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To *p*lant a *G*arden *IS* to *B*elieve in *T*omorrow - AUDREY HEPBURN

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April Events:

SAT 18 | Gardening with the Masters 2020 - this event has been cancelled and refunds will be issued.

WED 22 | Earth Day

FRI 24 & SAT 25 | Planting Day - Volunteer to help the City of Sioux Falls replenish tree populations and sign up to plant trees in city parks. | Contact helplinecenter.org

MON 30 | Horticulture Plant Sale | Southeast Tech Horticulture Program Spring plant sale | 2000 N Career Ave, Sioux Falls, SD, in the Ed Wood Greenhouse. | Contact southeasttech.edu

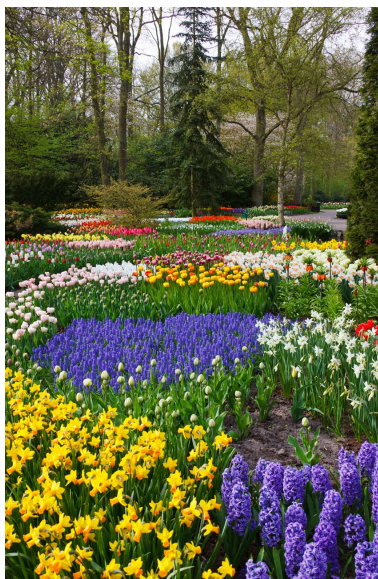
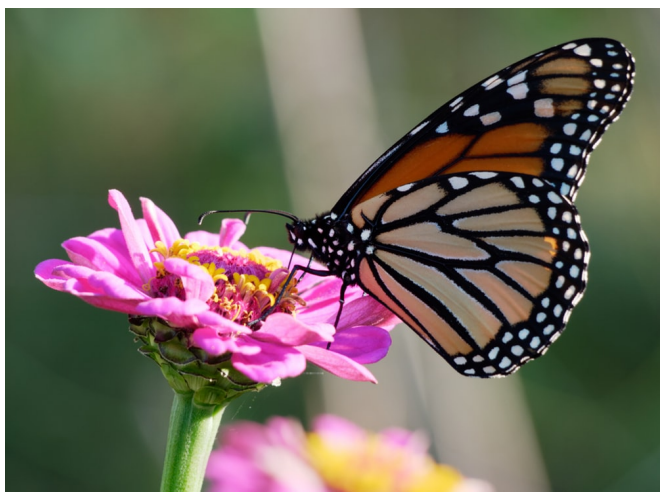
Announcements

Love Your Garden Contest Winners!

\$10.00 Plant Sale vouchers go to Tamme F. and Glend H.

Free pass to the Minnehaha County Master Gardeners Garden Tours go to Brenda R. and Mary L.

Congratulations! Your prizes will be emailed to you before the events. Be looking for your entry to be published in future issues of From The Ground Up.



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.

Stevia (*Stevia rebaudiana*) is an aromatic herb in the Asteraceae (Aster) family characteristic of a disc flower (e.g. daisy, sunflower). It is a delicate annual plant in South Dakota's zone 4 (Native to Paraguay and Brazil and perennial in zones 10-12). Stevia grown in containers, or well-drained soil will grow to 24 inches tall. The leaves are slender, branched stems and love a warm environment with direct sunlight. The small, tubular flowers have five white petals and are borne in terminal clusters. If you want the sweet taste of the leaves, remove the flowers as soon as they start to bud. Germination from seed is difficult so keep the soil moist and warm and plant 8 weeks before the last frost.

This culinary herb's dried leaf is used for sweetening drinks and is said to be 250 times sweeter than sugar! The body does not metabolize the glycosides in stevia, so it contains zero calories. Stevia's taste has a slower onset and longer duration than that of sugar, and some of its extracts may have a bitter or licorice-like aftertaste at high concentrations. All parts of the plant taste sweet, but the sweet glycosides are concentrated in its dark green serrated leaves. Stevia may help control blood sugar, cholesterol, and blood pressure. Spoiler alert – too much sweetener can cause bloating and diarrhea.



Donating Fresh Produce

by Deb Howard, Master Gardener

Whether you're new to vegetable gardening, a seasoned gardening veteran, or just a homeowner with a couple prolific fruit trees, at some point you'll likely find yourself with an overabundance of fresh produce. Faced with dozens of quickly ripening zucchini or tomatoes, many of us get creative with new ways to eat or preserve the bounty. If time and energy are lacking, we may sheepishly knock on neighbor's doors and ask if they're sure they wouldn't like just one more bag of apples. And sadly, the truth is that because our lives are hectic, sometimes perfectly good, ripe produce just goes to waste.

