

June 2019

Muscatine County



**WORTHWHILE
DIRT**

PLAN AHEAD

Here are some items for my (yours too) to-do list in June:

- 2 — Read Newsletter and note upcoming dates
- 5 — Attend Conservation Field Day at West Branch
- 7 — Volunteer for Farmers Market
- 8 — Check out Coffee in the Park (Weed Park)
- 11 — Go to Jane Hodge's home for General Meeting and Potluck
- 13 — Attend Trees Forever Event in Iowa City
- 20 — Go to Mary Danner's home for Garden Tour
- 24 — Attend Webcast on "Give Your Garden Wings)
- 28 — Check out Minnesota Statewide Extension Master Gardener Conference
- 29 — Send my flower photos to newsletter editor
- 30 — Start planning/planting my Bucket Brigade entry



Upcoming Meeting & Event Highlights

Coordinated by Jane Hodge, Master Gardener



GENERAL MEETINGS

June 11, Tuesday at 6:00pm Potluck at Jane Hodge's home. Jessica Bolser, the botanist for US Fish and Wildlife at Port Louisa, will speak to us about flora along the river and floodway, and how plants affect the diversity of animals. Q&A to follow; then we will enjoy our delectable potluck. You may take a garden stroll or gather for a walk after eating.

Place: 2095 Vail Avenue, from Muscatine go east along highway 22, just past Fairport State Park but before Fairport city is Vail Avenue, turn left, our drive is the first one on the right. I'll have some extra Bug Soother available;)

September 10 at 6:00pm at the home and gardens of Ed Moreno, 1330 100 Street, West Liberty. Matt McAndrew's topic will be watershed protection and water quality.

November 12 at 6:30pm at ISU Extension – Melissa Baker, Horticulturalist for Muscatine Parks and Recreation Department, will be presented about the hanging baskets she has planted and maintained throughout Muscatine.

HOME GARDEN TOURS

1. Mary Danner, June 20th, 5pm to 7:30 at her home at 1748 235th St, Letts IA. Approximately 10 miles from the Muscatine by-pass; 1 mile from Arden Creek Vineyard for reference.
2. Bill Koellner & Gretchen Nollman will lead a tour of Muscatine Co. Fairgrounds, July 9, 6pm
3. Heather Harroun, July 13, 11723 239th St. W., Illinois City, Illinois. We are welcome throughout the day but she will give us a personalized tour at 11:00am.

SUMMER WEBCAST SERIES *Free and open to the public — bring a friend!*

* Monday, June 24, 2019 6:30-7:30 P.M. Give Your Garden Wings. Jessie Lowry, director of conservation and research at Blank Park Zoo, will share pollinator garden best practices. Participants will learn what to plant and will get to explore the monarch butterfly migration.

* Monday, July 22, 2019 6:30-7:30 P.M. Gardening FAQ. From vegetables to flowers, explore the in-depth answers to frequently asked gardening questions with Aaron Steil, assistant director at Reiman Gardens.

* Monday, August 13, 2019 6:30-7:30 P.M. Ecology Plus Diversity. Explore how to create plant communities that mimic nature with Grant Thompson, assistant professor of horticulture at Iowa State.

OTHER

International Master Gardener Conference; Valley Forge, PA; Monday, June 17, 2019

FARMERS' MARKET SCHEDULE 2019

| | |
|--------------|-----------------------------------|
| June 8 | _____ |
| June 15 | _____ Carol Gundrum _____ |
| June 22 | _____ Rachael Horner _____ |
| June 29 | _____ Mary Danner/Peggy Fox _____ |
| July 6 | _____ |
| July 13 | _____ Ed Moreno _____ |
| July 20 | _____ Muscatine County Fair _____ |
| July 27 | _____ |
| August 3 | _____ |
| August 10 | _____ |
| August 17 | _____ |
| August 24 | _____ Maryrose Peterschmidt _____ |
| August 31 | _____ Labor Day Weekend _____ |
| September 7 | _____ |
| September 14 | _____ |
| September 21 | _____ |
| September 28 | _____ |



Several have said they would like to participate but weren't at the last meeting to sign up. I will fill in with singles or dates that aren't spoken for so my name is not on the schedule yet. Please have members contact me to get their name down. We don't really start until June 8 or 15 but that is fast approaching. If any of those signing up want more instructions on procedures let me know and I'll work with them otherwise a meeting is probably unnecessary as most have been doing it for years. The ISU Spend Smart Eat Smart is available to them for recipes if they wish. Thanks for your help. Susan

Conservation Field Day

Wednesday, June 5, 2019 4 to 7 PM, Meal at 6:30

Demonstration of Complimentary Conservation Practices

Fawcett Farms Cold Spring Pond
459 290th Street, West Branch, Iowa



Join us to learn about and view conservation practices including:

- ◆ COVER CROPS ◆ TILE WATER MONITORING ◆ RIPARIAN BUFFER
- ◆ PRAIRIE POLLINATOR STRIPS ◆ SATURATED BUFFER
- ◆ ROCK CHUTE WATERWAY OUTLET ◆ TREE PLANTING AND MAINTENANCE

| | |
|-------------|--|
| 4:00 - 5:00 | Explanation of practices |
| 5:00 - 6:30 | Tours of Riparian, Pollinator, Saturated Buffer, Tile monitoring |
| 6:30 | Meal, questions and sharing with presenters |

