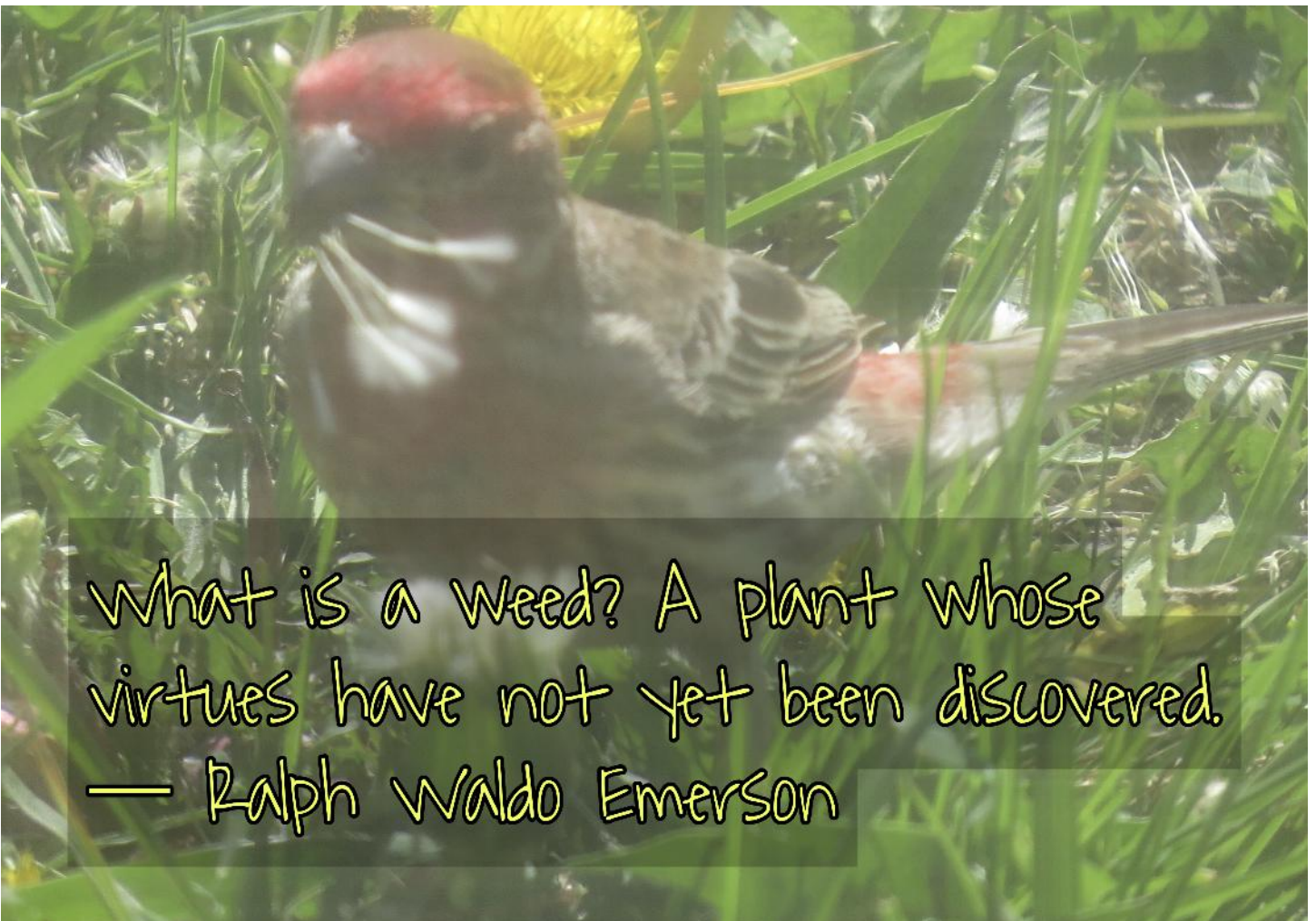




Written by Minnehaha County Master Gardeners. All photos by authors, unless otherwise credited



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Month Events

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

Caring for Trees During a Drought

By Pam Conklin with Colleen Collier, Master Gardeners



Trees are an essential part of the home landscape. They provide us with shade, wind breaks, noise and air pollution reduction. They minimize rain runoff, and they give shelter to all kinds of wildlife. Their long tap roots reach deep into the ground, yet it is a system of shallow roots that spread laterally 1 - 2 feet beneath the soil's surface that are responsible for most of the water and nutrients needed by the tree.