At the same time, food insecurity continues to be a concern for large numbers of people in our community. According to Feeding SD, one out of every nine individuals in South Dakota is food insecure, and one out of every six children is at risk of going hungry. When the grocery budget is limited, fresh fruits and vegetables aren't as economical a choice as canned and convenience foods. A visit to a food pantry often yields more of that same shelf-stable, economical, highly processed food, much of it lacking in nutritional value. It's probably not surprising, therefore, that fresh produce is one of the most requested items in many food pantries. Yes -- that same fresh produce that you may be struggling to find a use for each summer.

There are several national and local initiatives that aim to get home gardeners not only donating their overflow produce, but also donating produce they've grown specifically for local food banks. The Plant a Row for the Hungry initiative asks you to dedicate a section of your garden to a local food shelf: <https://gardencomm.org/PAR>. The Ample Harvest organization has an online tool to help you search for local churches and food banks that would welcome your donations of fresh produce: <https://ampleharvest.org/find-pantry/>.

If you do decide to donate some of your garden bounty this summer, it's recommended that you check with the food bank before making a delivery. Find out if there are hours or days that are best for delivering fresh produce and if they have a need for the type of produce you have to donate (another gardener may have just dropped off several bushels of the same). In addition, consider the produce you've got to donate -- if it's too ripe or beat up for your family to eat, it shouldn't be donated. Throw it in the compost pile or feed it to the birds instead. And finally, if you use any pesticide on your garden, carefully read the pesticide application label and make sure you adhere to the recommended window between last application and harvest.

Most gardeners I know love to share, so this summer please consider sharing your harvest with those who might otherwise go without fresh and nutritious produce!

Managing Weeds

By Dennis and Priscilla Jurkovich, Master Gardeners

Weeds. How can we manage those weeds? Going back to the basics of master gardener 101, chemical herbicides can be a solution, but not the only solution. Mechanical control, crop rotation, soil amendments, minimal soil tillage and mulches are a few ways to control the weeds. As a responsible master gardener, we look at herbicide labels as to specific weeds targeted. Some of the herbicides are selective for specific plants and some are nonselective herbicides that will kill any type of plant. Some herbicides are systemic where they move from the point of initial absorption to other parts of the plant, such as when they are sprayed on leaves they move to the roots. The non-systemic herbicides affect only the part of the plant that they touch. For example, glyphosate (e.g. Roundup, Touchdown, Accord, Rodeo, etc.) must enter through green tissue. If it is applied to bare soil, it has no effect on germinating seeds and cannot be picked up by the roots in most soils. Glyphosate is a systemic, nonselective, foliar-applied herbicide. (Source: Master Gardener Handbook Weed Management)

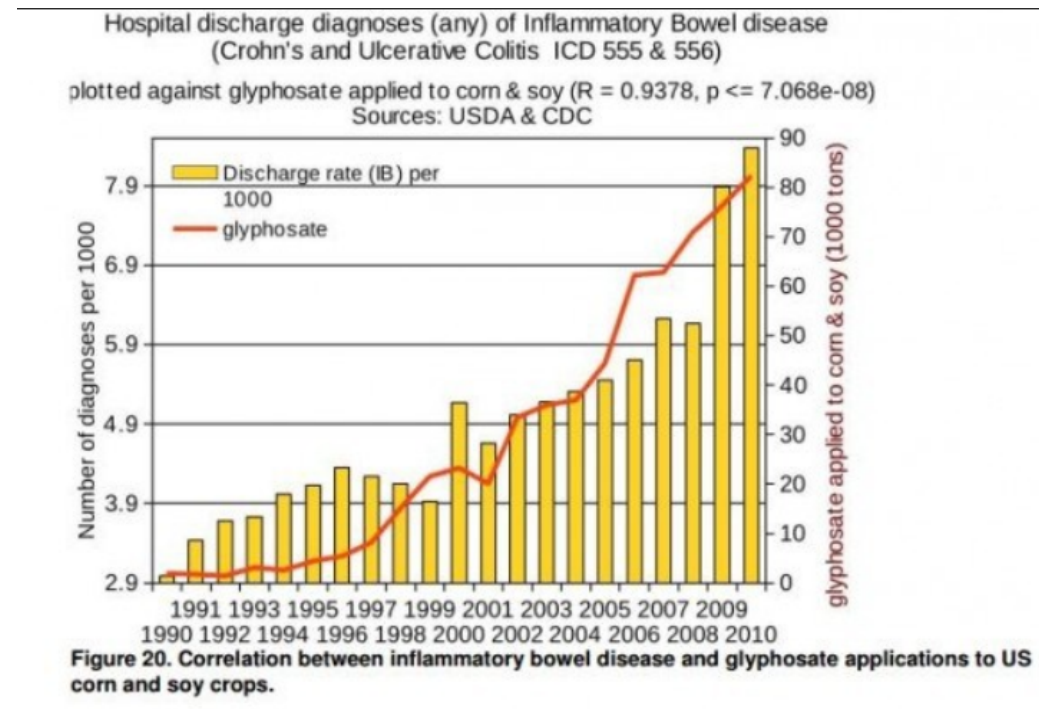
Glyphosate was classified as a probable carcinogen by the World Health Organization (WHO) in 2015. Glyphosate has been linked to kidney disease, liver damage, birth defects, cancers, Parkinson's disease, non-Hodgkin's lymphoma and more. Monsanto has the patent on glyphosate as a broad spectrum antibiotic. Most minerals in the soil are only available to plants after the mineral has passed through the gut of a bacteria or other microbe. As an antibiotic, glyphosate kills the bacteria and other organisms in the soil so the plants may not be getting the minerals needed. If we eat plants that have been sprayed with glyphosate, or grown in soils containing glyphosate, we are eating glyphosate and killing beneficial bacteria in our gut.

