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The Minnehaha Master Gardeners are volunteers trained through the South Dakota State University Extension Master Gardener Program.

The mission of MMG is to enhance and supplement community educational efforts of the SDSU Extension Master Gardener Program and to provide research-based education and information on horticulture and environmental stewardship.

For more information on becoming a master gardener, visit SDSU Extension Master Gardener volunteer program

Be sure to stay in touch with all of Minnehaha Master Gardeners' news: **follow us on FaceBook, Instagram, visit our website,** or **email us.**

What's inside

Karla Smith, Master Gardener

On Saturday, March 22, approximately 250 gardening enthusiasts gathered at the HUB on the campus of Southeast Technical College for the 2025 Gardening with the Masters Spring Event. This full-day program provided attendees with an enriching experience filled with gardening education, inspiration, and enjoyable activities. The upgraded venue allowed participants to engage with speakers in a state-of-the-art auditorium, visit informational tables, attend breakout sessions, and enjoy lunch in a designated dining area.

Keynote speaker Don Kinzler, an NDSU Extension Horticulture Agent and a renowned speaker, columnist, and podcaster, shared 50 valuable tips for achieving success in gardening. He also presented a session on edible landscapes. Other main sessions focused on managing garden pests and the fundamentals of composting.

Between sessions, attendees continued their learning through six breakout sessions covering topics such as propagating geraniums, vertical gardening, tomato cages, the Minnehaha Master Gardeners' teaching gardens, blueprinting with plants, and new plant varieties from McCrory Gardens. Additionally, various informational tables were available, representing organizations such as the Minnehaha Master Gardeners, McCrory Gardens, South Dakota Federated Garden Clubs, South Dakota SARE (Sustainable Agriculture & Research Education), as well as the horticulture departments from SDSU and Southeast Technical College.

The Gardening with the Masters Spring Event, which occurs annually in March or April, serves as a significant educational gathering facilitated by the Minnehaha Master Gardeners.

Don’t Start Garden Clean Up Too Soon

by Carla Goetsch, Master Gardener

The weather is nice, and the dead leaves and stems may seem unattractive, so you may be itching to start your yard and garden clean up. But you might want to wait until early May.

> “Bees, butterflies, and moths pollinate our plants. Ladybugs, fireflies, and wasps’ prey on common garden pests such as grubs and aphids. These beneficial insects need our help to protect their winter refuge until the weather is warm enough for them to wake up from their winter nap.”

By starting clean up too soon, you may be throwing these valuable insects into the trash. Even with warm days in April, the nighttime temperatures are too cold and may kill the insects when their winter home was destroyed.

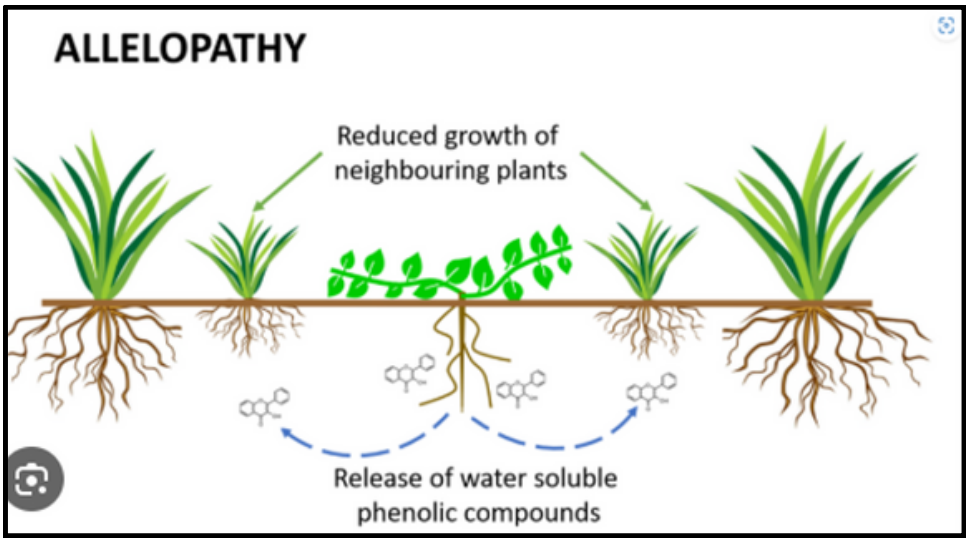
It’s difficult to pinpoint the exact day when it is safe to remove debris, since every spring is different, as well as microclimates even throughout Minnehaha County.