If watering hasn't been on your to-do list, you may see tree canopies that are not as full, leaves that are smaller than usual, wilting or curling leaves, or even premature fall color and leaf drop. After closer inspection, if you don't see insect or disease damage, the issue may be drought stress. To keep landscape trees properly watered,

especially during drought, follow the general tips in this article, and hopefully your trees will thrive for years to come.

Tips for trees during drought:

1. All trees benefit from mulch!

Add about a 3 inch layer of wood mulch under the tree's canopy. Keep mulch several inches away from the trunk to prevent diseases. Add mulch as needed.

2. Put away the pruners!

Pruning drought stressed trees could make them more vulnerable to disease and insect infestations.

3. Save the fertilizer for another year!

Fertilizer encourages growth, but during drought, trees need to conserve their energy, so they can better fight pests and maintain optimal health.

4. Water efficiently!

Trees will suffer from over watering, as much as from under watering. To help you get it right, follow the practical watering guidelines provided by SDSU and UM Extension offices, as outlined below.

Newly planted trees need consistent, frequent watering until they become established. This is because the root system of newly planted trees is greatly restricted. Use the irrigation amounts chart with the watering schedule, below, to assure appropriate watering of newly planted trees.

Watering Schedule for Newly Planted Trees:

- Water daily for up to 2 weeks after planting your new tree. Water directly over the root ball.
- For the next 12 weeks, water every 2 to 3 days.
- After 12 weeks, water weekly until the roots are established. Gradually extend watering from over the root ball and under the tree canopy.

The trunk diameter at planting time is key to knowing how much water is needed and for how many years to follow the watering schedule for newly planted trees. Measure trunk diameter 6 inches above the ground.

Irrigation Amounts: newly planted trees

Trunk diameter at time of planting*	Years for Roots to establish	How much water per irrigation
1 inch	1.5 years	1-1.5 gallons
2 inches	3 years	2-3 gallons
3 inches	4.5 years	3-4.5 gallons

4 inches	6 years	4-6 gallons
5 inches	7.5 years	5-7.5 gallons
6 inches	9 years	6-9 gallons

University of Minnesota Extension

**Measure trunk diameter 6 inches above the ground. This is called the tree caliper.*

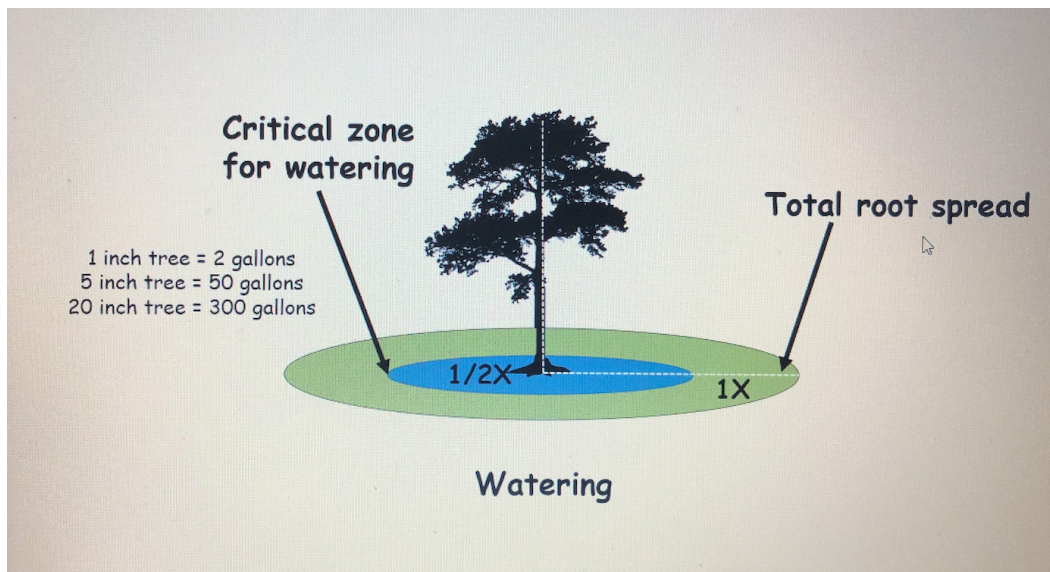


Established trees need watering about twice a month under average rainfall conditions. So far, 2021 rainfall is below average in Sioux Falls. A mild winter followed by hotter days and less rain has left the ground dry, which means greater need for adjunct watering. According to Dr. Ball, SDSU Extension Forestry Specialist, mature trees need watering every 5 days when temperatures hover in the 90s, or higher.