R.S.V.P. by May 29

319-930-2212 mlagosmcaudrew@hotmail.com

THIS FIELD DAY IS FREE, OPEN TO THE PUBLIC AND INCLUDES A COMPLIMENTARY MEAL

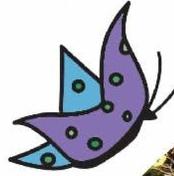
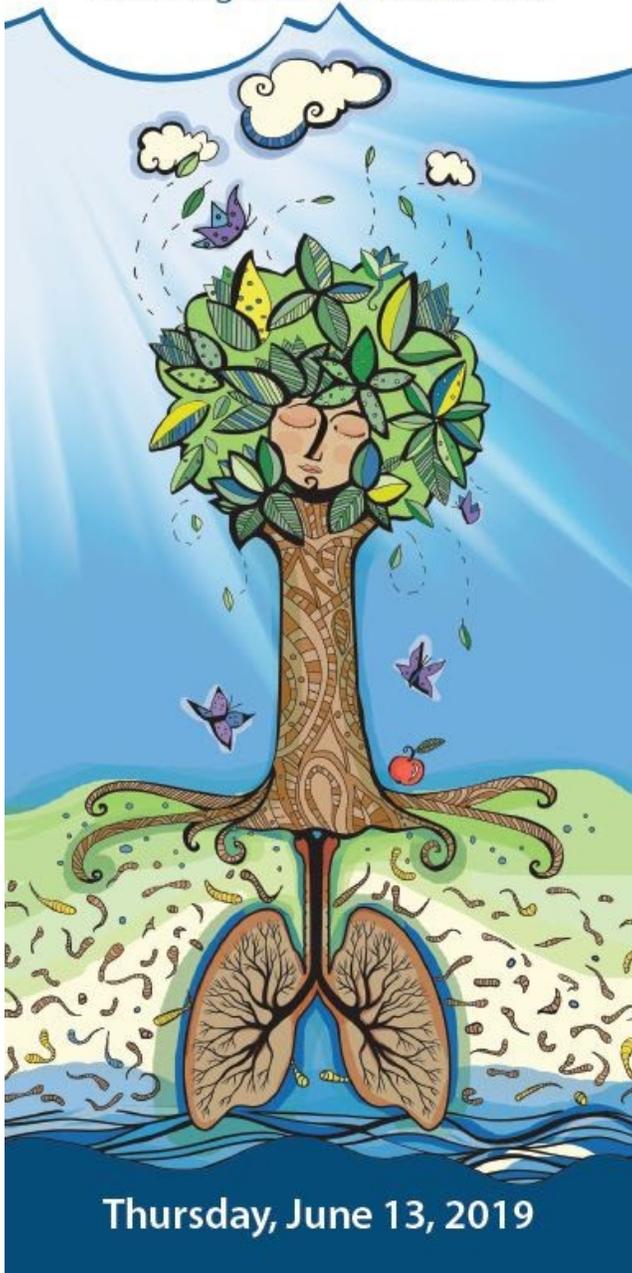


IOWA STATE
UNIVERSITY
Extension and Outreach



USDA is an equal opportunity provider, employer, and lender.
Contact Ken Fawcett at 319-430-2391 for reasonable accommodations.

You're invited to
**Trees Forever's Annual
Celebration and Awards Dinner**
Teaching the Value of a Tree



KEYNOTE SPEAKER Guy Sternberg

As our keynote speaker this year, Guy Sternberg presents "The Diversity and Majesty of Bur Oak." Sternberg will share images of bur oak trees throughout the nation that will inspire and showcase the value of these majestic trees. He is the founding president of the International Oak Society and the director of Starhill Forest Arboretum, which includes the most comprehensive Plant Collection Network certified oak collection in Northern America, and the author/photographer of many books and articles about trees.



TREES FOREVER
Planting a better tomorrow™

Register at
www.TreesForever.org/AnnualCelebration
or by calling Becky at 800.369.1269 x112

Here is some information on Minnesota's Statewide Extension Master Gardener Conference to be held June 28-29, 2019 at the Minnesota Landscape Arboretum. In case the print is too small for you to read the details, please go to their website:

<http://www.arboretum.umn.edu/EMGConference2019.aspx>

Emma Mae and Lynn visited this Arboretum a couple years ago and it is a fantastic venue for flower lovers!



Minnesota Statewide Extension Master Gardener Conference

Friday, June 28, 2019
1:30 p.m. - 5:30 p.m.
Saturday, June 29, 2019
8:30 a.m. - 4:30 p.m.

The focus of this year's conference is to inspire Master Gardener Volunteers to take action in their communities around the state Master Gardener Program priority areas: Pollinators, Clean Water, Local Food, Nearby Nature, [Climate Change](#), Plant Biodiversity, and Horticulture Skills. The hallmark of this conference will feature hands-on sessions sharing new and cutting-edge learning about Bugs, Trees & Garden Design.

Watercolor Image: "Dahlia" by Lynne Hagen

HOME : MINNESOTA LANDSCAPE ARBORETUM NAMED BEST BOTANICAL GARDEN BY USA TODAY READERS CHOICE : EVENTS AND PROGRAMS : CONFERENCES AND SUMMITS : CONFERENCES AND SUMMITS : MINNESOTA STATEWIDE [EXTENSION](#) MASTER GARDENER CONFERENCE



Register

Pre-conference Session

Agenda

Bug Track

Tree Track

Garden Design Track

Confirmed Speakers

2019 Planning Team

Area Accommodations

QUESTIONS ABOUT REGISTRATION?