Ideally, wait until your grass is long enough to mow or you feel comfortable planting tomatoes. It may take an attitude adjustment after knowing the benefits to these insects to wait until May or even just to leave the leaves alone completely. Thoughts to remember are that leaves are free mulch! Most of the time as new plants grow, the leaves will be concealed.

You may feel that neighbors are judging you for your messy lawn, so you want to adopt a “clean in the front, messy in the back yard” approach. Or put up a sign indicating it is a pollinator garden. The insects are worth the effort.

Allelopathic Plants

by Kat Murphy, Master Gardener



A great name for plants that release chemicals which affect other plants around them, sometimes hindering their growth. The word allelopathy comes from the Greek words Alilon (if each other) and Pathos (to suffer).

Black Walnut is probably the most well-known culprit of being a allelopathic species. These trees produce a compound called juglone in their leaves, stems and fruits that can inhibit growth of even kill their neighbors.

Many common garden plants that you may not suspect as culprits are actually allelopathic, such as the **Sunflower** (Helianthus spp.) and the **Goldenrod** (Solidago spp.)

There are invasive species which have allelopathic properties that allow them to out-compete native plants. These include **garlic mustard** (Alliaria petiolate), **Tree of Heaven** (Ailanthus altissima) and **purple loosestrife (**Lythrum sallicaria). With careful planning, gardeners can manage the “competitive” nature of allelopathic plants.

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Allelopathic Plants continued from page 4

Not all plants are sensitive to sunflower allelochemicals, but the most commonly affected are potatoes, Pole beans, and some grasses. Beans, squash and corn are less likely to be negatively affected by sunflowers. Cucumbers and squash do well when planted near sunflowers.

Try planting sunflowers in a designated bed or at the edge of your garden away from sensitive crops.Try to avoid planting sensitive crops in the same soil where sunflowers grew the previous year. Cover the soil around the sunflowers with mulch to help manage the spread of their harmful chemicals. Remove sunflower debris instead of letting it decompose in place.

Native to most of North America, **Canadian goldenrod** (Solidago canadensis L.) was introduced as an ornamental plant, then spread and spread. Part of its success was due to a broad climate tolerance, propagation via underground rhizomes and seeds that mature in large numbers.

Part of its success is due to its allelolpathic nature. Studies from as far back as 1980 said that goldenrod is allelopathic. However, subsequent studies and research have concluded that goldenrod have less allelopathic effects, but are more likely to out-compete other plants through vigorous growth practices.

Monarch butterflies and skipper butterflies love goldenrod, as do honeybees. While these plants do provide much-needed sustenance for our smaller friends, be careful where you plant it. It spreads rapidly, which may require aggressive management to reduce its invasion of the rest of your garden.

Penn State Extension
Eastern Illinois University
Ohio State University
Vermont University Extension Master Gardener

MicroGreens

by Kat Murphy, Master Gardener

It is difficult to look outside and not go outside...whether it's too cold, too wet, or too windy. The bug to get out there and work in the yard/garden is just a part of us.

Try to give your inner gardener a delightful chore that will result in both satisfaction and tasty treats. Here is a step-by-step guide for growing microgreens at home.

Microgreens are nutrient-dense tiny greens that you can grow in limited space, in a relatively short time, even on a windowsill or in your kitchen on the island.

"Given their high nutritional value and the variety of species you can grow, microgreens can provide you with nutrient-dense greens and the de-stressing experience of working in your home garden." (Penn State Extension).

Here are a few things (which you probably already have) that you will need to start a microgreens garden.