To determine how much water an established tree needs, measure the diameter of the tree at 4.5 feet above the ground.

A rule-of-thumb for watering established trees is that a mature tree with a 10 inch or larger diameter requires about 300 gallons of water every 5 days. Smaller trees need about 5 to 10 gallons of water in each watering, or about 10 gallons per inch diameter.

When watering established trees, heavily water the critical zone, which is half of the tree height or the full canopy of the tree. How to apply the water to assure you are getting enough water can be less scientific. Some will use 5 gallon buckets with small holes drilled in the bottom for a drip irrigation effect. Space the buckets throughout the critical zone. Personally, I like using a sprinkler. Keep the water low to the ground to minimize evaporation. After watering, use a moisture probe or long shaft of a screwdriver to check soil moisture at a depth of about 12 inches. If the soil is wet, there is sufficient water for the tree. If it is still dry, simply water a little longer.



For more details, please look into the following resources:

[Watering established trees and shrubs](#)

[Watering newly planted trees and shrubs](#)

[Tree Pest Alert - Water, water, water!](#)

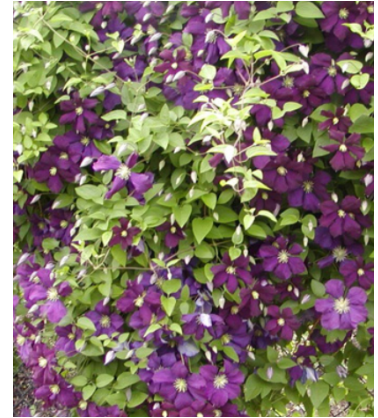
In the Herb Garden

By Priscilla Jurkovich, Master Gardener

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

Clematis (*Clematis vitalba*) is a climbing perennial herb in the Ranunculaceae (buttercup) family characteristic of “showy” flowers such as Magnolia, Columbine or Delphinium with five or more petals and numerous pistils and stamens. Clematis prefer at least six hours for blooming, slightly alkaline soil and support for the climbing vines. The flowers come in many varieties and colors but most are 3 inches or less. It is recommended to plant deeply, with the crown approximately 3 to 5 inches **below** the soil line. This depth will help encourage stems to emerge from dormant buds, making for a stronger multi-stemmed base.

Clematis is one of five flower essences in the “Rescue Remedy” which is one of Bach Flower Essences. Dr. Bach developed flower essences using concentrated flower essence to help balance the heart and mind. Rescue Remedy helps to relieve fear, panic, stress and shock. Clematis encourages creativity and makes you more alert. Clematis has anti-inflammatory and antimicrobial effects and has been used to relieve headaches, coughs, pain and to stimulate blood circulation when applied topically.



DID YOU KNOW. . . that garlic is one of the oldest vegetables?

By Debi Ulrey-Crosby, Master Gardener



I just finished digging up my garlic that was planted last fall and my mouth is watering at the thought of fresh garlic. If you have never grown garlic, you're really missing out on one of the best and easiest vegetables to grow (of course, that's my personal opinion, but shared by many other gardeners). It's such a fun surprise when you dig up something planted so many months ago, something that stayed in the cold and frozen South Dakota ground all winter and then started growing when the sun warmed the ground!