Glyphosate was originally created in the 1960s to clean out factory pipes. It is a chelator, which means it binds to minerals. This works well for cleaning minerals out of factory pipes, but it also means that glyphosate binds to minerals in the soil, so they are not available to plants. Medical researchers claim that many of our modern health problems are related to lack of minerals in our food. Currently, 85% of our crops of corn, soy, sugar beets, cotton, canola, and alfalfa are genetically engineered (GMO) and sprayed with glyphosate products. GMO crops do not die when sprayed with glyphosate.

Correlation of glyphosate usage and disease increase has been graphed for diabetes, obesity, Parkinson's Disease, Crohn's, autism, infertility, thyroid disease, autoimmune diseases to name a few. The graph below shows an increase in inflammatory bowel disease paralleling the increase of glyphosate usage. Glyphosate is in our water, food, and soil. Glyphosate has also been found in breast milk and cord blood. Genetically engineered organisms can damage DNA and RNA in humans as well as pollinators, like bees and Monarch butterflies. Read more detail in the references provided. The best way to avoid glyphosate is to not eat it in food. If we eat animals that have been given GMO products as feed, we will be eating glyphosate. To avoid glyphosate in our body eat

organic, grass-fed meats and non-GMO certified products. Any non-organic processed food containing corn, soy, sugar or canola likely contain glyphosate.

Chlorella and cilantro are two foods that help our body to flush out glyphosate.

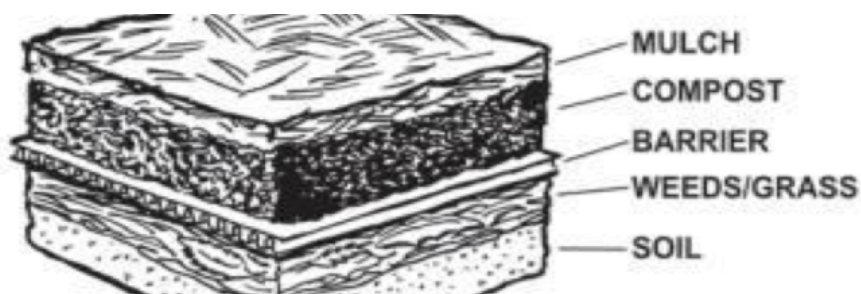


Sources: <https://protectnaturenow.com/>; <https://responsibletechnology.org/>; https://www.epa.gov/sites/production/files/2016-09/documents/glyphosate_issue_paper_evaluation_of_carcinogenic_potential.pdf ; <http://irt-glyphosatepage.flywheelsites.com/>

Lasagna Gardening

No-till/no-dig Garden Startup

by Pam Conklin, Master Gardener



This Lasagna Garden technique is a fast and easy way to start a new garden, so you can spend more time growing the vegetables and flowers that you love!

Gather your materials and construct your garden:

1. First, spread a thick layer of cardboard or newspapers to cover the area. Be sure to overlap pieces, so no ground is showing. These materials will smother grass and weeds, and will break down by the end of the growing season to become a part of the nutrient-rich soil that you are creating. You may want to water this layer down.
2. Organic matter is the second layer. This consists of materials, such as leaves, untreated grass clippings, and straw. You can even throw in coffee grounds and vegetable scraps. Don't be afraid to pile it on, building at least 6 - 8 inches deep. Most organic material will settle quickly.
3. Compost is organic material that has already been converted into a rich, healthy soil consistency. Compost may be manure from cow, pig, or chicken. Manure must be aged for at least 8 months to avoid possible bacterial contamination. Compost may also have been built from plant matter, like leaves, non-treated grass clippings, straw, hay, etc. Many garden centers sell commercial compost, or you can make your own. Add at least 6 - 8 inches of compost. Fresh manure can burn plants, so avoid it.
4. Now you are ready to plant or seed. Follow package and label instructions for spacing and planting depth. Keep seed evenly moist until established, then water as needed.
5. Create a barrier between plant and soil with a one inch layer of mulch.