- Seeds
- Drinking water
- Growing medium mat to help prevent drips
- Growing containers or trays
- Small kitchen scale or measuring cups
- Spray bottle and a pitcher
- Sharp knife or a pair of kitchen scissors
- Spray bottle

Some seeds will sprout better if you pre-soak them. I have found that bean sprouts (and mustard) work well if placed on a soaking wet paper towel, wrapped then put in the fridge overnight (8-12 hours). Larger seeds (such as peas, radishes), also benefit from being soaked overnight to help them sprout. You can use a small plastic cup or any small container. Simply cover with water for the night. Next day they are ready to plant.

What type of soil is best for microgreens? Penn State Extension recommends: "A key element necessary to produce microgreens is the growing medium. The most popular media used are peat-based mixes, coconut coir, and mats constituted of natural (cotton, kenaf, hemp) or synthetic fibers (rockwool). The growing medium is important because the capacity to hold soil moisture and the frequency with which water should be applied depends on its properties and many other aspects, such as the availability of nutrients and the quality of the microgreens. The suggestion is to use what is readily available and relatively non-expensive, ensuring that it is environmentally sustainable, clean, and safe."

Watering your trays from the bottom allows for moisture to help the seeds stick to the surface and keep them moist.

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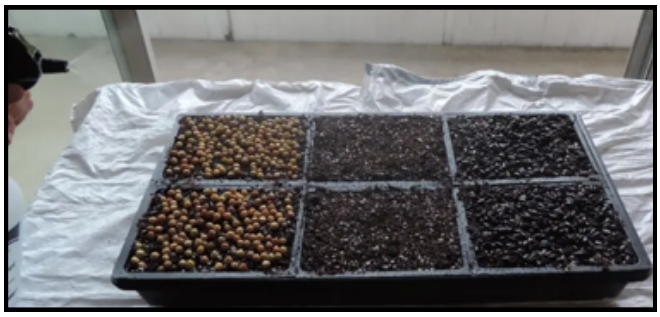
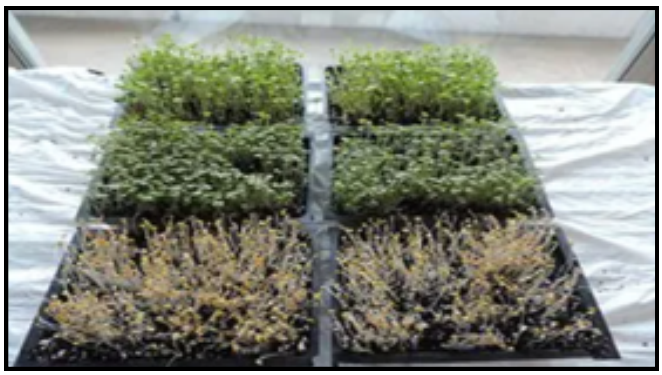
MicroGreens Continued from page 6

1 No need to plant the seeds deeply, simply scatter them across the surface and spray to keep them moist.



2 After planting, apply water using a spray bottle to keep the seed moist. Keep the seeds in the dark for a few days to help the germination process and to retain moisture.

3 Keep spraying once a day, and after a few days in the dark, your seeds should be ready to feel the sun.



4 (Brassica exposed to sunlight 4 days after seeding) Harvest anytime you wish by simply cutting with kitchen scissors.

Lots of vegetables are great for growing as microgreens: Radishes (7 days to harvest), Coriander (14 days to harvest), Broccoli, which has a spicy flavor as sprouts. I find them good in salads and omelettes. Spinach (10 days to harvest), Arugula (7 days to harvest), Beetroot which has an earthy flavor (10 days to harvest), Mustard, Fennel (10 days to harvest) with a lovely mild licorice flavor that a bit of zing to fish. Japanese mustard greens “Mizuna” or any other type of lettuce (7 days to harvest), and finally Basil (10 days to harvest).

Once you harvest, microgreens will continue to grow. You can reseed them at any time. Enjoy!

Soil Testing Information For Lawns and Gardens in South Dakota

Don Taylor, Master Gardener

We often talk about the benefits of soil nutrient testing for gardens and yards. South Dakota State University Extension provides several informational resources regarding soil testing for these situations. For example, the following fact sheets may be helpful.

