From The Ground Up

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A Summertime Tradition

By Margaret Murphy, Master Gardener

Every time I see a roadside stand selling sweet corn, it makes me think of my childhood. I grew up in a town that had a Green Giant plant. One of the vegetables they processed was sweet corn. As the trucks hauled in corn from surrounding farms, the company would fill a flatbed trailer with ears of corn for the locals to buy. We would purchase a medium-sized paper bag for a quarter and stuff as many ears into the bag as it would hold. We always ate a lot of corn-on-the-cob in summer plus went back for more so mom could freeze a winter supply.

Today, there are three main types of sweet corn for the home gardener: standard sugar, sugar-enhanced and the super sweets. The standard types have been around for many years and have a creamy texture with a slightly sweet flavor. This is the traditional sweet corn I grew up enjoying. These cultivars have the shortest time from garden to table and only stay at peak quality for a day or two.

The sugar-enhanced varieties, as the name suggests, have a higher sugar content than the standard types and a somewhat longer storage period. These varieties produce corn with a softer texture.

The super sweet cultivars contain the highest sugar content having up to three times the amount of sugar as the standard varieties. Their kernels are smaller in size and have a thicker texture offering a crunchier bite. Super sweets store the longest after harvest; however, they can be less vigorous than the standard cultivars.

Growing sweet corn is pretty easy but there are a few things to watch out for. Sweet corn is pollinated by the wind so different varieties can cross-pollinate. This can alter the taste, color and sugar content of the corn. To reduce the risk of cross-pollination, plant sweet corn away from other types of corn such as field corn, ornamental corn or popcorn. Also, keep the super sweet cultivars apart from the sugar-enhanced and the standard varieties. It's not necessary to keep the latter two types separated from each other. A distance of at least 250 feet is recommended to avoid cross-pollination. And then, of course, there are a few pests to keep an eye out for.

The most common include the corn earworm and the European corn borer. Corn earworms are most abundant from July to mid-September. The moth lays eggs on the leaves near the ears or on the silk of young plants. The hatched larvae make their way into the ear to feed. Interestingly, only one worm reaches maturity due to their cannibalistic nature. The worm eventually drops to the ground where it pupates in the soil. Non-chemical control for the corn earworm includes placing a rubber band or clip on the tip of the husk to prevent the worm from getting inside. This should be done shortly after the silk appears. Mineral oil can be applied to the corn silk to try and reduce damage and insecticidal control is also available. Plus, you can check to see if there are resistant cultivars available for your area.

University of Northern Iowa: uni.edu

The European corn borer can damage the tassel, ear and stalk. Sawdust-like waste (called frass) is usually seen where the corn borer burrows into the plant. Stalks weakened by the tunneling of the borer will often be bent over. Insecticides used for the control of the corn earworm may also be effective against the European corn borer. Always be sure to carefully read and follow the instructions on the product label to ensure proper usage of an insecticide.

Tips for Watering a Thirsty Home Landscape

By Margaret Murphy, Master Gardener

With current weather conditions we are seeing stressed trees, brown lawns and struggling gardens. Here are a few tips to help your landscape cope during this hot, dry summer.

When it comes to trees, those planted within the last 3 years are the most vulnerable to water stress. Root systems of recently planted trees are not yet fully developed. Such trees need to be monitored closely and watered frequently while dry conditions persist. Water as needed, which could be as often as 2 to 3 times a week for young or newly planted trees. Be sure to wet the entire root ball area. Check the soil for moisture before you water. It's important not to overwater as excessive irrigation can lead to root rot.

In continued dry conditions even mature trees will start to show symptoms of stress and may need supplemental water. Symptoms of moisture stress can include leaves that are wilting, curling at the edges, and yellowing. Evergreens will often have needles that turn yellow to almost purple at the tips and older needles can drop prematurely. With mature trees check the soil at a depth of 12 to 18 inches. If the soil is dry, saturate the soil area within the dripline.

For vegetable and flower gardens, a deep watering once a week is usually sufficient. Most flowers and vegetables need about an inch of water per week. Let it soak into the root zone. Be sure to water flowering vegetables as this is the time they are setting fruit.

With more towns implementing water restrictions, many homeowners have cut back on watering their lawns. Cool-season grasses are able to survive several weeks without watering. They will stop growing and turn a straw color as they go dormant. If conditions remain dry for an extended period, a deep watering every month that provides at least an inch of water will help keep the roots alive during dormancy. Grass that is dormant should not be mowed.