Call 612-301-1210
Email: ArbEdu@umn.edu

Our Plants, Our Planet, Our Volunteers

REGISTER

FRIDAY, JUNE 28 - PRE-CONFERENCE NATURE HEALS [TOOL KIT](#) TRAINING
FREE for Master Gardener Volunteers who are registered for the conference
\$15 for Master Gardener Volunteers who are not registered for the conference

REGISTER

FRIDAY, JUNE 28
\$65 includes afternoon sessions, snack, and Arboretum admission

REGISTER

FRIDAY, JUNE 28 Farm at the Arboretum Sneak Peek Soiree
\$35 includes Brisket Buffet Dinner, [Carrot Cake](#) and Arboretum admission

REGISTER

SATURDAY, JUNE 29
\$110 includes morning and afternoon sessions, morning coffee/breakfast, lunch, snack, and Arboretum admission

BUNDLE

BUNDLE BOTH DAYS
FRIDAY, JUNE 28 includes Farm at the Arboretum Sneak Peek Soiree, afternoon sessions, snack, and Arboretum admission

and
SATURDAY, JUNE 29 includes morning and afternoon sessions, morning coffee/breakfast, lunch, snack, and Arboretum admission
\$199

Master Gardeners are enthusiastic and willing to learn. Prior gardening experience is not required.

Volunteer in the Garden



Details

- ▶ 25 locations across Iowa
- ▶ 40 hours of training taught by Iowa State University educators and local experts
- ▶ One, all-day workshop, October 19 at Iowa State University, Ames

Master Gardener Training

\$195 fee for 40-hour training course. Participants must provide 40 volunteer hours upon completion of the course. To maintain active status Master Gardeners must complete 10 hours of continuing education and 20 volunteer hours each year.

www.extension.iastate.edu/mastergardener



Applications are due August 1, 2019

Contact your ISU Extension and Outreach county office:

Muscatine County ISU Extension and Outreach

Contact: Krista Regennitter, KristaR@iastate.edu, 563-263-5701

Dates:

Kick-Off August 19, 6-7:30 PM

Saturday's, 9 AM - 1 PM: 8/24, 9/7, 9/21, 10/5, 11/2

Class at Iowa State University: 10/19

Locations will vary based on topic. Schedule will be provided upon registration.

Apply Online: <http://bit.ly/2GBpQFW>

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MG017 March 2019

Horticulture and Home Pest News

Current Issue: May 24, 2019

[Perennial Geraniums or Cranesbills](#)



By Cindy Haynes, [Department](#) of Horticulture

There are about 300 species of geraniums. There is even a species of Geranium (*Geranium maculatum*) that is native to Iowa woodlands. Perennial or hardy geraniums are the “true geraniums” -- unlike the common “annual geraniums” (genus *Pelargonium*), which are often grown in outdoor containers. Perennial geraniums are also called cranesbills because their long, slender fruit resemble the beak or bill of a crane.

[Perennial Phlox for Home Landscapes](#)



By Richard Jauron, Department of Horticulture

Selecting perennials for the home garden can be a bit intimidating as there are hundreds of plant [species](#) and innumerable cultivars available. Among those that deserve consideration are several species of Phlox (The word phlox is Greek meaning flame and refers to their brightly colored flowers).

[Plant and Insect Diagnostic Clinic Update – May 24, 2019](#)



By Lina Rodriguez Salamanca, Plant & Insect Diagnostic Clinic

In my previous clinic update, I warned you about inspecting your plants before purchasing. I found an excellent example of what not to buy at a plant sale. The plant had virus [symptoms](#) restricted to some leaves.

Director's Input

By Krista Regennitter

Muscatine County Extension Director, Iowa State University Extension and Outreach

Telephone 563-263-5701



Hello Master Gardeners,

Who is building the boat? What a crazy spring this has been, following a crazy winter. Seems this may be our new normal! Thank you to everyone who helped with the Plant Sale – sounds like it was a great

success! Kudos to Jane Hodge and her Educational Committee for all the great events they have lined up this spring and summer; I don't think anyone can say they didn't have enough opportunity to get their educational hours in!

We are gearing up to offer the Master Gardener training this fall. We have moved to an every other year schedule for this training. We are also transitioning to a new format called the flipped classroom. Going forward trainees will watch the lectures at home then attend in-person hands-on sessions that connect to the lecture content. Kathy Haltmeyer and Rachel Horner Brackett are working hard to schedule some great in-person opportunities. The full schedule will be released later this summer; current Master Gardeners are encouraged to attend! For now we hope you will help us recruit for this fall's training. Information you can share can be found at: <https://www.extension.iastate.edu/muscatine/news/2019-master-gardener-training>
We appreciate your advocacy and help in

keeping the Master Gardener pipeline strong!

As to not repeat content I want to encourage you all to check out the Muscatine County Extension Newsletter when it arrives in your inbox (usually a day after this one!). We have a lot of great stuff going on at the Extension Office and love it when you connect with us outside of Master Gardeners. Also, if you are on Facebook make sure to like our page (www.facebook.com/MuscatineExtension) to watch for building updates! It has been a lot of fun to see the walls being framed. We anticipate a move in September but a firm date has not been identified. We are still accepting donations to help us with this project – if you are at all interested in supporting our new office please reach out to me (563-263-5701 or Kristar@iastate.edu) or you can find information at: <https://www.extension.iastate.edu/muscatine/news/muscatine-county-extension-office-move-2019> Thank you to everyone who has made a donation so far!!

Here's to hoping that May showers will lead to June flowers.



See you at Fair!

Krista

News from the Chair

By Mary Danner
Master Gardener



The May flowers arrived...and are now drowning from all this rain. I may complain about my lack of dry days to dig in the dirt, but then I am humbled to see the neighbor's corn field in much worse shape; and a fallow field on the other side as they have not been able to plant soybeans yet. For whatever troubles us, someone else has it worse.

