What’s in this June newsletter...

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- Name that Parasite
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News and Notes for June 2021
Mary Wildermuth, Master Gardener Chair

To start off this month’s ‘News and Notes’
I figured a summer poem was in order!

Oh, How I Love Summer
By Susan M. Gilbert

Though May did bring her deepest grey
And June did bring her gloom,
I woke this morn in a glorious way
To Sunshine in my room.

Quick, get up,
It’s time to rise.
Greet the day.
I started to cry.

For today,
It has begun.
It’s finally here,
The summer sun!

Feel her warmth,
See my garden grow,
Taste the sweetest fruits,
Watch the butterflies flow.

Hear the squirrels chatter
And my orioles swoon
Till the evening comes
With the summer moon.

It seems like I’ve waited
Such a very long time,
Longing for the light of
Your rays of sunshine.

So please stay a while.
Bring your long, lazy days.
I’ll cherish each blue sky
And ride every wave.

Oh, how I love summer
And all of her songs,
Happy summer to all,
And may it be long!

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You can find more from Susan Gilbert
Here:
https://www.familyfriendpoems.com/user/susan-m-gilbert/

Just a quick few notes to you, our fellow
Master Gardeners...

A special thanks to Sue Cradick, Jane
Hodge, Lynn Pruitt and all other volun-
tees who helped with the recent home
plant sales!! The Emma Mae Pruitt Mas-
ter Gardener Scholarship coffers are be-
ing replenished thanks to your efforts.
Thanks to all who purchased plants!!
Still have openings for July, August and
September Farmer’s Market volunteers.
See form on pg. 17.
Enjoy your precious summer days!!
News from Education Coordinator
Thank You — Carolyn Lemaster

Iowa State University Master Gardener News

See the full list of upcoming events, webinars and plant sales here:
https://www.extension.iastate.edu/mastergardener/events

Illinois Extension Garden/Horticulture Events

Iowa Master Gardeners Facebook page
Have you “Liked” this page? Frequent posts are included about timely gardening topics.

International Master Gardener Conference 2021
September 12-17, 2021
This event will be virtual! Read more here.

Master Gardener Application Information

Application Open: March 1, 2021
Application Deadline: July 1, 2021
Participants are notified of acceptance to MG Training in early August; payment due at that time.
Fee: $195 MG trainee, $550 ProHort
Online Course: August 30-November 5, 2021
https://www.extension.iastate.edu/mastergardener/become-master-gardener

Home Garden Tour? If you would be interested in giving Master Gardeners a tour of your home gardens, please let us know!
The Donation Garden located behind the Church of Christ on North Mulberry Avenue has been planted during the last 4-6 weeks. The ground was tilled, and compost and fertilizer added. The early planting of cabbage, potatoes and onions looks good. We protected the young plants with #10 tin cans donated by a friend. A few of the raised boxes were getting old and rotten so we rearranged a few and downsized to about 10 raised beds, or about 1/3 of the total garden space. The cans have been removed now so the plants can get full sun. Since May has been so wet and cool, I think we are ready for some sunshine.

Last year we lost the corn crop to the derecho. We are trying again this year, in another area, and the rows going the other direction. Do you think we can “trick” the weather? Not! We are hoping for an abundant crop. Lynn’s tomatoes are thriving. They were planted several weeks ago and have rooted well. We also planted some Early Girl variety in a raised bed, hoping to stagger the crop. Lynn noted that Jasper County MG had made an arch out of cattle panels so their vining veggies would be off the ground. Because of shortage of so many supplies post-covid, we could only find hog fencing, which turned out to be easier to work with. We planted spaghetti squash and sunflowers there.

The red maple tree next to garden is now 20 years old and seems to have had a growth spurt. It is now shading much of the north side of the garden. We tilled the area under the tree where no veggies could grow and Lynn planted hostas there. So now we have a shaded area to rest and it is beautiful and weed free.

The remainder of the garden is: peppers, eggplant, zucchini, muskmelon, kohlrabi, some herbs, butternut squash.