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A general rule of thumb is to water plants deeply and less frequently to encourage deeper root growth. Water early in the morning to avoid loss from evaporation and use mulch around your plants. Mulch helps retain soil moisture and protects against weeds that compete for water.

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Calendar

By Kathy Osterloh, Master Gardener

Lawns

- If there is an extended period of dry weather, you can let your lawn go dormant, that is, let it go brown, to conserve water. (Dormancy also helps control grub populations.) However, do not then water a lawn heavily to bring it out of dormancy, then let it go dormant again, then water it again. This stresses a lawn. If you let it go dormant, a deep watering every month will help keep the roots alive during dormancy.

Trees and Shrubs

- Water as needed.

Flowers

- Harvest flowers from celosia, globe amaranth, and salvia for drying indoors.
- Cut iris leaves back in fan shape 6 - 8" from ground. Move and divide those that are becoming crowded

Vegetables

- Harvest potatoes as needed and onions as the tops yellow and die.
- Continue harvesting beans, squash, cucumbers, and tomatoes to keep plants productive.
- Continue to check squash, cucumbers, etc for any pests which may need treatment. There are natural and chemical products out there for just about everything you may find.

General

- Shine up the pressure cookers and water bath canners - it's canning season! Be sure to check your seal on pressure canners to ensure good pressure, replace if necessary. Check rims of jars for any chips or other debris, which cause them not to seal properly.
- Check mulch and landscaping fabric and reapply, readjust, where necessary to continue week control.
- Have a corn husking party, enjoy the bounty, either boiled or grilled, and then freeze or can the excess (see if you can talk a friend into bringing the steaks!)
- Keep turning compost pile.

Herb Garden

By Priscilla Jurkovich, Master Gardener

Herbs that can be grown in the South Dakota region.

Dill. *Anethum graveolens*, is from the Umbelliferace family. The dill plant is a feathery, aromatic herb with smooth, ribbed stems. The yellow flowers are small umbels that bloom June to July. This annual plant likes rich, moist, well-drained soil. It's not suitable for indoor herb gardens since the dill grows up to three feet. Commonly called "dill weed" since it produces seeds about two months after planting and self sows.

From a historical perspective, the Norse word for dill means "lull" as they used it to produce sleep. Europeans would place a "dilly pillow" in the cradle so the fragrance would lull the infant to sleep. The stems were placed in the Puritan Bible to chew on during long church services and assisted with sweetening the breath. The seeds (2 tsp in 8-12 oz. of boiling water) can be used for infant colic because of its digestive qualities. A tea can increase milk production for a lactating mother.

It has antibacterial qualities specific against *Staphylococcus aureus*. In alternative medicine, dill has been used for fevers, respiratory disorders like colds, flu, or bronchitis, indigestion, ulcers, kidney and eye problems.

Dill seeds, umbels or the feathery leaves are used as a pickling spice. Seeds and leaves flavor soups, sauces, egg and fish dishes, dips, carrots, cucumbers, potato salad, breads and occasionally pastries.

In the garden, dill is a great companion plant for cucumbers since the yellow flowers attract beneficial pollinators.

Photo: Priscilla Jurkovich

Weed of the Month: Velvetleaf

By Paulette Keller, Master Gardener

Growth: Velvetleaf is not a native plant and was introduced to North America from southern Asia in in the 1700s. Now, it can be found all over the continental U.S and in Canada. It can grow over 7 feet tall. Fine hairs cover the stems and the 2-6 inch long heart shaped leaves. The plant is tall and tends to shade out smaller plants with its large leaves. It also steals moisture and nutrients from other plants because of its aggressive roots. The flowers of velvetleaf have five petals that are yellow-orange in color and bloom from July to October. Teacup-shaped seedpods form from the flowers and contain thousands of seeds. The seeds can still sprout even after being in the soil for 50 years. Velvetleaf prefers full sun but will tolerate part shade in areas such as vegetable gardens, flower beds, along roads and waste areas.

Durations: Velvetleaf is an annual and is sometimes called 'Indian mallow' or 'butter print'.

Control: The seedlings and young plants of velvetleaf are easy to pull or hoe out. The taproot of a mature plant makes it difficult to pull out. Hoeing the plant off at the soil line will control it because it won't re-sprout from the stem. To thoroughly control the plant, make sure to remove all of the seedpods before they mature. A broadleaf herbicide will control velvetleaf but it will have to be applied several times over the growing season because the seeds will continue to sprout from spring to fall.