-Clark, Jason. 2020. Taking a Lawn and Garden Soil Sample. South Dakota State University Extension. https://extension.sdstate.edu/sites/default/files/2020-05/P-00148.pdf

-Kloop, Hans. 2024. Interpreting Soil Test Results for Gardening. South Dakota State University Extension. https://extension.sdstate.edu/interpreting-soil-tests-gardening

-Bly, Anthony. 2024. Soil Testing Labs. South Dakota State University Extension. https://extension.sdstate.edu/soil-testing-labs

Soil testing labs are generally geared toward commercial, field crop situations and sometimes their data sheets or results are difficult for small-scale gardeners to interpret. The following two soil testing labs provide information and soil test packages specifically for gardens and lawns. If you know of others in the area, please pass on the information. The costs are as of March 2025.

University of Minnesota Soil Testing Lab
Website: Lawn & Garden | Soil Testing Lab (https://soiltest.cfans.umn.edu/testing-services/lawn-garden).
Address: 135 Crops Research Building
1902 Dudley Ave.
St. Paul, MN 55108
Email: soiltest@umn.edu
Phone: 612-625-3101
Cost: $21.00 for regular series.

Regular series tests phosphorus, potassium, pH (with lime requirement if needed), organic matter (%) and estimated soil texture. Other tests such as nitrate, soluble salts, lead, micronutrient series and other tests available for additional cost.

Midwest Laboratories
Website: Agronomy (https://midwestlabs.com/agronomy).
Address: 13611 B Street
Omaha, Nebraska 68144
Email: contactus@midwestlabs.com
Phone: 402-334-7770
Cost: $17.00

Garden soil testing and lawn soil testing packages include nitrate nitrogen, phosphorus, potassium, pH, magnesium, calcium, sodium, soluble salts, $CaCO_3$ buffer index, cation exchange capacity and excess lime. Potting soil container mix package is available. Go to the website (shown above) and under Guides and Resources.

Bringing DEI to Your Plant World
Part 1: Diversity

Debi Ulrey-Crosby, Master Gardener

Bringing DEI (Diversity, Equity, and Inclusion) to your yard and garden can improve plant health and build diversity in soil microorganisms.

You might be thinking that plant diversity is the same as companion planting, however, while they are similar, they are not the same. Plant diversity refers to the overall variety of plant species in the garden, while companion planting is a technique of growing compatible plants together for a specific purpose. (Companion planting is a topic for another article.)

In the natural plant world, diversity is the perfect model for sustainable ecosystems. It helps prevent pest and disease build-up because of the way the plants and soil organisms interact. Each plant supports a different microorganism, and each microorganism supports a different plant. The plant community is using each species' natural tendencies to fill empty spaces, help maintain soil moisture and provide help with warding off some predator species (plants or bugs).

On a large scale, planting monocultures (the same plants in one spot/area), often requires the use of pesticides and/or herbicides to maintain plant health. If one is successful, there is crop success.

SDSU Trial Gardens
Monoculture for testing

However, if pest or disease pressure become significant, an entire crop can be lost.

In our home gardens, monocultures can also become an issue, but we can avoid this by planting a variety of plants together in the same area. By choosing plants with genetic diversity for planting and maturity times, resistance to certain pests and diseases, and similar growing conditions, our garden crops or plants can be healthier and more productive.

Field and greenhouse experiments by the University of Kansas showed that planting diverse crops rather than monocultures

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resulted in higher yields and a decrease in harmful pathogen growth. Diverse ecosystems are more resilient and capable of recovering from insect plagues and diseases.

National Garden Bureau
Biodiverse Flower Garden

The plants host more beneficial insects which offer a natural biological control for unwanted pests. This means less need for insecticides or herbicides in your garden. In addition, invasive species such as some unwanted weeds that we tend to see in monocultures are less likely to become established.

Maintaining garden diversity not only benefits plants but also us and those who visit our gardens.The sights of beautiful blooms, the sounds of chirping birds and animals can help awaken our senses and create a calming environment by allowing us to fully immerse ourselves in nature.

Birds, native bees, honeybees, and butterflies are all a good indicator of the diversity in your yard. Adding a small water feature, planting a variety of trees, a pollinator garden, plants that produce seed for birds, or even adding a bird feeder will help support wildlife diversity in your yard.