We have harvested the rhubarb and brought it to the food pantry: 34.5 pounds. Another 8 pounds were taken by local friends and neighbors who were at the harvest!
More Photos from the Grant Garden
Dubuque Arboretum

A great little summer day trip!! - Sponsored by Fans and Friends of the Arboretum

Location: 3800 Arboretum Drive, Dubuque, IA 52001
Phone: (563) 556 2100
Type of Garden: Public Garden
Established: 1980
Size: 52 acres
Average Time to walk through: 90 minutes

Hours of Gardens: No Admission! Donations always welcome. May 1 to Oct. 31, 7 am to dusk, seven days a week. Nov. 1 to May 1, 10 am to 3 pm Tue/Wed/Thur, closed Saturday and Sunday, Closed Thanksgiving Day, December 25 through January 1.

Hours of Visitors Center/Gift Shop: Last week of April-Mid October open 7 days a week 9am-8pm(September closes at 5pm and October Closes at 5pm as days shorten)


Other features: Free Sunday concerts, AARS Committee, consecutive awards for rose garden, largest public hosta garden in US (13,000 with 700 varieties), recognized by the National Hosta Society, AAS display garden, Seed-saver display garden, and Nationally recognized Bill Walter and Dennis Hermsen’s Award Winning Conifer collection. Open air facilities available for luncheons and meetings.

Picnicking: Park benches available throughout the garden, screened in porch available for rental of groups of up to 50. Wheelchair accessible to some parts of the gardens. Call to arrange group tours (golf cart available for handicapped)
SPOT THE DIFFERENCE
Can you spot the 11 differences between these two pictures?
Have you ever walked out to the garden expecting to enjoy your lovely tomato plants only to find them completely defoliated overnight? If so you were hit by the tomato hornworm, or as I think of him, a tomato terrorist!

The tomato hornworm, *Manduca quinquemaculata*, is much dreaded by vegetable gardeners, because they can devastate tomatoes and other members of the nightshade (*Solanaceae*) family. The tomato hornworm is three to four inches long at full size (likely to be the biggest caterpillar we see in our gardens) and green in color, with a black "horn" that projects from the rear of the caterpillar.

This pest is the larval stage of the hawk or sphinx moth, also known as hummingbird moths. The moths overwinter in the soil as dark brown pupae, then emerge and mate in late spring. They lay their eggs, which are round and greenish-white, on the undersides of leaves. The eggs hatch in four to five days and the hornworm emerges. It spends the next four weeks growing to full size, after which it will make its way into the soil to pupate.

Tomato hornworms are voracious pests, munching entire leaves, small stems and even parts of the immature fruit. While they are most commonly associated with tomatoes, hornworms are also common pests of eggplants, peppers, and potatoes. Most likely, you'll notice the damage before you notice the hornworms because their color helps them blend in so well with the plant foliage. But I have learned to ‘shine the light of science’ on this problem with great effect. When I hunt for these pesky ‘pillers, I do it in the dark of night, with a UV flashlight!
What’s interesting about the nighttime detection of the hornworm is that it’s extremely hard to see by day. This fat, four-inch-long caterpillar should be easy to find, but it has spent millennia learning how to resemble tomato stems and leaves. You don’t know it’s there until its plant-chomping damage is done. But armed with a black light, you can easily stalk your prey as it glows with a greenish color among the tomato vines. Bioluminescence is sometimes used by animals to frighten off a predator, which in this case is you. But be not unnerved. If you’re repelled by plucking huge, slightly squishy, neon-lighted worms off plants with your fingers, use tongs. But do it gently, because you have an important decision to make before you stomp on them or drop them into soapy water to end their lives.

Collect them, then examine them indoors under normal light, and if you see small, white objects, like grains of rice, lined up along a hornworm’s sides, put that one safely back in the garden. The white things are the pupating larvae of a braconid wasp, which are parasitizing the hornworm and will soon destroy it from within. Their offspring will do the same to other worms.

Tomato hornworms have natural camouflage that allows them to feed on tomato (Lycopersicum solanum) and other plant foliage without being disturbed by predators. The larvae are nearly invisible against the backdrop of tomato stems and foliage, despite their bright-green color, horn-like protrusion and 4-inch body length. Tomato hornworms glow green under a blacklight, so you can spot and eliminate them from your tomato plants before they devour the foliage. Another sign that your plants have an infestation of hornworms is the small black droppings they leave behind on lower plant leaves.