I have some plants that I purchased a month ago that are not yet in the ground as I waited for my garden to dry out, (Ha!) and I noticed they are doing poorly; some mold growing around the surface. I kept them under the deck for protection but the deluge of rain is too much. If you have a similar situation, I recommend getting them to air out somehow, pull them out of their pots for awhile, or repotting in dry potting soil so their roots are not sitting in damp cold conditions. We All need some sunshine!

Look for details in this newsletter about the General meeting & potluck on June 11th at Jane Hodge's home. We will enjoy the view of the river from her yard while we hear from Jessica from the Port Louisa Nature Preserve.

If this weather cooperates, I will host a garden walk on June 20th, from 5-7:30pm at my home in rural Letts. We are approximately 10 miles from the by-pass; address noted under 'Garden Tours'. It is a large yard with lots

of mole runs & Creeping Charlie but is pure country & homey. Come anytime that evening.

June is a beautiful and busy month, enjoy every moment.

Happy Gardening,
Mary

Art of Gardening Finale

By Susan Cradick, Master Gardener

Excerpt from Susan's email regarding the success of this year's Art of Gardening: "Our

portion was \$1882.29, down from \$2400.20 last year and \$1915.00 the year before. We know attendance was down and next year it

will be a week or so later but think without us having the little theatre for larger size classes, the smaller attendance lend itself to using classrooms and was easier handled. Believe our speakers were excellent. We still need to have a meeting to review evaluations but haven't been able to connect with Cindy. Thanks to all for your great work and we'll get together soon be-



fore we all forget any comments and improvements on our mind. Thanks again. Susan

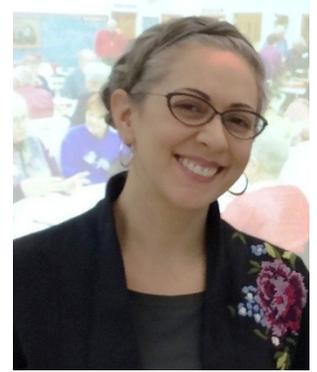
Board Meeting Notes

Board Meeting Agenda

Muscatine Master Gardeners Association

May 14th, 2019

Muscatine County Extension Office, 6:30 p.m.



Board Members in attendance: Mary Danner, Kathy Haltmeyer, Heather Harroun, Jane Hodge, Ron Jensen, Maryrose Peterschmidt and Rachel Horner Brackett

Extension Liaison: Krista Regennitter

Not in attendance: Ed Moreno, Gretchen Nollman (intern member)

Welcome and Call Meeting to Order

Treasurer's Report and Payment of Bills

Current balance is \$4,914.31 (5/14/19)- Haltmeyer motions to approve, Jensen seconds

Review and Approve Minutes of Last Meeting (4-09-19)- **Jensen motions to approve, Haltmeyer seconds**

Confirm and Update Meetings for 2019

Board Meetings

May 14

August 13 (5:30)

October 8

Dec. 10

General Meetings

June 11

Sept 10

Nov 12

Jan 2020 (Annual Mtg)

General Meeting Programs for 2019

June 11 –**6pm** Potluck & tour at Jane Hodge's w/Jessica from Port Louisa Nat pre serve

Sept 10- Tour at Ed Moreno's plus watershed program by Matt McAndrew

Nov 12- **6:30pm** Melissa Baker, Horticulturalist for Muscatine Parks and Recreation Dept

Jan '20- **Date TBD** Annual Meeting at New Hope Church

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Garden Tours for 2019:

June 11-**6pm** Jane Hodge (including general meeting)-*see above*

June 13-CANCELED Laura McGinnis 4-6:30 pm-CANCELLED

July 9- **6pm** Muscatine Co Fairgrounds tour with Bill & Gretchen

July 13- **11am to 6pm; Master Gardeners will be convening at 4:30pm;** Heather Harroun--day long tours & multi group event with potluck

July 29- ISU Fruitland Research Farm-tour of demo gardens

Sept 10- Ed Moreno-(including general meeting), *see above*

Events for 2019:

June 17-21 International MG Conference, Valley Forge, PA

July 16 - Bucket Brigade at Muscatine Co Fair-Floral Hall

Old Business:

Spotlight on MG Projects-follow up-schedule

Art of Gardening-follow up

Plant Sale follow up

Sales totaled \$650 – will be deposited to our balance later this week

Note: there is a regulation that woody stemmed plants that do not die back annually (e.g., bridal wreath, raspberries, lilacs) are not legal to sell without an inspection

MG Master Events & Opportunities Calendar-update

FY19 Budget review

Full review at August board meeting

Changed Bylaws & moved Annual Mtg to Jan, 2020; set a date?

Wording of Article IV and article VI changed to reflect the January annual meeting date voted on during the February 2019 general meeting

New Business:

Zoo Garden Coffees-2nd Saturdays **9-11:00AM**

June 8

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July 13– guest speaker Dr. Cindy Haynes, ISU extension horticulturalist

Possible to tape this and share it with other Iowa groups?

August 10

Summer Web-casts- all held at the Muscatine County Extension office from **6:30-7:30PM**

June 24- Give your Garden Wings

July 22- Gardening FAQ

August 13- Ecology Plus Diversity

Other.....