Fine Gardening
Biodiversity in vegetable garden

References

1. Dr. Earth-Safe, Sustainable Organic Products
https://drearth.com/resources/article/why-is-diversity-important-in-the-garden/

2. Girl Scouts of Connecticut
https://www.gsofct.org/content/dam/gsofct-redesign/documents/AwareAllyAdvocate/Equity%20vs%20Equality%20Through%20Plants.pdf

3. University of Kansas
https://news.ku.edu/news/article/2023/12/19/research-offers-reason-why-diversity-plant-species-causes-higher-farming-yield

Bringing DEI - Part 2 in the May MMG newsletter

Bringing Nature Home: How You Can Sustain Wildlife with Native Plants

Author: Douglas W. Tallamay
Book report by Kat Murphy, Master Gardener

Minnehaha Master Gardeners held a Winter Book Club for the first time this year. Our first meeting was in March where we discussed the book, “The Comfort of Crows” by Margaret Renkl. At our March meeting we discussed the subject of this review, “Bringing Nature Home.” This report aims to provide a thumbnail sketch of the author and this work.

Douglas Tallamy is an entomologist, ecologist and conservationist. He is a professor at the University of Delaware, in the Department of Entomology and Wildlife Ecology. Dr. Tallamy advocates for home gardens and landscaping that bridge the gap between parks and preserves in providing habitat for native species.

His work unfolds as a call to action for gardeners in suburbia to “become important players in the management of our nation’s wildlife. It is now within the power of individual gardeners to do something that we all dream of doing: to make a difference. In this case, the ‘difference’ will be to the future of biodiversity, to the native plants and animals of North America and the ecosystems that sustain them.”

Dr. Tallamy stresses the use of native species to create simplified versions of the ecosystems that once made a rich source of life for our flora, fauna and peoples. He states that the development of large swaths of lawn amidst our suburbs has disrupted the landscape. While we can only affect our own acreages/yards, the establishment of relatively small, restored habitats can have a positive effect.

The author goes on to describe the vital new role of the suburban garden in establishing these oases of refuge, while also ensuring healthy plant communities. The establishment of varied native plants within our gardens, we can support the insect life necessary to native birds, reptiles and animals, creating small Edens for the environment. Who does not thrill to the trill of American Goldfinch, Northern Cardinals and Eastern Meadowlarks?

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These lovely creatures who fill our yards with song require nourishment to raise their young. It is up to us to ensure their survival by planting those native species which foster the insects the next generation of song birds require to thrive.

Throughout his book, Dr. Tallamy conveys a great deal of information about how our country's landscape has changed over the past 50 years. He discusses the introduction of non-native species and their effect on the ecosystem, and what we each can do to reintroduce a better balance between introduced species and native species to our yards.

While the book may seem more of a text book than an easy reader, I found the information to be both impactful and insightful. He increased my understanding of the impact of plants, insects, native birds and wild life.

Our meeting concluded with an enthusiastic discussion of types of native plants we each have in our yards, where we can obtain them for those who wish to incorporate more species, and how to care for those plants. I think the meeting was a great opportunity to leapfrog from a simple book discussion into action plans to improve each of our mini-ecosystems.

Thank you Dr. Tallamy, and Thank you to the MMG Winter Book Club for a fascinating evening.

Upcoming events

Vegetable Gardening 101: The DIRT
Tues., April 8 6:00 – 7:30pm
Mary Jo Wegner Arboretum

Minnehaha Master Gardeners
April meeting
April 14, 6 pm - Outdoor Campus

Vegetable Gardening 101: The PLOT
Tuesday, April 15 6:00 – 7:30pm
Mary Jo Wegner Arboretum

Vegetable Gardening 101:
Too MULCH H2O
Tuesday, April 22 6:00 – 7:30pm
Mary Jo Wegner Arboretum

Vegetable Gardening 101: What could possibly go wrong!?
Tuesday, April 29 6:00 – 7:30pm
Mary Jo Wegner Arboretum

2025 Minnehaha Master Gardeners
Plant Sale
W.H. Lyon Fairgrounds
100 N Lyon Blvd
Sioux Falls, SD
Saturday, May 10, 2025
9 AM CDT – Until plants are sold