Lawn and Garden Insect Killer), and lambda-cyhalothrin (Bonide Beetle Killer, Spectracide Bug Stop Indoor + Outdoor Insect Killer, Spectracide Triazicide, Bonide Caterpillar Killer). Carbaryl (Sevin) can also be used. The pyrethroid products normally give 2 to 3 weeks protection with carbaryl not lasting as long; usually 1 to 2 weeks. All of the above insecticides are detrimental to natural controls such a parasitoids and predators or other pests including the two-spotted spider mite.

Neem products (Natural Guard Neem-Py, Fertilome Triple Action Plus) and Pyola (pyrethrins in canola oil) will provide deterrence for 3 to 4 days.
Japanese beetle traps tend to attract more beetles than they kill and often do more harm than good and therefore are not recommended. (WU)

Bagworm Control Considerations

The normal recommended “treatment window” for applying insecticides to control bagworms is during the last week of June and first week of July. The rationale for this recommendation is that all overwintered eggs will have hatched, and all larvae will be relatively small and therefore extremely susceptible to insecticides.

People are aware that March, April and May of 2012 were abnormally warm. Thus, bagworm hatch began earlier than usual. This moves treatment window forward by several weeks. If there are concerns about bagworms, especially on coniferous trees and shrubs, now is a good time to visually inspect for their presence. Bagworms currently are of sufficient size for easy detection. Again, it is best to treat bagworms while still small and most vulnerable to insecticides, and before they rapidly increase in size and cause increased amounts of feeding damage.

People often ask, “Which insecticide is best for killing bagworms?” There are various active ingredients contained in numerous products available at retail outlets. All will provide acceptable control. More important than selecting a particular product is how sprays are applied. The two important keys for bagworm control are: (1) the timeliness of sprays (again, after all eggs have hatched and while bagworms are small); and (2) thoroughness of spray coverage. The amount of coverage achieved with quick hastily applied spray treatments tends to be inadequate, resulting in less-than-desired control. The main reason for failure is that merely applying an insecticide in a mist-like manner affects only those bagworms feeding on the periphery of the tree/shrub. Bagworms in the more dense areas remain unscathed. It is important to very deliberately thrust the sprayer wand into the inner foliage and branch areas. While this requires additional effort, and likely also require refilling sprayers, the resultant is a more thorough treatment application --- and achievement of desired bagworm control. (BB)

Editor’s Note: Insecticides commonly used for controlling bagworms include spinosad (Conserve, Fertilome Borer, Bagworm, Leafminer & Tent Caterpillar Spray, Captain Jack’s Dead Bug Brew), acephate (Acephate, Orthene), cyfluthrin (Tempo, Bayer Multi-Insect Killer) and permethrin (Hi-Yield 38 Plus Turf Termite and Ornamental Insect Control;, Hi-Yield Lawn, Garden, Pet and Livestock Insect Control; Hi-Yield Indoor/Outdoor Broad Use Insecticide and Lawn & Garden Insect Killer, Fertilome Indoor/Outdoor Multi-Purpose Insect Spray; Gordon's Bug-No-More Multipurpose Concentrate).
MISCELLANEOUS

Lime-Sulfur: A Multi-Use Pesticide

Lime-sulfur is a widely used pesticide with insecticidal, miticidal, and fungicidal properties labeled, in general, for control of insects, mites, and diseases of roses including scales (e.g., San Jose scale), mites [e.g., twospotted spider mite (Tetranychus urticae)], powdery mildew, black spot, and rust. It is used extensively on fruit trees to combat numerous diseases such as peach leaf curl (Taphrina deformans). It is interesting to note that lime-sulfur was first used as an insecticide in the USA in 1880, and was the first compound in which insecticide resistance occurred in 1908 with San Jose scale, Quadraspidiotus perniciosus developing resistance to lime-sulfur sprays.

The active ingredient is calcium polysulfides. Organosulfurs are useful because they have ovicidal activity or kill insect or mite eggs. The sulfur component of the formulated active ingredient is what is responsible for the miticidal activity, thus preventing the build-up of mite populations. Lime-sulfur is produced by boiling lime and sulfur together. The compound is strictly a contact pesticide with limited residual activity. Therefore, thorough coverage of all plant parts is important in order to obtain control of insect and mite pests, and diseases. However, lime-sulfur applications should never be performed when ambient air temperatures exceed 85°F (29°C). Applications should be made in spring prior to buds swelling and again in fall after leaves drop. Labeled rates vary from 1/2 fl oz/1 gallon to 4 fl oz/1 gallon with applications made at 10 to 15 day intervals in the summer. It is essential to avoid using horticultural oils (e.g., petroleum-based) for several weeks after applying sulfur because any sulfur residues may cause horticultural oil sprays to create phytotoxic reactions in plants. Many commercially available products contain a “Danger” signal word on the label. However, some formulations of lime-sulfur may be used in so-called “organic gardens.” Always be sure to read the label prior to using lime-sulfur or any pesticide, and wear the appropriate protective clothing (e.g., respirator). (RC)

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