June 5, 4-7PM with free meal at 6:30—Conservation Field Day and Demonstration of Complimentary Conservation Practices (RSVP by May 29 to 319-930-2212)

Master Gardener training kickoff is August 19. This year begins the NEW training format! See flyer and SHARE the flyer! Current master gardeners can attend the flipped classroom activity sessions to earn education hours

Update the “what is required to be a master gardener” handout for the Farmer’s Market and other events

Hodge motions to adjourn, Harroun seconds

Simple Tips for Gardeners

From “Garden Thoughts” by Dorothy Frances Gurney

“Gardening is about enjoying the smell of things growing in the soil, getting dirty without feeling guilty, and generally taking the time to soak up a little peace and serenity.” – Lindley Karstens

If I wanted to have a happy garden I must ally myself with my soil; study and help it to the utmost, untiringly... Always, the soil must come first. – Marion Cran

Ideal Soil

“Sandy loam is the best type of soil for vegetable gardening. Try squeezing your soil into a ball and watching to see if it crumbles. If you can do this, you have ideal soil.”

Hy-Vee Main Street Donation Garden



Emma Mae Pruitt brought plants from home and Hy-Vee donated more plants and mulch to expand the flower display at the Main Street Donation Garden.



Nancy Dew along with Lynn and Emma Mae Pruitt are working with students from Flickinger Learning Center to plant multiple raised bed vegetable gardens at the Main Street Garden.



The Main Street Garden is progressing very well since it was planted prior to much of the recent rains and the raised beds allow excess water to be drained to the adjacent lawn area.

Garden Center Visit to Iowa Landscaping, Iowa City



On the evening of May 9 a group of Muscatine County Master Gardeners toured the garden center of Iowa Landscaping. Manager Chuck Porto provided interesting information on conifers with special emphasis on which plants are best suited for southeast Iowa.

Muscatine County Fair Office Garden



As Fair-Goers enter the Muscatine County Fair Grounds in West Liberty, immediately to the right is the Fair Office along with a well-ordered flower garden. Each spring Jan and Bill Koellner along with Emma Mae and Lynn Pruitt thin out and weed this garden. So this year as you head to the Fair Grounds for the Bucket Brigade and/or Floral Hall and/or garden produce exhibits, take a glance at this garden as you enter. Various plants will be blooming by then.

Plant Sale 2019



Guess what! May 11, 2019 was another rainy day! But our Master Gardeners made the most of it!

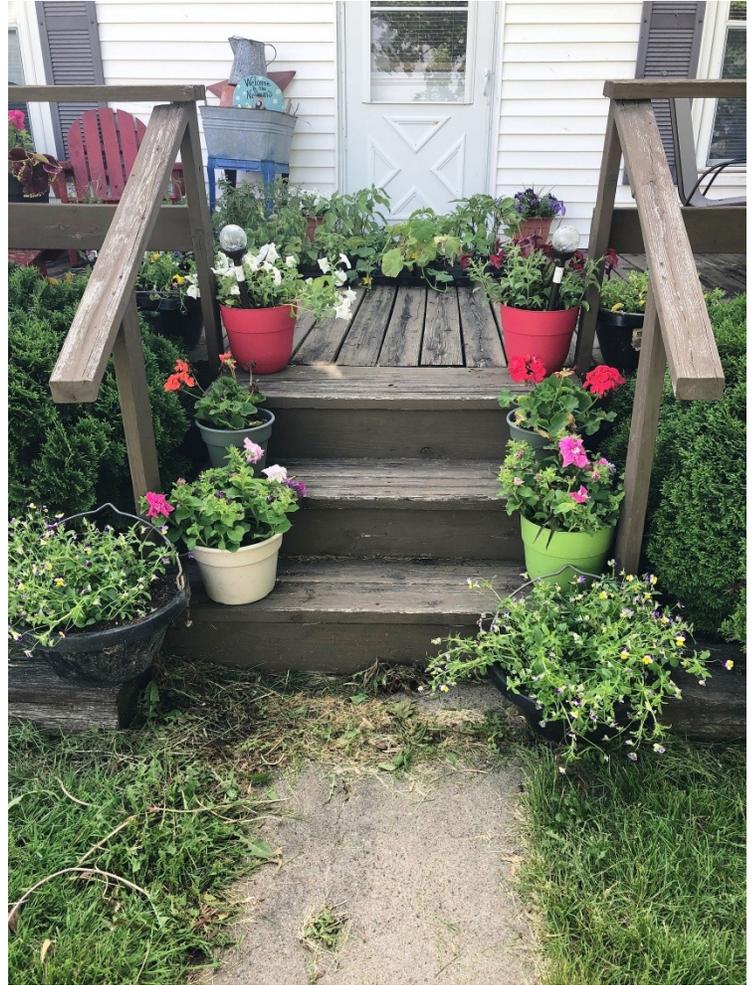


This was the 3rd (???) Annual Joint Plant sale held in Muscatine in conjunction with other local horticulture organizations. Even though the weather was again cold and rainy, our members contributed from their personal gardens to make it a great success! Thanks to all, especially Heather Herroun for organizing/coordination!