So how does one use the blacklight to hunt down the dreaded tomato terrorist? It is easy. Just follow these simple steps:

1. Take a blacklight flashlight outside when
it's dark. Alternatively, put a blacklight bulb in a small desk lamp and plug it into an extension cord, if necessary, to reach the infested plants.

2. Fill a cup with water and about 1 teaspoon of liquid dishwashing detergent to collect and kill the hornworms. Or just plan to drop them on the ground and stomp them. The make a very satisfying squish!

3. Shine the blacklight over the plant and examine all its parts, from the ground up. Look at the undersides of the leaves, since this is a common hiding place for hornworms. They’ll glow under the light. Pick off the hornworms from the plant that are not hosting the larvae of braconid wasps, and place them in the cup of soapy water or just squish them under foot. Dispose of the hornworms in the garbage.

It’s also possible that you will fall in love with this odd creature and not be able to destroy any of its kind. While not an issue for me, I’ve known it to happen to the best of gardeners. In that case, just encourage beneficial insects such as ladybugs and lacewings to patrol your garden, by keeping the yard poison-free. These and other insects prey on hornworm larvae before they grow to monstrous size.

Ladybugs can be purchased at most plant nurseries, and a black light that emits only UV light can be found online. After tomato season, you might find other ways to put the black light to use too. For example, you can shine it around your kitchen sink and counters, in the dark, and locate any *E. coli* bacteria that may be present.

Now that’s scary. Happy Gardening!!
Zion Lutheran Donation Garden!
Pictures Taken by Terri Hanson
Although the plant sale was at two different locations at two different times, we, plus friends, came together to provide a good start of over $800 to the new Emma Mae Pruitt scholarship fund.

A very sincere Thank You goes to Susan Cranick and Lynn Pruitt who offered so much of their time talking with friends, digging and, of course, donating all the plants from their beautiful gardens.

Emma Mae will surely be smiling as future students will have some of their future education costs covered as they benefit from this scholarship named in her honor and supported by generous Master Gardeners.

“I hope friends always know they’re welcome to walk my gardens anytime and enjoy” says Susan and, I’m sure Lynn concurs.

Both Lynn and Susan commented that it was hard to charge friends and Master Gardeners for their beautiful plants...but knew that it was all going to a great cause!!

Thank you!
If you plan to enter the world of growing fruit, strawberries are one of the easiest fruit to grow and great for beginners. Plus, homegrown strawberries are far more flavorful than what you’ll ever find in a grocery store. Why? The sugar in berries converts to starch soon after they’re picked. Learn more about growing strawberries in the home garden.

ABOUT STRAWBERRIES

The best thing about strawberries is that they’re very easy to grow in almost all climates and soils across the United States and Canada—as long as you plant them in a location that gets full sun.

Strawberry plants come in three types:

1. **June-bearing varieties bear fruit all at once, usually over a period of three weeks.** Day-length sensitive, these varieties produce buds in the autumn, flowers, and fruits the following June, and runners during the long days of summer. Although called “June-bearing” or “June-bearers,” these strawberries bear earlier than June in warmer climates.

2. **Everbearing varieties produce a big crop in spring, produce lightly in the summer, and then bear another crop in late summer/fall.** These varieties form buds during the long days of summer and the short days of autumn. The summer-formed buds flower and fruit in autumn, and the autumn-formed buds fruit the following spring.

3. **Day-Neutral varieties produce fruit continuously through the season, until the first frost:** Insensitive to day length, these varieties produce buds, fruits, and runners continuously if temperature remains between 35° and 85°F (1° to 30°C). Production is less than that of June-bearers.

For the home garden, we recommend June-bearers. Although you will have to wait a year for fruit harvesting, it will be well worth it.

WHEN TO PLANT STRAWBERRIES

- Plan to plant as soon as the ground can be worked in the spring. See your local frost dates.
- Establish new plants each year to keep berry quality high each season. Strawberry plants will produce runners (daughter plants) that will root and grow into new strawberry plants.
- Buy disease-resistant plants from a reputable nursery, of a variety recommended in your area. Consult with the nursery you buy them from or with your state Cooperative Extension service for locally recommended varieties.
CHOOSING AND PREPARING A PLANTING SITE