Garlic is part of the *Allium* genus of the **Amaryllidaceae** family and is related to onions, leeks, chives, and shallots. (In case you're wondering, elephant garlic is not actually a true garlic at all, but is, in fact, a subspecies of leek. It is, however, planted and grown the exact same way as the typical garlic, but is milder with a nutty flavor.) Not only is this pungently delightful vegetable easy to grow,

but it has been revered throughout antiquity for its cultural significance and healing potential. Entire books and festivals have been dedicated solely to growing this bulb. There seems to be some debate over the origin of garlic but it's one of the world's oldest cultivated crops going back 5,000-7,000 years, depending on the source. While well preserved cloves were found in King Tutankhamen's tomb (14th century BCE), many believe it originated in central South Asia, or possibly Siberia as early as the 4th century BCE. It was used as currency, food and even as a medicine. Many of its medicinal uses are still valid today, supported by scientific research and used by alternative medicine practitioners and herbalists. However, most of its medicinal benefits come from using raw garlic which, when crushed, produces a compound called allicin. This compound loses most of its effectiveness when heated above 140 degrees F. And how could I leave out the legends of the protective nature of garlic against vampires, ghosts and evil spirits dating back to the medieval era and that persist in many parts of the world to this day.

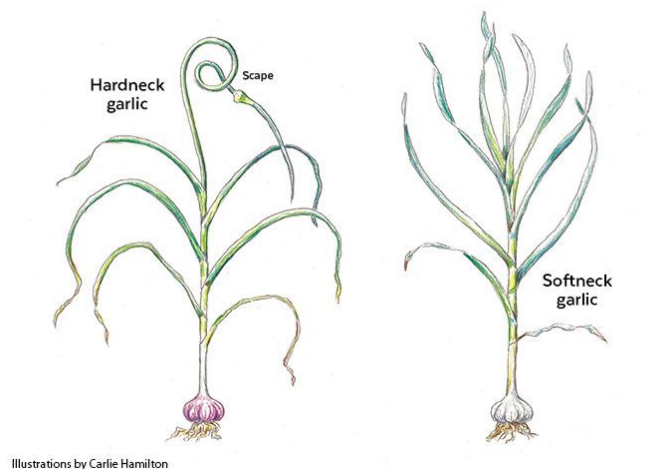
Garlic's naturally high sulfur content makes it a natural pest and fungus deterrent making it a great companion plant to lots of different herbs, vegetables, flowers and fruit trees. It's known to deter pests such as gnats, aphids, cabbage loopers, codling moths, deer, fungus gnats, Japanese beetles, onion flies, rabbits, and sometimes people (Ok, I'm joking about the last "pest" 🤪). Plants that don't want garlic to move into their neighborhood include peas, beans and asparagus since it can stunt their growth. Garlic can be planted in rows by itself but can also be planted in clumps or groups throughout your gardens and flower beds.

Garlic is classified into two categories (with each having subcategories that I won't discuss here): softnecks and hardnecks. They each have their pros and cons and both are grown in the same manner but have slightly different harvesting cues and better success rates in different parts of the world depending on the weather and seasonal temperatures. So, let's look at the two types and you can determine which you want to plant this fall.

Softnecks (*allium sativum*) include Inchelium Red, California Softneck, California Early, Italian Loiacono and Silver White to name a few commonly found varieties. Often considered a "true" garlic, softnecks account for most of the garlic found in the grocery stores because they are more productive, easier to grow in warmer climates and have a longer storage time. They are called softnecks because their above-ground stalks will flop over in the summer when they are ready to harvest. The added benefit and fun perk is that softnecks can be easily braided together for kitchen use and decoration as the bulbs cure. Softnecks produce more and smaller cloves per bulb and are a little more difficult to peel. Softnecks are more commonly grown where winters are mild, especially in the south and require a cooling period (vernalization) prior to planting. They can be a little more difficult to grow in cold climates but are certainly worth growing here. Softnecks rarely form a "scape" as is common in hardnecks, and therefore seldom produce a flower blossom.



Photo courtesy of garlicdelight.com



Hardnecks (*allium sativum* var. *ophioscorodon*) include Chesnok Red, Persian Star, Red Grain, Brown Tempest, Siberian, Romanian Red, Music, and many more. Hardnecks grow a rigid, flowering stem which is surrounded by the individual cloves and when grown, is called a “scape”. The scape curls into a circle then produces a flowering bulb that, in turn, produces bulbils that can be harvested and planted later. Most growers cut the scape once it begins curling so that the plant puts its energy into producing a larger bulb in the ground and not the flowering bulb. The scape makes a wonderful addition to pesto or can be grilled, sautéed, etc. and eaten with other dishes. Hardneck garlic bulbs have larger, but fewer (5-7) cloves and are usually rather easy to peel. True to its name, hardneck garlic stalks will remain upright and rigid even when they die back and are ready for harvest. Like softnecks, hardnecks can be braided but it’s much more difficult and many growers don’t bother. Hardnecks are the most recommended type for growing in colder climates where they encounter a natural vernalization (cooling period) during the long winters.