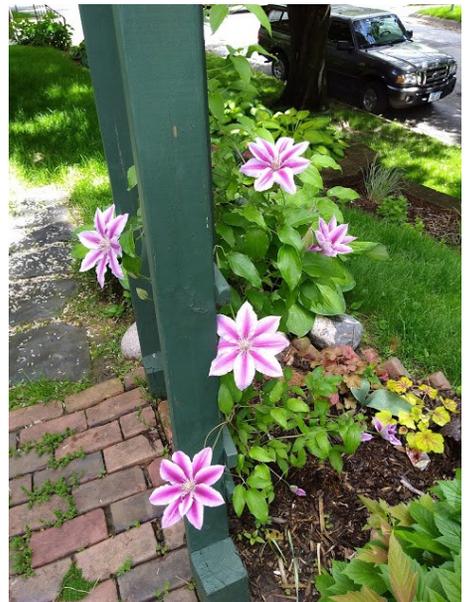
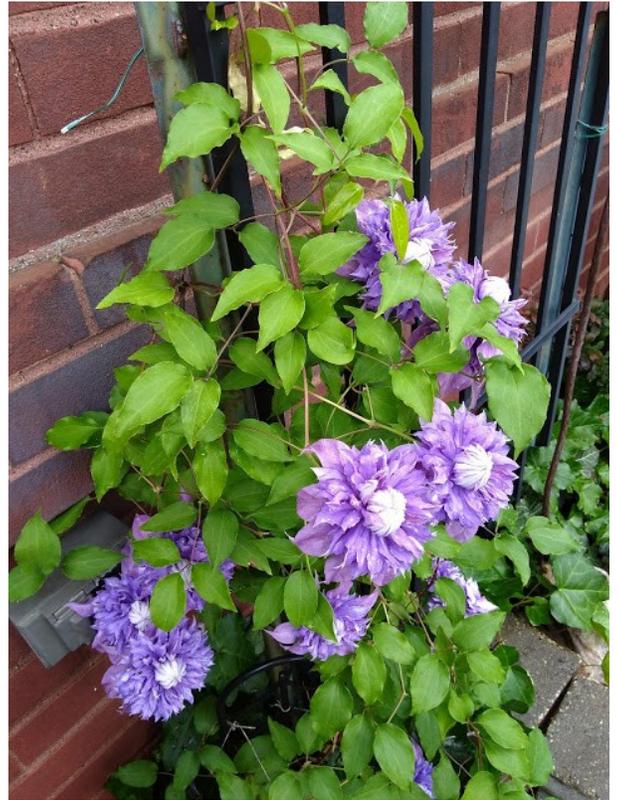
Member Photos

These colorful floral displays were graciously provided to our Newsletter by Gretchen Nollman. Very attractive!



Member Photos

Pictures from my yard. Despite all the rain, these plants are looking pretty good. Not much to report on at the Zoo Garden. Maryrose Peterschmidt



Member Photos

We have been delayed from planting many flowers due to the excessive rains. Nevertheless, there is still a lot of beauty to enjoy. Emma Mae and Lynn Pruitt



Famous Iowans Impacting Horticulture

Norman Ernest Borlaug – Agricultural Pioneer

By Lynn Pruitt, Master Gardener



Our recent Master Gardener emphasis on providing food security for all Iowans brings our attention to this famous native son “who more than any other single man of our age, has provided bread for the hungry world.” This acclamation in 1970 was aimed directly to Norman E. Borlaug as he was awarded the Nobel Peace Prize for his work to end world hunger in India and Pakistan.



Borlaug was born to Norwegian-American parents on his grandfather’s farm near Cresco in northeastern Iowa in March 1914. He grew up and worked on his parents’ nearby farm where he learned the basics of horticulture while attending a one-room country school. Following

graduation from Cresco High School where he excelled in several sports, Borlaug went to college at the University of Minnesota where he became an all-star wrestler and was eventually inducted in the Wrestling Hall of Fame.

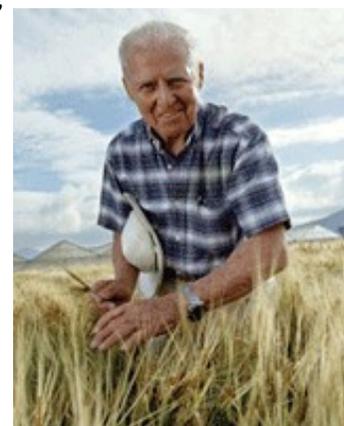
While still in college, Borlaug started work for the U.S. Forestry Service being assigned at research stations in Massachusetts and Idaho. However, he heard a lecture on the emergence of plant pathology and the possible advantageous impact it could have on solving world food problems. This convinced Borlaug to pursue graduate studies in plant pathology and genetics at the University of Minnesota where he earned a PhD degree in 1942.

Following graduation, Dr. Borlaug worked by Du Pont on critical military-related research during World War II. Near the conclusion of the war he

went to Mexico to support research to combat “rust”, a parasitic fungus that was causing recurring crop failures. By utilizing two research sites (at different elevations) he was able to speed up the time required to crossbreed various wheat varieties in his successful efforts to resist the deadly fungus. He also crossbred dwarf wheat from Japan with the taller local Mexican varieties to produce one that was able to stand until harvest under the heavy load of grain produced in the wheat heads.

Borlaug remained in Mexico for over 30 years researching additional crops besides wheat.

After Mexico, Dr Borlaug’s next challenge was India and Pakistan in the 1960s where a civil war was brewing and millions were severely malnourished and many were starving. The U.S. was sending 20% of its wheat supply to the region as emergency assistance. Dr Borlaug answered the call to come to south Asia where he applied many of the principles of good agriculture he had developed in Mexico. Within a few years (by 1968) he had Pakistan self-sufficient in wheat, and a few years later (1974) he helped India to be self-sufficient in all cereal crops. Once the countries were able to feed their people the propensity for war lessened.



Dr Borlaug also found success with rice production in the Philippines in the 1960’s and his new “miracle rice” was imported to the

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Mekong Delta in 1968. Trials were made at a few village farms and people were amazed as rice produce doubled in the first year. The health and lifestyle of the local people increased dramatically as a result.



