



Written by Minnehaha County Master Gardeners



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Month Events

JUN | Stop by the Master Gardener volunteer created gardens in Sioux Falls!

- Get a feel for traditional garden plants outside the Old Courthouse Museum
- See what pollinators love in the “Garden of Dreams” at the west end of the Arc of Dreams sculpture

JUN | Be sure to visit the Minnehaha County Master Gardener [Facebook page](#) and [Website](#) for gardening tips and resources.

Contact: www.helplinecenter.org or contact the Helpline Center at 211

In the Herb Garden

By Priscilla Jurkovich, Master Gardener

The herb section will highlight an herb that can be grown in the South Dakota region.

Aloe vera (*Aloe barbadensis*) is a perennial herb in some zones, but usually a houseplant or potted plant for zone 4 in South Dakota. Aloe Vera is a succulent, osmotic herb in the Liliaceae family. Aloe vera may grow between 1-5 feet in height. The fleshy, succulent blade comes from a rosette center. The leaves are pale green and have prickles along the edges. Aloe vera flowers are orange or red and grouped on top of tall, erect stems and hang down like small cigars. It takes 2-3 years to flower. Aloe vera likes sandy loam that is well drained and requires infrequent deep watering so the roots don't get soggy. They prefer indirect sun but will adapt to full sun with gradual introduction. It is easily propagated by young, outer suckers.

Aloe vera has many health benefits because of its vitamins, minerals, antibacterial, and anti-inflammatory properties. Aloe vera may improve digestion, strengthen the immune system, ease constipation and cold symptoms, soothe a burn, and at the same time use its anti-inflammatory properties to ease swelling and pain. Applying the aloe vera gel topically can give your skin a more radiant look or place the gel on arthritic joints for pain. Blending 2 TBSP of the aloe vera gel in 3 cups of filtered water can hydrate your cells with its vitamins and minerals!



Companion Gardening: Using plants to benefit plants

By Pam Conklin, Master Gardener

*The anecdotes described in this section provide garden tips for preventative solutions through companion growing that have been tested by time and keen observation, but not necessarily by science. **Three Sisters: the ultimate triumph in companion planting.***



Three Sisters is the planting together of corn, beans, and squash. This grouping benefits not only the plants and soil, but the combination is also said to provide a nutritionally balanced meal. Corn provides a tall support for pole beans to climb. The beans fix nitrogen that feeds the corn and squash. The squash leaves cover the soil, helping to retain moisture, block out weeds, and protect against critters. Their flowers attract bees and other pollinators to the garden.

Once the area is prepared, (traditionally, this consists of several mounds a few inches high and flattened at the top, but [configure to fit](#) your space), the planting is completed in a series of 3 stages. Staging the planting helps assure that all 3 plants mature at relatively the same time.

Corn, *Zea mays*, is the first to be seeded. Plant your favorite variety after the last frost. May 9 is the average last frost date in Sioux Falls. It is *not* necessary to soak kernels prior to planting. I usually add a thin layer of clean straw after watering in the seed. Corn is packed full of vitamins A, B3, B5, C, beta-carotene, folate, and magnesium, zinc, and fiber.¹ Sweetcorn retains most of its nutrition even when canned or frozen.

Once the corn has reached about 2 inches, usually within 2-3 weeks, it's time to direct seed the beans. I mentioned pole beans, but Lima and runner beans are also popular. I am growing runner beans this year, but also sowing bush beans around the perimeter. Depending on how many beans you want, plant 1 seed to every 1 or 3 corn stalks. The beans will sprout quickly and start climbing up the corn stalks. Beans have plenty of fiber, B3, folate, potassium, protein and so much more.¹ They are easy to dry for later use (freeze green beans), and retain nutrition and flavor.

About 1 week after the beans have sprouted and begun to attach to corn stalks, the third sister is ready to join the group. Direct sow 2 to 3 squash seeds, or transplant 1 or 2 plants per hill. Any variety of summer or winter squash, or combination will work. Squash is rich in Carotenoids, fiber, protein, vitamins C and B6, magnesium and potassium.²

Three sisters will be ready for harvest late summer/early fall. If you grow more than you can handle, please remember to share with family, friends, and neighbors, or donate excess to Feeding South Dakota, the Banquet, or other similar organizations. Enjoy!