Now that you have a brief history of garlic are you ready to grow your own? Be sure to look for the next newsletter to learn how to plant your own garlic this fall.

Resources:

1. Gardener’s Path: How to Plant and Grow Garlic in Your Veggie Patch, December 5, 2019, by Adrian White
2. South Dakota State University Extension: Planting Garlic
3. University of Alaska, Fairbanks Extension: Growing Garlic in Alaska
4. Harmony Garlic, Seymour Victoria: The History of Garlic
5. Grey Duck Garlic

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 science. Repelling Japanese Beetles with Delphinium

By early-mid July I begin to notice holes in the leaves of some of my favorite garden plants, and I am immediately on the lookout for Japanese beetles. They feed on the leaves of several different plants, but are especially attracted to roses, grapevines, zinnias, coneflowers, and beans. There are few different plants that are claimed to repel these coppery chewers, but I particularly like *Delphinium elatum*, commonly known as larkspur.

Larkspur blooms in blue, pink, or white. What's more, they pair wonderfully with roses and other flowers that Japanese beetles love to devour. I even grow them near my vegetable garden to help protect bush and castor beans. Delphinium not only adds beauty to your landscape, but folklore claims that Japanese beetles that feed on Larkspur will die. Even better to know is that Delphinium attracts and feeds native bees!



Larkspur (*Delphinium elatum*)



Larkspur paired with roses



Japanese beetle adults are easily recognizable. They have metallic green heads and copper-colored wings and are often found resting or feeding on top of leaves. Their larvae winter beneath the soil level, where they feed on plant roots, pupate and emerge as adults around early July. [Learn more about Japanese beetle](#) identification, lifecycle, and control from UM Extension.

Adding Diversity to Your Natural Lawn

By Pam Conklin, Master Gardener

Natural lawn care means more than eliminating synthetic pesticides. Kudos to you for taking that step! Now is the time to decide if you want to maintain your lawn as is, or if you want to take it to the next level in natural lawn care. If you enjoyed leaving a few dandelions in your lawn for foraging bees and other wildlife, then adding a few more flowering plants that pair well with turf grass and add diversity may be the natural next step.

According to the University of Minnesota Extension, bee friendly, flowering lawns consist of creeping thyme (*Thymus serpyllum*), which is hardy in zone 4, self-heal (*Prunella vulgaris*, a native plant of Minnesota, and Dutch white clover (*Trifolium repens*) that is already a part of many untreated lawns in Sioux Falls. These plants tolerate being stepped on, mowing, and drought. And they help create greater pollen diversity for bees and other wildlife. Sioux Falls may not have a bee lawn program, or offer grants to help establish flowering lawns, but we have no ordinance against dandelions, white clover, or any of the other low growing, flowering plants that work well among turf grasses. Look for premixed seed kits online. UM Extension lists several sources for seed that you can try, [click here](#).



courtesy of UM Extension

Building your flowering lawn:

- Pull undesirable weeds and annual grasses from your lawn. Water your lawn first to help the weeds come out easily. Repeat as needed
- Get ready to overseed your lawn with a bee lawn seed mix - mow, rake, and aerate
- Broadcast seed in desired areas, or throughout the lawn in late fall

Maintaining your flowering lawn:

- Set your mower to 3 inches and mow as necessary

- Fertilizer isn't needed, since clover fixes nitrogen
- Do not use pesticides. Pull undesirable weeds and annual grasses. Repeat as needed.

By adding flowering plants to your lawn, you are not only adding interest and beauty, you are adding a diverse habitat that attracts and sustains bees, and all kinds of wildlife to enjoy!