• Strawberry plants require 6-10 hours a day of direct sunlight, so choose your planting site accordingly.
• Strawberries are tolerant of different soil types, although they prefer loamy soil that drains well. Ideally, begin working in aged manure or compost a couple months before planting. If you have clay soil, generally mix in 4 inches or more of compost, and rake the clay soil into raised mounds to further improve drainage. If your soil is sandy, simply cultivate lightly to remove weeds, and mix in a 1-inch layer of rich compost or rotted manure.
• Soil pH should be between 5.5 and 7. If necessary, amend your soil in advance of planting. If soils in your area are naturally alkaline, it is best to grow strawberries in half-barrels or other large containers filled with compost-enriched potting soil.
• The planting site must be well-drained. Raised beds are a particularly good option for strawberry plants.
• Practice crop rotation for the most success. Unless you plan to amend your soil each year, do not plant in a site that recently had strawberries, tomatoes, peppers, or eggplant.

HOW TO PLANT STRAWBERRIES

• Provide adequate space for sprawling. Set plants out 18 inches (1½ feet) apart to leave room for runners and leave 4 feet between rows. Strawberries are sprawling plants. Seedlings will send out runners, which in turn will send out their own runners.
• Make planting holes deep and wide enough to accommodate the entire root system without bending it. However, don’t plant too deep! The roots should be covered, but the crown should be right at the soil surface. It is very important that you do NOT bury the crown (central growing bud) of the plant or it could rot. The leaves, flowers, and fruit must be exposed to light and fresh air.
• To settle their roots into the soil, water plants well at the time of planting.
• Keep strawberry beds mulched to reduce water needs and weed invasion. Any type of mulch—from black plastic to pine straw to shredded leaves—will keep the soil moist and the plants clean.
• Be diligent about weeding. Weed by hand, especially in the first months after planting.
• Moisture is incredibly important to strawberries due to their shallow roots. Water adequately, about one inch per square foot per week. Strawberry plants need a lot of water when the runners and flowers are developing and again in the late summer, when the plants are fully mature and gearing up for winter dormancy.
• Fertilize with all-purpose granules for strong growth. In warm weather, berries ripen about 30 days after blossoms are fertilized.
• In the first year, pick off blossoms to discourage strawberry plants from fruiting. If not allowed to bear fruit, they will spend their food reserves on developing healthy roots instead, which is a good thing. The yields will be much greater in the second year.
• Eliminate runner plants as needed. First and second generations produce higher yields. Try to keep daughter plants spaced about 10 inches apart.
• Row covers are a good option for protecting blossoms and fruit from birds.

Growing Strawberries... Continued
WINTER CARE OF STRAWBERRIES

Strawberry plants are perennial. They are naturally cold hardy and will survive mildly freezing temperatures. So, if your area has mild winters, little care is needed.

In regions where the temperature regularly drops into the low twenties (Fahrenheit), strawberries will be in their dormant stage. It’s best to provide some winter protection:

- When the growing season is over, mow or cut foliage down to one inch. This can be done after the first couple of frosts, or when air temps reach 20°F (-6°C).
- Mulch plants about 4 inches deep with straw, pine needles, or other organic material.
- In even colder regions, more insulating mulch should be added.
- Natural precipitation should appropriately maintain sufficient soil moisture.
- Remove mulch in early spring, after the danger of frost has passed.

HOW TO HARVEST STRAWBERRIES

- Fruit is typically ready for harvesting 4-6 weeks after blossoming.
- Harvest only fully red (ripe) berries, and pick every three days.
- Cut by the stem; do not pull the berry or you could damage the plant.
- For June-bearer strawberries, the harvest will last up to 3 weeks. You should have an abundance of berries, depending on the variety.

HOW TO STORE STRAWBERRIES

- Store unwashed berries in the refrigerator for 3–5 days.
- Strawberries can be frozen whole for about 2 months.

EXAMPLES OF PESTS/DISEASES

1. Gray Mold
2. Powdery Mildew
3. Japanese Beetles
4. Spider Mites
5. Slugs

PEST-BEATING TIPS

- Keeping beds weed-free and using a gritty mulch can deter slugs and bugs. Spread sand over the strawberry bed to deter slugs. (This also works well for lettuce.) Pine needles also foil slug and pill-bug damage.
- For bigger bugs such as Japanese beetles, spray your plants with puréed garlic and neem seed oil.
- When birds threaten your strawberries, position balloons with scare-eyes above the beds and use reflective Mylar bird tape to deter them.