Results of Dr Borlaug's research on food supplies have since spread around the globe. He personally worked in Mexico, India, Pakistan,

China, Egypt, Tunisia, Syria, Iran, Libya, Jordan, Lebanon, Turkey, Iraq, Afghanistan, Algeria and Saudi Arabia. His agricultural advances can be directly credited for lower infant mortality rates, greater life expectancy and higher standards of living. They can probably also be the reason behind a reduction in social tensions and lowering of political violence in many locations in the latter part of the 20th Century.

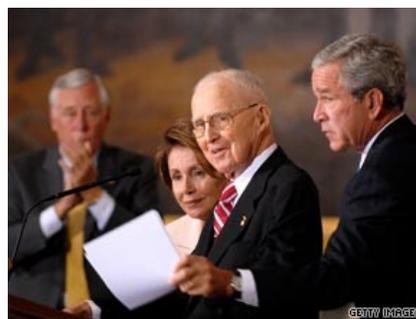
Dr Borlaug was awarded the Nobel Prize for Peace in 1970, being the only agriculturalist to be so honored. He attempted to get the Nobel Foundation to subsequently include food and agriculture as one of their prize categories. Failing that he created his own recognition organization: The World Food Prize, currently headquartered in Des Moines. Funded by Iowan philanthropist John Ruan, the World Food Prize awards \$250,000 annually. Ruan's motivation: ***"Close to one billion people still suffer from malnutrition, nearly one-sixth of the world population, primarily women and children, infants and the unborn."***

China was a country with severe food shortages during the Cultural Revolution. Some of Dr. Borlaug's wheat made its way to China in the late 1960's. He visited China in 1974 prior to the collapse of the Cultural Revolution in 1976. He returned in 1977 and several times in the 1980's

and 1990's to help the country transform its agricultural program. Borlaug worked with wheat and maize, and also helped with nutrient management strategies including organic recycling of manure.

By the 1980's, some environmentalists were critical of Borlaug's methods which used chemical pesticides and fertilizers, and resisted his efforts to address the food shortages and famines in Africa. However, he countered with the fact that his agricultural production improvements had allowed countries such as India to save and maintain large blocks of woodlands which otherwise would have been destroyed to make room for more poorly-producing agricultural fields. In 1984 when a severe famine struck Ethiopia, Borlaug responded, and even though he was in his 70's, he soon had doubled grain production in several African countries. He worked through the Carter Center (formed by former U.S. President Jimmy Carter) to train over 8,000,000 farmers in 15 African countries. Even greater progress was stifled by the lack of transportation and other infrastructure in the continent.

In addition to the Nobel Peace Prize, Dr Borlaug has been awarded the Presidential Medal



of Freedom and the Congressional Gold Medal. He continued to consult on agriculture in Mexico and to teach at

Texas A&M University up into his 90's. His wife of 69 years died in 2007 and he passed away at the age of 95 in 2009.

The Atlantic Monthly in 1997 said that ***"Norman Borlaug has already saved more lives than anyone who has ever lived."***



Pollinators and Pollinator Plants

Help the Monarchs and Bees

By Gretchen Nollman, Master Gardener,
Nollman Ag Scouting & Consulting
and William Koellner, Master Gardener



Pollinators constitute all living things such as insects, monarchs, birds, bees, and flies that will pick up the pollen and carry it to another plant, flower, tree, vegetable by enhancing that plant to reproduce in making more vegetables, fruit or flowers. An example is the movement of pollen to a flower which results in fertilization of the flower's eggs. An adequately fertilized flower will ensure that a new generation of plants can be grown. Humans and other animals rely on pollinators to produce nuts and fruits that are essential components of a healthy diets. Most flowering plant species found require pollination to make the seeds that will become the next generation of plants.

Pollination is mutually beneficial to trees, plants and to the insects and other pollinators. Meanwhile, pollinators receive nectar and/or pollen rewards from the flowers that they visit. Sugary nectar provides pollinators with carbohydrates while pollen offers proteins, fats, vitamins, minerals, and necessary phytochemicals.

Pollinators are necessary for three-quarters of our major food crops. Not every species of plant requires animal-mediated pollination services. Most crops that we like most to eat and provide most of our nutrition like fruits, vegetables, and nuts use animal-mediated pollination. Without pollinators, our diets would be severely limited, and it would be more difficult to acquire the variety of vitamins and minerals that we need to stay healthy.

Outside of agricultural, approximately 80-95% of the plant species found in natural habitats require pollination. Plants are the foundation of terrestrial food chains. The foliage and/or fruits and nuts that plants produce are eaten by plant eating animals. Furthermore, plants provide shelter and nesting habitat for many different animals and people. Thus, in order to maintain the diversity of our natural ecosystems, we need healthy pollinator populations to ensure that the next generation of plants will be produced.

To help bees, monarchs as well as other pollinators survive, have them visit your backyard by planting a pollinator garden! Pollinator gardens provide a haven for pollinators as well as a beautiful garden that you can enjoy. Some of the features of pollinator gardens include: 1) native floral resources that bloom throughout the growing season so that there is always nectar and pollen available to pollinators, 2) nesting habitat for pollinators and 3) water resources. These gardens also serve as a refuge for the monarch population and provide a habitat with native plants.