Sources:

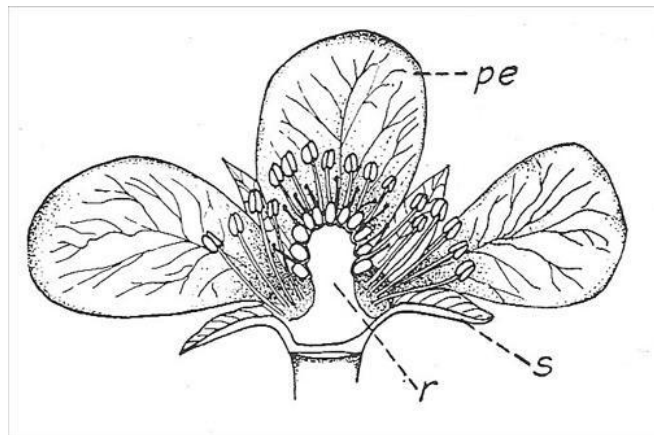
1. [The Top 100 Immunity Boosters](#), by Charlotte Haigh
2. [Harvard - The Nutrition Source](#)



Did you know: Strawberries

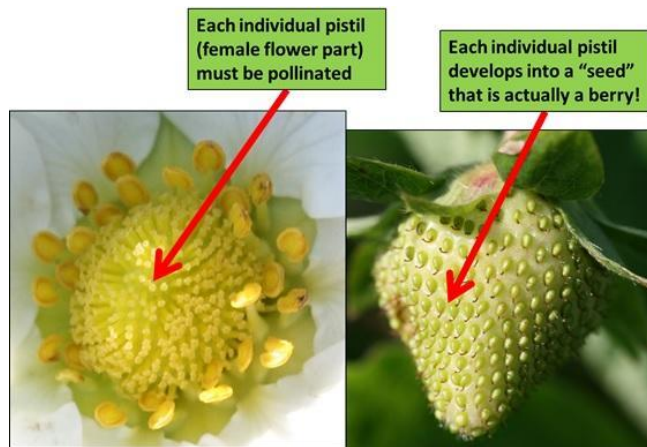
By Debi Ulrey-Crosby, Master Gardener

Did you know... that strawberries have both male and female parts on each flower blossom, and that the small yellow 'dots' on a strawberry are actually individual seeds? The strawberry is an aggregate fruit. An aggregate fruit is a fruit that develops from a single flower, but the flower has more than one ovary and the ovaries join together as the fruit grows. Each fleshy lobe is an individual fruit that makes up the sweet, yummy fruit that we all look forward to in the summer.



The flower of a strawberry: "r" points to the receptacle, which will swell to become the edible part. The small ovoid structures on the surface of the receptacle are the carpels that contain one embryonic seed each and will become the hard-walled true fruits as the seeds mature.

Illustration from the classic botany text by Hill, et al.



Berry development from each pistil being pollinated into individual achenes. Photo: Jeremy Slone
<https://entomology.ces.ncsu.edu/small-fruit-insect-biology-management/strawberry-pollination-basics/>

Strawberries are self-pollinating; however, each pistil must receive pollination, and studies have shown that self-pollination (shown in red below) and wind-blown pollen (shown in blue below) are not enough to guarantee a fully pollinated fruit. Strawberries also need insects (shown in green below) to help pollinate the fruit. Those can be various bees, flies, wasps, etc.



Different modes of pollination on each flower. Photo: Jeremy Slone

<https://entomology.ces.ncsu.edu/small-fruit-insect-biology-management/strawberry-pollination-basics/>

Poor pollination can cause misshapen fruit, so to help your strawberries develop into the lush, juicy fruit we all love, plant flowers that will attract more beneficial pollinators. A few easy flowers to grow

near your strawberries are marigolds, zinnias, and nasturtiums. Honeybees are not the only bees to be on the look-out for in your garden. You also want to have native bees such as mason bees. The type of bees is a topic for another newsletter, but bees of all types are great for any garden.



Strawberry deformities caused by poor pollination and cold injury. Photo: Gordon Johnson, University of Delaware

Growing strawberries in South Dakota can be a delicious reward for you, your family, and friends. With a little planning, you'll have lots of fruit to enjoy for the summer. For more detailed information on growing strawberries in South Dakota, please read the in-depth article by Dr. Rhoda Burrows, Professor and SDSU Extension Horticulture Specialist.

