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Cover Artwork by Pam Conklin

A word about Minnehaha County Master Gardeners: We are volunteers trained through the South Dakota State University Extension <u>Master Gardener Program</u>. For more information on becoming a master gardener, visit <u>SDSU Extension Master gardener</u> <u>volunteer program</u>

Be sure to stay in touch with all of Minnehaha County Master Gardeners' news: <u>follow</u> <u>us on FaceBook</u>, <u>visit our website</u>, or <u>email us</u>.

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Corrections

A mistake was made in the May horticulture issue. The article, **Garden Journals: Applying Scientific Method to Your Backyard** was written by master gardener, Jason Cruse. Sorry, Jasson.

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.

Dong Quai (Angelica Sinensis) is a fragrant perennial (or biennial) herb in the Umbelliferae (parsley or carrot) family. It is hardy perennial in zones 5-9 but can grow in zone 4. Prefers fertile, moist, cool, well-drained soil and full sun or partial shade. The herb has smooth, purplish hollow stems that can grow to 7 feet tall. The bright green, serrated, large lobed leaves and umbrella-shaped clusters of white flowers bloom in July and August. The flowers have a honey-like aroma. Seeds can be planted outdoors in the fall or transplant seedlings in spring.

The roots and leaves are harvested and dried for medical reasons. Traditional Chinese practitioners have called this herb "female ginseng" and have used it to help balance hormones and reduce symptoms of menopause.





Bug Bites

by Pam Conklin, Master Gardener

Insects! They are tiny, creepy-crawly, digging, biting, disgusting, yet, beneficial; without them, life as we know it would not exist.



photo: LifeGate

This is the story of the firefly. Capturing our sense of wonder from childhood through adulthood, fireflies have been on earth for at least 100 million years. Globally, there are approximately 2200 known species, and only about 6 species that exist in southeastern South Dakota.

These beetles belong to the family Lampyridae, and to a unique group of animals known as bioluminescent organisms. They manufacture and emit their own light. The light of fireflies is absent of heat, which makes it one of the most efficient sources of light. It is a result of oxygen combining with calcium, adenosine triphosphate (ATP—the energy-carrying molecule of all cells) and a chemical called luciferin, when an enzyme called luciferase is present. Not all species of fireflies produce light. In other species males produce light to attract females, larvae may produce light to ward off potential predators, females produce light to attract food, and sometimes groups of fireflies will synchronize their lights.

Fireflies offer many benefits that we seem to have forgotten, or overlooked. They are carnivorous predators, eating the many troublesome pests that cause damage in our flower and vegetable gardens, and farm crops, that is, if pesticides are not used. The firefly's life cycle is complete: their metamorphosis goes from egg, larva, pupa, and adult and takes place in weeks, or up to 2 years, depending on the species. Eggs are laid in ground, or rotting wood, and in tree trunks. The larva live and feed on snails and worms at, or below the soil surface before pupating and emerging as adults. Most of a firefly's life is spent in the larval stage.

Every resource indicates that populations are declining. A 2022 article written by Makenzie Huber, <u>pigeon605</u>, relays the decline of fireflies in the Sioux Falls area. The 3 main culprits of decline are: habitat loss and degradation, pesticide use, and light pollution. The Smithsonian also lists the harvesting of fireflies for the chemical, luciferin, or the enzyme, luciferase that is used in medical and scientific research, such as use in food safety testing, and more recently in helping combat COVID19, as possibly contributing to decline. Paul Johnson, entomology professor at SDSU, stated that the recent drought is also a contributing factor.

If you want to see fireflies in your backyard try some of the following: mow less frequently; stop using lawn chemicals; install a water feature in your garden; let logs rot in the ground; plant native grass and trees; don't rake up your leaves; and turn off outside lights.



Sources:

https://www.smithsonianmag.com/science-nature/14-fun-facts-about-fireflies-1429992 90/ https://www.xerces.org/endangered-species/fireflies/about https://pigeon605.com/have-you-noticed-fewer-fireflies-heres-why-and-how-you-canhelp/ https://www.firefly.org/facts-about-fireflies.html https://silentsparks.com/2020/08/02/6546/

Moving Indoor Plants Outdoors

By Jason Cruse, Master Gardener

We are getting late into spring and heading into summer. Like people, plants that have been holed up inside all winter could use some fresh air and time outside. But which plants can go outside? And should you put them? Moving indoor plants outside can be a great, easy and inexpensive way to spruce up your yard or deck. However, remember where you had them inside before putting them outside. Many plants (ferns, palms, ivies, and bromeliads) LOVE bright light indoors. That doesn't mean that they will like bright SUN outdoors. Keep them in indirect light, someplace that is shaded all day (not just part of the day). As you prepare for plants to move, prepare for them to GROW! According to Iowa State University Extension, the move outside will promote new growth. Repot your plants—new soil, one to two pot sizes larger—before moving them outside.¹ When looking for a location outside for your plants, be sure to project your plant from excessive rain and wind. These can affect a plant more than you realize. Imagine your first day outside in the warm air after 7 months inside. How easily do you burn? Did you remember your hat? Sunglasses? Sunscreen? Plants need the same care. By the same token, plants taken outside, adjust them slowly to their new environment. Warm days and cool nights are a good time to take tropicals out and bring them back in at the end of the day until evening temperatures remain in the upper 60s. Plants that like direct sun should gradually be moved to the direct sun, to reduce the impact of change and the potential for leaf/flower drop.³

Finally, your (now) outdoor plants will require more fertilization than they did inside due to increased photosynthesis. As always, monitor them so you give them too much and harm both soil and plant.⁴

Bringing plants back inside in the fall is a whole different process; we'll talk more about that in September.

1 <u>https://hortnews.extension.iastate.edu/moving-indoor-plants-outside-summer</u> 2

https://www.lcsun-news.com/story/life/sunlife/2019/04/14/when-safe-take-houseplant s-outside/3436988002/

3 https://extension.psu.edu/caring-for-houseplants

4 https://extension.umd.edu/resource/moving-indoor-plants-outside

Do you have comments, questions, or topic ideas that you would like us to explore? Email us at <u>mcmgnewsletter@gmail.com</u>. We would love to hear from you!

All articles are researched and written by Minnehaha County Master Gardeners and Interns. Thank you to all, for sharing your knowledge!