Garden chronicles

By Anelis Coscioni, Master Gardener

Nine years ago we bought a house. Our backyard was bare. Grass, a tree in the middle and a couple of raspberry bushes. We had the kind of raspberries that fruit in mid-summer from the previous year's floricanes. Every winter our dear rabbits would cut the branches down. And as you just guessed, we never got fruit. So, if you plan on planting raspberries and you have rabbits in your yard, you need the ones that fruit in the fall. You can learn more about it here:

<https://extension.sdstate.edu/sites/default/files/2020-03/P-00152.pdf>

Our front yard had a Maple tree, grass, and a few hostas. We mostly bought the house because we wanted to have a tree. The Maple tree was big and beautiful. We fell in love.

Right away we started planning the yard. We planted lilacs. Later I learned, in the Master Gardener class, that you should choose a variety that is resistant to powdery mildew. I didn't know that and every year, after blooming, the leaves turn a grayish-white color. It's ok. They come back in the spring and give us beautiful sweet smelling blooms. And, I also learned that the best time to prune them is after they bloom. They are wonderful plants to have and you can learn more about them here: <https://extension.sdstate.edu/lilacs-are-looking-good-spring>

Last year we lost our Maple tree. It was very old and every time we had strong weather (including ice storm and tornado), it would drop a big branch onto our house and/or car. Now we planted a Prairie Cascade Willow tree. I know, again. Everyone we excitedly tell, says that it's a poor choice. Too much work. But we just keep imagining it's big branches swinging in the wind. Have you read Maple by Lori Nichols? If you did, you will understand. If you didn't, it's a beautiful story!

Friends gave us some plants and we bought others to start making the yard beautiful. Slowly we got a lot of the grass out, leaving just enough for people and pets to enjoy. We created a great sandbox that is used by kids and fun grownups. By that sandbox, there's a peach tree. Yep, a peach tree. I know. It's not a tree we plant in this area. Last year it gave us beautiful blooms. We didn't get to eat the fruit because the squirrels got to them first. If you decide to risk planting one, I recommend planting far away from a fence.

Today our garden is full of plants, all over. It's still not done. Every year we change something. Plants constantly move until we find a place where they grow happily. Maybe it will never be done because we really enjoy change.

Something else grows in our garden. Weeds. If you ask our nine year old daughter what weeds are, she will answer: "weeds are plants that grow where my mom doesn't want them to grow".

What's funny about our weeds is that they are not your common weeds. One year we had tomato weeds. Hundreds of them growing all over. Now we have a parsley field in the front yard. As you can see in the picture, we use them for more than to make delicious fresh parsley lemonade, or to add to our dishes...

One that you might have in your yard is sunflower weeds. Our chickens love the seeds as a treat, which end up in their bedding. The bedding, in turn, ends up in the flower beds. And as a result, the sunflowers are now blooming beautifully. I have been learning to take some away. If we leave them all to grow, we will not have space for walking around.



Mostly when people say that a plant spreads a lot, I feel kind of happy. Like the Maximilian Sunflowers (*Helianthus maximiliani*). We bought a few plants and now we have several growing around the garden. They grow tall, and today we can see some right outside our bedroom window. It's beautiful to wake up and see the flowers, and birds that stop on them. They do need support because they grow 4 to 6 feet tall and sometimes fall over. But they look like happy flowers.

I'm thankful for our garden. Thankful for the trees. Thankful for the insects and the wild animals. Thankful for all the flowers and for the weeds. Yes, even the weeds. They make you look closer. They make you stop. Sometimes there are so many that they make you kneel down to get them out to make room for the other

plants. They make you smile, like this Instagram post:

'My husband helped my son buy me flowers for the first time. He handed me beautiful red roses with a sad look on his face. I asked him what was wrong, and he said, "They didn't sell your favorite flowers there- the ones I always get you- so I got you these instead".

I looked at my husband and he said, "Dandelions. He wanted to get you dandelions"

(Scarymommy Instagram post)

Do you have a favorite weed?

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.

Q: How can we manage our gardens during a drought?

A: Long periods of no rain and high temperatures (that increase water evaporation) are not an impediment for a garden to still grow and produce if some management changes are made. Water plants deeply, stop fertilizing, weeding, water with a soaker hose or set up a drip system, mulching, deadhead flowering plants early, reduce or stop applying herbicide and stop using insecticide are some of the changes you can make. To learn why each of these can have an impact in your garden especially during drought, please visit: <https://extension.sdstate.edu/gardening-tips-during-drought>

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