Cicada Killer Wasp

By Margaret Murphy, Master Gardener

Last summer, I had the good fortune to watch a cicada killer wasp drag a cicada down the trunk of our large maple tree and off into the grass. She was en route to her in ground nest where the paralyzed cicada would become food for her young. Not the greatest fate if you are a cicada but I couldn't help admiring the wasp's doggedness in carrying this cicada that was almost twice her size all the way back to her burrow.

The cicada killer is larger than your average wasp. It can reach about two inches in length. I suspect its large body size is enough to cause some people to go screaming from the yard when they lay eyes on it. But the cicada killer is non-aggressive. The male cannot sting and the female tends to sting only if handled. Cicada killers belong to a group of wasps that are solitary in nature. They live and work alone without the aid of a colony like their more social cousins. Social wasps, such as paper wasps, can be aggressive as they will vigorously protect their queen and defend the colony if threatened.

Each female cicada killer has her own burrow. She creates a quarter-sized tunnel in the ground that extends anywhere from 6 to 24 inches deep. The nest is usually in an area that has well-drained soil and sparse vegetation on the surface. The female will dig with her mouth and then kick or carry the loosened dirt to the surface. She carefully constructs a series of cells within the burrow. Each cell is designed to hold one or two cicadas. Once construction of the nest is complete, she is ready to start hunting.

The female cicada killer seeks out the annual cicada. Those loud buzzing insects we hear during the warm days of July and August. She will search the trunks and lower branches of trees. When she finds one, the wasp stings her prey, which paralyzes it. The female grips the cicada with her legs. The weight of the cicada can hinder her ability to fly so smaller females may take several short flights or drag the cicada back to the burrow. The immobilized cicada is then placed in one of the cells lining the burrow. After the cell is filled, the female places inside a single egg and seals it up. Two to three days later the egg hatches and the larva feeds on the paralyzed cicada or cicadas until only the outer skin remains. The larva will eventually form a cocoon and overwinter underground.

ppdl.purdue.edu

While the female is busy hunting and transporting food for the young, the male is busy defending his territory that can include several females. He will fly at anything that enters into his area. Last year, a female placed her nest near the small door of our garage. We don't often use that door but one day as I exited through it, I observed the male patrolling the area around the nest. He clearly did not appreciate my intrusion into his space. I found myself being buzzed by a very enthusiastic wasp. But knowing that he had no stinger, I took a moment to marvel at his tenacity and then went on my way.

In most cases, control of the cicada killer wasp is not necessary due to its non-aggressive nature. However, if a burrow is in a high traffic area removal may be needed. If you must treat, sprinkle an insecticide dust containing carbaryl or permethrin into the entrance of the nest. The dust will adhere to the female as she enters or exits the hole. Locate the opening to the nest during the day but treat the hole at night or before dawn. You can also try to encourage the wasp to abandon the nest by placing a tarp over the area for several days. Cultural practices that may help discourage future activity of cicada killer wasps in a particular spot include mulching or adding plants that will help shade the area.

Vegetables Not Producing Well?

The following discusses how high temperatures and drought affect vegetable production:

Tomatoes: Ideal temperatures for growing tomatoes are 75 to 80 degrees F. Temperatures over 100 degrees F can prevent fruit set, and temperatures in the 90's can also prevent fruit set if nights are warm (over 70 degrees F) or the humidity is high.

On ripening fruit exposed to strong sun, sunburn can occur, and temperatures over 85 degrees F decrease development of red color in the fruit. Heat also tends to increase blossom end rot because the fruit expands too rapidly for the plant to take up calcium quickly enough to distribute it to the expanding fruit. Uneven watering will also result in the same problem, as the plant needs moisture in order to take up and move calcium to the fruit.

Blossom-End-Rot ohioline.osu.edu

Squash: High temperatures (over 86 degrees F) accelerate flower closing (mid to late morning), so pollination must be accomplished by bees early in the morning. Squash and pumpkin flowers must be pollinated within a few hours of opening, or will fall off the plant.

Peppers: Drought stress early in the season decreases leaf area and fruit yield, especially during blossoming. The optimal temperature for growing bell peppers is 72 degrees F; hot peppers can withstand somewhat higher temperatures. Temperatures above 90 can stop fruit set altogether on bell peppers, especially under dry conditions, and even temperatures in the 80s can decrease yield by 50%.

Potatoes: Drought can cause tubers to crack, resulting in misshapen tubers at harvest.