Honey bees often come to mind first when people think of pollinators. However, many different insects like bee species, butterflies, beetles, flies, some birds and some bats are pollinators. According to Department of Agriculture, there are an estimated 300,000 species of flowering plants

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worldwide that require animal pollinators. This tremendous floral variety supports a corresponding diversity of pollinators, and most of these pollinators are insects

Among pollinators, bees are the superstars—they are the only group of insects that actively collect pollen and, in the process, transfer large amounts of pollen from flower to flower. Bees also exhibit a behavior called floral constancy, which means that they visit flowers of one species repeatedly over a period of time. North America alone boasts more than 5,000 species of native bees, 90 percent of which lead solitary lives. The remaining 10 percent, social bees, live in colonies and share the work of preparing and provisioning the same nest. Whether solitary or social, many species of bees pollinate effectively, with the European honey bee, the bumble bee, and the sweat bee among the most prolific. Each, however, has different habits and prefers different crops:

European Honey Bees were Introduced to North America in the late 1600s, these social bees can forage up to three miles from their hive in search of nectar and pollen and are thus highly effective pollinators. Honey bees tend not to forage during cool and wet weather, but are excellent pollinators of sunflowers, pumpkin, zucchini, cucumber, and watermelon, and broccoli, cauliflower, cabbage, rutabaga, and turnip.

Bumble bees are social insects who live for only a single season but make the most of their brief lifespan. As very efficient pollinators, they work in both cooler and wetter weather than other bee species and excel at pollinating sunflowers, *cucumber family*, broccoli family, and tomatoes and eggplants.

Sweat bees are often overlooked because of their size and solitary nature, these bees rank among the most common garden pollinators. They frequent most major vegetable seed crops, including crops like onions and carrots that other pollinators do not find inviting.

Monarchs and other butterflies have excellent vision and are thus drawn to bright colors, including reds and oranges like sunflower, coneflower, artichoke, thistles, and dandelions, plus lavender, mint, and other herbs are naturally appealing to these fluttering insects. Attracting butterflies, however, involves incorporating plants that serve the needs of all their life stages—specifically, places to lay eggs and form chrysalides, as well as food plants for larvae or caterpillars and nectar sources for adults.

The monarchs, bees and other insects bring many talents to the garden—they both control pests and pollinate a range of plants, from broccoli family and alliums like onion, garlic, scallion, shallot, leek, and chives to celery, carrots, parsnips, fennel, dill, anise, parsley, and cilantro. Wasps do not exhibit floral constancy—or the tendency to visit a certain flower species—and, because of their short tongues, prefer blossoms with easily accessible nectar.

To attract native pollinators, an area—big or small—one must offer adequate sources of food, water, and shelter. By maintaining natural and cultivated habitats where these insects can nest, rest, and forage, anyone can reap the rewards of healthy pollinator populations. Planting a variety of ornamental flowering plants in open spaces around the perimeter or within the boundaries of a vegetable garden will promote native pollinator activity in the home garden. When selecting plants, choose native lowa perennials or self-seeding annuals and avoid using non-native or

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invasive species. Plants that attract bees, and other pollinators, including aster, bee balm, sage, verbena, and zinnias. Matching site conditions (sun/shade, wet/dry) to native ecosystems (prairie, wetlands, savanna, woodland) will further facilitate successful plantings that attract native pollinators.

To ensure that the pollinators will have something to forage from spring through fall, select various natives that flower at different times throughout the growing season. Choosing plants with a variety of flower colors and shapes will also help attract an assortment of insects of a variety of sizes and foraging habits. Larger clusters of a plant species are better for attracting pollinators than several smaller clusters in and around the garden space.

What can each of us do on our own? Use pollinator-friendly plants in your landscape. Plant shrubs and trees such as dogwood, blueberry, cherry, plum, willow, and poplar provide pollen or nectar, or both, early in spring when food is scarce.

Choose a mixture of plants for spring, summer, and fall. Different flower colors, shapes, and

scents will attract a wide variety of pollinators. These are suggestions that are natives to Iowa: Blue vervain, blue star willow, button blazing star, anemone, dwarf false indigo, golden alexander, hoary vervain, Illinois tick trefoil, iron weed, Jow pie weed, New England aster, panicled aster, partridge pea, penstemon, prairie bush cover, prairie dock, prairie milkweed, prairie sage, rattlesnake master, showy milkweed, wild quinine and wild white indigo.'

The Heritage Foundation is planting a 3-acre area in pollinator plants. These plants are all Iowa native plants and will consist of over 15 different species. There will be walking trails in this area to view all the plants and the monarchs. By late August all of the plants will be up and flowering. They will have more next year as a wider area with pollinator plants will be sown this winter. This project is being done in cooperation with the U S Fish and Wildlife Service, Iowa Department of Natural Resources and supported by three families who lost loved ones recently. Presently a pollinator project in Muscatine on South Houser Street exists and is managed by the Muscatine Pollinator Project. In addition, this fall 6000 square feet of pollinators will be planted on the Muscatine County Fairgrounds.

Simple Tips for Gardeners

From "Garden Thoughts" by Dorothy Frances Gurney

"Opportunity is missed by most people because it is dressed in overalls and looks like work." – Thomas A. Edison

To enjoy freedom...we have of course to control ourselves. We must not squander our powers, helplessly and ignorantly, squirting half the house in order to water a single rose. – Virginia Woolf

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. . and justice for all

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 * addresses, phone numbers, or mailing ad- *
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 * — our members — informed. *



Donation Garden is rewarding for both the recipient and the donor. Special thanks to our members who have donation gardens. For the rest of us, please plant “an extra row” so you can also donate to the Food Pantry.

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Editorial Comments:

Please remember, this is YOUR newsletter. Your articles, photographs and other tidbits are welcome. Send them by the end of each month to pruit.lynn@gmail.com or call 563.260.0234

— Lynn Pruitt, Editor —