Growing Strawberries... Continued
RECOMMENDED VARIETIES

Try planting more than one variety. Each will respond differently to conditions, and you will have a range of different fruits to enjoy.

- ‘Northeaster’ is best suited for the northeastern US and southeastern Canada. Fruit has strong flavor and aroma.
- ‘Sable’ is hardy to zone 3, early season, great flavor.
- ‘Primetime’ is a mild-flavored, disease-resistant variety, best adapted to the Mid-Atlantic.
- ‘Cardinal’ is a good variety to try in the South.
- ‘Camarosa’ is a good variety to try on the West Coast.
- ‘Tristar’ is a day-neutral variety that’s very well-suited for hanging baskets.

WHY ARE STRAWBERRIES CALLED STRAWBERRIES?
One theory is that woodland pickers strung them on pieces of straw to carry them to market. Others believe that the surface of the fruit looks as if it’s embedded with bits of straw. Still others think that the name comes from the Old English word meaning “to strew,” because the plant’s runners stray in all directions and look as if they are strewn on the ground.

The June full Moon is called the Strawberry Moon because when this Moon appeared, it signaled that it was time to start gathering ripening fruit.
Muscatine Saturday Farmer’s Market Sign Up

We will be at the market one Saturday a month this summer. You have your choice of Saturday’s during the months of June, July, August and September. You are asked to bring a recipe and or provide a tasting based on the theme you select. (Your own or the suggested one for the month.) Grab a Master Gardener Friend and join in the fun showcasing Muscatine County Master Gardeners!!

Additionally, you will be encouraging folks at the Market to become a Master Gardener or at least be aware of the opportunity to do such!!

Dates:

- **July**: 3rd, 10th, 17th, 24th or 31st (One Saturday for the month ..your choice.)
  - Theme: My favorite 4th of July Dessert is? Or I like the Muscatine County Fair because of ?
- **August**: 7, 14, 21, 28th (One Saturday for the month... your choice.)
  - Hot days of summer... my favorite salad is? Or Sweet Corn many different ways!
- **September**: 4, 11, 18, 25th (One Saturday for the month... your choice).
  - Theme is Apples, pumpkins and gourds!! Or What do you do with a Spaghetti Squash?

Please contact: Mary Wildermuth at mlwilder@machlink.com with your selected time... you earn volunteer hours.... For the 7-11:30 time invested at the market!!

I want to volunteer for __________________Saturday in July.
I want to volunteer for __________________Saturday in August.
I want to volunteer for __________________Saturday in September.
Emma Mae Pruitt’s Favorite Flowers—IRIS
Photo’s Provided by Lynn Pruitt, Master Gardener
Have you ever seen these black spots on an Iris Leaf? The mystery this week finds a group of pupae of the parasitic wasp genus *Eulophus*. The black things are the pupae and the yellow things are the meconia. (basically the last bit of waste expelled from a wasp larva’s gut before it becomes a pupa.)

Larvae of *Eulophus* are external parasites that latch on to caterpillars and suck hemolymph (you can think of this as bug blood, however, it’s not green like in the movies), and other tissues and nutrients from the caterpillars. There’s no way of knowing who the unfortunate victim is since the caterpillar wasn’t found with the murderers.

Donald Lewis of Iowa State University said that these wasp pupae are also called “tombstone” pupae. The earliest reference that can be found in Samuel Hubbard Scudder’s "Butterflies of the Eastern United States and Canada with Special Reference to New England" (1889).

Scudder puts it best, “And still another parasite [a species of *Eulophus*], the coal-black chrysalides of which one may sometimes find to the number of twenty or more, standing erect on their hinder ends around the corpse they have destroyed, like tombstones in a cemetery, a most melancholy spectacle on opening a nest to get a young caterpillar.”
Solution to Crossword on Page 7
Muscatine County Extension Office
1601 Plaza Place
Muscatine, IA 52761
563-263-5701 or 800-992-0894
Iowa State University Extension programs are available to all without regard to race, color, national origin, religion, sex, age, or disability. Iowa State University and U.S. Department of Agriculture cooperating.

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Current Emails and Addresses
As a reminder – keep both the Extension Office current on any changes of e-mail addresses, phone numbers, or mailing addresses. These need to be current to keep you — our members — informed.