Cucumbers: Heat and drought increase bitterness.

Green beans: Fruit set of beans will be reduced or stopped altogether at temperatures over 85 degrees F, with some variation in cultivars. Bush-type (as opposed to pole) beans have fairly shallow root systems, so gardeners need to be careful to keep their soil moist. Smaller-seeded cultivars germinate better in warm (over 80 degrees F) soils; larger-seeded cultivars in cooler (54 degree F) soils.

Sweet corn: Corn is one of the most heat-tolerant vegetables, but is still sensitive during silking. The primary concern with hot temperatures is to maintain water supply to the roots to ensure good "tip-fill" of the ears.

Lettuce: Many types of lettuce will not germinate when soil temperatures are over 80 to 85 degrees F, so late summer plantings for a fall crop must be grown from transplants germinated in a cooler place.

Broccoli & Cauliflower: Temperatures over 80 degrees F disrupt head development, leading to small scattered bunches of florets. Water stress can cause the heads to develop too quickly, with similar results.

Compiled by Rhoda Burrows, PhD
Horticulture Extension Specialist & Professor
West River Agricultural Center – SDSU

Upcoming Events

Master Gardener Meeting
Monday, August 13th
Potluck picnic at Cleone Thompson's home
Starts at 6:00 pm

State Update Meeting
"Seasons in the Garden," the 2012 Update, at the new McCrory Gardens Education Center on Sept. 14-16, 2012.
Keynote speakers: Sandy Uecker, discussing native grasses and forbs, & Carter Johnson, SDSU professor and director of EcoSun Prairie Farms.

International Master Gardener Conference
Sept 7-14, 2013– on a Holland Cruise off Alaska.

For more details about these events call 605-782-3290 or email minnehahamastergardeners@hotmail.com

Featured Perennial

By Jayne Wessels, Master Gardener

Rhus typhiana 'Bailtiger' or 'Tiger Eyes' sumac


Photo: Jayne Wessels

I've had my eye on this for several years but past it by because, like all sumac, they spread by rhizomes and I didn't want to deal with all the new plants that would emerge elsewhere in the garden. I had a large container that was calling for a spectacular plant and decided this was the time to add this gorgeous specimen to my collection. They are hearty from zone 4 to 8 so I will winter it over on our porch, which is unheated but rarely freezes. Growing to 6' high and as wide, I decided to train it into a standard and by being in a container I can control the shape and size with pruning. It likes full sun to keep its golden color; however, with a new planting and the hot dry weather we've been having I'm keeping it in partial shade this first year.

Like other stag horn sumac, their fall foliage is the beautiful burgundy red, which adds color to your yard when our other plants have gone or are going dormant. They are drought tolerant once established and need only a little slow release fertilizer in the spring. Propagation is easy by removing a new plant by lifting the rhizome and roots then plant where you want it or give it to a friend. If you decide to plant it in the ground, be sure to contain the rhizome to help keep it from spreading into a colony. These are great plants for steep banks that are hard to maintain as they help with soil erosion. There are approximately 250 species of sumac growing in subtropical and temperate regions throughout the world, especially in Africa and North America.

Local Foods Corner

By: Chris Zdorovtsov, Community Development Field Specialist, SDSU Extension

Who's Who: Local Food Business Regulatory Contacts

When starting a local food business it can become confusing knowing where to go for information on state rules and regulations. Depending on your food product, you may have to contact multiple agencies. Here is an overview:

Department of Revenue- (605) 773-3311
- Sales tax licenses
- Internet sales
- Use tax
- Farm winery licenses and the excise tax on alcohol

Department of Health- (605) 773-3361
- Licensed Kitchens
- Food establishment inspections
- On-sales of food products: Campgrounds, bed and breakfast, specialty resort, restaurant
- Temporary Food Stands

Department of Public Safety- Weights & Measures (605) 773-3697
- Scale certification
- Labeling and packaging


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Secretary of State
(605) 773-3537
- Business entity documents
- Brand name protection via trademarks (state level)

Contact U.S. Patent and Trademark Office for federal level (800) 786- 9199

Department of Labor (605) 626-2452
- Employee information

Animal Industry Board (605) 773-3321
- Slaughter, processing and sale of meat

Department of Agriculture, Division of Regulatory Services
(605) 773-3724
- Nursery
- Seed Selling
- Bee Keeping
- Pesticide application
- Dairy & products
- Eggs

Department of Game, Fish and Parks (605) 223-7660
- Game birds
- Fish hatchery