Tips:

1. The best time to prepare a Lasagna garden is in the Fall to allow manure to age and give organic material more time to breakdown. Cover the new bed with plastic or an extra layer of straw to keep weeds at bay. If you build your bed in the spring, or early summer, just use less organic material, or use material that break down slower, like whole leaves or straw.
 2. The Lasagna garden method works great to create ready to plant beds on any ground, or serves as a quick way to fill raised beds.
 3. Walking on garden beds causes compaction, so keep bed width at a size that you can comfortably reach the middle of the bed without stepping into it.
 4. A top layer of mulch, after planting, helps prevent soil erosion, retains moisture, and keeps soil temperatures even, as well as, acts as a barrier between soil borne pathogens and garden plants.
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Basic Rules and Wisdoms of Garden Creation

By Nancy Torkleson, Master Gardener



There are no hard and fast rules. Just guidelines.

Guideline 1: The garden is not for them, it's for you. Creating a fantastic garden is a journey of little actions that add up to something beautiful. Try to do worthwhile things and just not compete with the crowd. *You decide* what to plant and why.

Guideline 2: Sustainability should be the goal.

The Big 3 -

1. Limit the turf grass.
2. Limit the use of herbicides and pesticides.
3. Plant a mix of exotic and native plants.

Guideline 3: Focus on the long term and not immediate results. How long does the plant you select live?

Guideline 4: Pick plants that speak to you. Drifts of 1 may be what you want.

Guideline 5: Don't get the idea gardening is hard. It is not how much you grow, but how well you grow what you select. Buying plants is like adopting a pet - learn what they need and what efforts, and responsibility you need to employ in the care of them.

Guideline 6: Create a relationship with your plants. Study the space (camp out there) so to speak. Understand the risks the plants will face. Design innovation comes from experimentation and experience. Beauty vs Showy - plants are going to do what they do. You have to know your plant and what it needs. Repeat colors and textures. Even if you choose different plants. The overall design needs a sense of visual cohesion. **Patterns** make sense. Layers are important.

Guideline 7: All plants will do something unique. Buy plants according to color, texture, size, and type. Generally, the bolder the color the less you need.

Guideline 8: Enhance subtle spaces. Pay attention to light, shade, shadows, and lines. Imagine what will be enhanced in late afternoon sun vs morning sun.

Guideline 9: Plant shopping 101. Flip your thinking! Don't buy just because it looks pretty. Work out the **where**, **how**, and **why** first. The answer to those questions will tell you what to buy. Let's all agree to *not* refer to plants as "plant materials." They are living things, after all. A plant catalog is not meant to be read cover to cover. It is intended to be a "mental biscuit," best enjoyed one nibble at a time.

Guideline 10: Don't grieve the losses. No plant is perfect. Things happen, plants die. It's the "Circle of Life." Be patient, then move on. Why did this happen? Both successes and losses happen before everything is in balance. It is a reason to go plant shopping.

Guideline 11: Forget your zone! Know your Micro-climate. Sioux Falls is zone 4 in the warm and cold zone index. South and West facing walls may be a zone warmer. Containerized plants must be 2 zones more cold tolerant. Create a mix of plants that relate to each other. It is fun to experiment but never lose admiration for the tried and true, unless you have tons of money to buy new plants. Use ordinary plants in unique ways.

Your Questions Answered

Have a question or comment for Master Gardeners? Email us at mcmgnewsletter@gmail.com or post questions to our FaceBook page, [Minnehaha Master Gardeners](#).

1. My seeds sprout, but after a couple of days, they die. What's causing this and is there anything I can do?
 - a. In seedlings, this is called "damping off." The most likely cause is a fungus that thrives in cool, wet conditions. Ways to prevent this is to always use clean, or sterile pots, trays, and soil. Never reuse soil for seed starting. Make sure there is good drainage, and don't overwater. Rather, use a misting bottle and mist several times a day, as needed. Don't let your soil temperatures fall below 50 degrees Fahrenheit. You may also try sprinkling the surface of your newly seeded soil with ground cinnamon. Although this is anecdotal, cinnamon contains antifungal properties that may discourage fungi development. Be sure to provide about 16 hours of a good light source for your seedlings. Keep the seedlings 4 - 6 inches from the light source.