Resources:

1. Botany Professor
Frederick B. Essig, Associate Professor Emeritus, Department of Integrative Biology, University of South Florida
<http://botanyprofessor.blogspot.com/>
2. Vegetable Growers New – Misshapen Strawberries Caused by Poor Pollination
Gordon Johnson, Extension Vegetable & Fruit Specialist; gcjohn@udel.edu
3. North Carolina State University Extension
<https://entomology.ces.ncsu.edu/small-fruit-insect-biology-management/strawberry-pollination-basics/>
4. Agriculture, Ecosystems and Environment. Volume 258, 15 April 2018, Pages 197-204.
Insect pollination as a key factor for strawberry physiology and marketable fruit quality.
[Alexander Wietzke^{ab1}](#) [Catrin Westphal^b](#) [Pierre Gras^{bc}](#) [Manuel Kraft^a](#) [Katharina Pfohl^d](#) [Petr Karlovsky^d](#) [Elke Pawelzik^a](#) [Teja Tschardt^b](#) [Inga Smit^a](#)
5. Strawberries in South Dakota – SDSU Extension <https://extension.sdstate.edu/strawberries-south-dakota>

Crabgrass

by Pam Conklin, Master Gardener



June welcomes warmer temperatures, early summer blossoms, and crabgrass. If crabgrass is making you crabby, here's what to do.

The first step is to identify crabgrass. It emerges in late May to early June. The young plants emerge with broad, light green blades that grow in a more prostrate-habit as they mature. You'll most often find it growing in sunny areas on the edge, or in bare spots, of your lawn. [The Garden Counselor](#) has a photo gallery that shows each stage of growth to help with identification.

The second step to managing crabgrass is to know a few more facts. This is an annual plant. Its seeds blow in from neighboring yards, or birds and other residential wildlife carry the seeds and deposit them on lawns. The seeds can be maintained using corn gluten meal, an organic pre-emergent herbicide. (See Natural Fertilizers in the May issue of From the Ground Up.) Crabgrass has a shallow root system throughout all stages of growth making easy work of pulling plants by hand, or with a weeding tool. Set your lawn mower blade higher, allowing taller turfgrass creates shade that inhibits crabgrass growth. By late summer, the plant will develop long, thin stalks bearing new seed-heads with 5 branches, called fingers, thus the botanical name, *Digitaria sanguinalis*. Apply more corn meal gluten and pull the visible plants by hand.

The last thing to do to help conquer a crabgrass invasion is to plan ahead. Buy some sun tolerant grass mix and overseed your lawn and any bare spots early next spring. Once you overseed, make sure the new grass is at least 1.5 inches tall before applying corn gluten meal to halt weed seeds from growing.



Gardening is Happiness

By Anelis Coscioni, Master Gardener

Each day looks a little bit more like a normal day.

While the things we do might go back to what we did before, the way we feel might have changed. Some of us started with anxiety and depression. And now we are looking for tools on how to feel better, how to celebrate the beautiful things in life.

Do you know that flowers generate happiness? The article “Health and Well-Being Benefits of Plants” (Texas A&M Agrilife Extension) describes that “having flowers around the home and office greatly improves people’s moods and reduces the likelihood of stress-related depression. Flowers and ornamental plants increase levels of positive energy and help people feel secure and relaxed. Keeping flowers around the home and in the workplace greatly reduces a person’s stress levels. Natural aesthetic beauty is soothing to people, and keeping ornamental flowers around the home environment is an excellent way to lower levels of stress and anxiety. People who keep flowers in their home feel happier, less stressed, and more relaxed. As a result of the positive energy they derive from the environment, the chances of suffering from stress-related depression are decreased, as well. Overall, adding flowers to your home, or work environment reduces your perceived stress levels and makes you feel more relaxed, secure, and happy. Flowers can help you achieve a more optimistic outlook on your life, bringing you both pleasing visual stimulation and helping you to increase your perceived happiness.”

Do I need to write more? Let’s plant! Let’s enjoy every little blossom, enjoy every single blade of grass with a water droplet, enjoy every sun ray warming our face and our hearts... and be thankful! We are gardeners.

Your Questions Answered

Have a question or comment for Master Gardeners? Email us at mcmgnewsletter@gmail.com, or info@minnehahamastergardeners.org, or call 605-782-3290 and leave us a message.

Question: What is meant by plant tags that read part sun/shade?

Answer: Understanding sunlight requirements found on plant tags:

Full sun is 6+ hours of direct sunlight

Part sun is 4 - 6 hours of direct sunlight

Part shade is 4 - 6 hours of direct sunlight

Full shade is less than 4 hours of direct sunlight

Dappled Sun is like part sun/shade, but really doesn't have any direct sunlight

To all contributing Master Gardeners, for your time and knowledge, thank you!