

## A Spectacular Season Opener: See 1,100 Mums This Fall

**A** fall garden favorite, bright and versatile mums flourish in cool temperatures and make great container plants. “Hundreds of varieties mean gardeners can choose bloom time, flower shape and color,” said Alyssa Hagarman, horticulture specialist. “I like to mix and match them with other fall accents to create beautiful displays.”

“Mums are ‘photo-periodic,’ meaning their life cycle is greatly affected by day length,” said Hagarman. “When the days become shorter in fall, mums are triggered into developing flower buds.”

Originally from China, the chrysanthemum has been cultivated for over 2,500 years. The first cultivars reached Europe in the 1600s.



More than 25 mum varieties will be on display this fall.

“They bloom in almost every color except blue,” said Hagarman. “Hybridization has produced many flower forms such as: daisy-like, pompon, cushion, buttons, decorative, spiders and spoon-petal.”

### Caring for Mums

#### Planting

Mums should be planted in full sun. Rich, fertile soil, high in organic material, is best. Good drainage is very important for survival over winter. Mums prefer moist soil.

#### Watering/Fertilizing

Plants in containers should be watered every other day. Established plants in the ground should be fine with natural rainfall, but in droughts, supplemental watering is needed. Newly planted mums should be watered 2-3 times per week. Use a general purpose fertilizer (6-12-6) every month. If you are planting in the fall, no fertilizer is needed.

#### Pinching

If planting in the spring, it is important to pinch back mums to encourage branching and development of compact bushy plants. When new growth has reached 6 inches, pinch 2-3 inches off of every branch. Whenever a branch grows another 6 inches, repeat the pinching. Stop pinching as the summer ends because the plant will slow its growth and start developing flower buds.

#### Winter Protection

As the first frost approaches, be sure the soil is moist. Mulch plants with straw after several hard frosts. Removing dead plant material is not necessary and leaving it will actually help insulate the mum. In the spring, remove all dead mum material and straw and use a hardwood or cypress mulch after new growth appears.

### Look for these mums at Hershey Gardens.



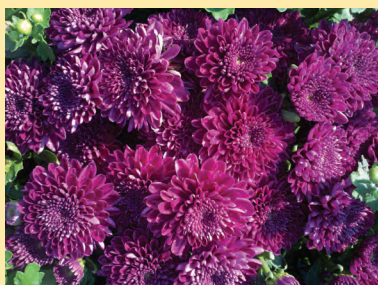
Miranda Orange



Celestial White



Honeyblush Yellow



Adiva Purple



Five Alarm Red

# 10 Questions With...

## George Vaites, Manager of Education and Volunteer Programs

### What is your role at Hershey Gardens?

I manage the thousands of school children who visit Hershey Gardens each year. I also work to constantly develop new and engaging curriculum-focused educational programs for these young visitors and then work with their teachers to book their visits. I always look forward to seeing the students and chaperones on the day of their visit.

Additionally, I help recruit and train our many wonderful volunteers—who are such tremendous assets. I work with our Volunteers over the summer, and I assist in the planning and implementation of our public programs.

### Can you tell us a little bit about your background?

I am a teacher at heart; I love working with kids. I have taught children of all ages and in numerous capacities. For four years, I taught school at the elementary level in the Carlisle Area School District. I have also taught teacher education courses at the college level and supervised student teachers, mostly at Shippensburg University.

### What are your plans for educational programming at Hershey Gardens?

We have a strong foundation with our two most popular school programs, *Amazing Butterflies* and *Green Thumbs*. However, I am always tweaking these programs. I want to make them the best that they can be so that they meet the needs of our school visitors, regardless of their developmental level. I am also in the process of creating more program options for upper elementary, middle school and high school students.

### What do you find most rewarding in your position?

I have the opportunity to help students explore Hershey Gardens, and it's really rewarding to see them learn by exploring nature. Being in "Mother Nature's classroom" seems to facilitate learning for the kids, and it's a joy to be part of that process! I also am very appreciative of the relationships I have formed with colleagues and volunteers. I consider myself fortunate to work with people who are passionate about the Gardens and exceptionally skilled in the work they do.



George began working at Hershey Gardens in 2017.

### What do you think the biggest take-away is for kids who visit as part of an educational outing?

My hope is that our school visitors leave captivated by plants and insects and as a result become more curious about the natural world. Learning outside in the environment is vital because it allows students to engage in the process skills of science, like observing and inferring, which are embedded into our school programs. Children of all ages need time in the outdoors, and they get this while roaming our 23 acres and exploring places like the Japanese Garden and the Arboretum. Hershey Gardens offers a fun day of active learning. As we say goodbye to our school visitors, they always leave with a big smile.

### Is there anything that you have learned from the kids?

The school children who visit the Gardens are always reminding me about nature's magnificence and how well they're able to learn by experiencing it firsthand. Every time I take a class into the Butterfly Atrium, for example, I see expressions of discovery and hear observations of insight. I am humbled, as I recall the wonder of nature and the mind of the growing child.

### Any particular incident in your job that has been especially memorable?

Sometimes when there's rain, teachers will cancel their field trip or limit the time they spend at the Gardens. Last spring, however, one teacher embraced a rainy forecast. She brought her students with boots, raincoats and umbrellas. After the school program was completed, she took her students on a walk. The entire class, along with their chaperones, waddled through the puddles and the rain. Laughter and delight could be heard throughout the Gardens. As I looked on, I could not have been more impressed with this teacher. She had truly seized a teachable and memorable moment.

### What are your biggest challenges?

Like most of us, time is the biggest challenge. Our educational programming has grown significantly, and there is limitless potential for even more growth, but there are only so many hours in a day.

### Do you have any hobbies?

Photography has long been a hobby, and I can often be seen taking pictures at our events. Traveling to new places is always fun, like national parks and small cities, and they give me new subjects to photograph. And I'm an avid reader, especially of non-fiction that explores how people and society work. Sherry Turkle's *Alone Together: Why We Expect More From Technology and Less From Each Other* fascinates me. Additionally, I like to run, go on hikes, and even play tennis when I get the chance.

### There's a rumor out there that you're an avid sports fan.

It's true! I love the Philadelphia Eagles and Philadelphia Phillies and of course, Penn State football. We Are!



George poses with students from McKinley Elementary.



# Mark Your Calendar!



## Member Reception

Thursday, September 27 from 4:30 to 6 p.m.

Members, join us! Look for your invitation in the mail.

## Teacher Appreciation Weekend

Saturday, September 29 and Sunday, September 30 from 9 a.m. to 5 p.m.

Teachers are invited to enjoy Hershey Gardens at no charge! Stop by the Education Center in the Children's Garden between 10 a.m. and 3 p.m. on Saturday to learn about field trip opportunities. *Please present proof of teaching employment at the admissions desk. Examples include an employee identification badge or pay stub.*



## Bonsai: Living Art of the Susquehanna Bonsai Club

Friday, October 5 through Saturday, November 3; during regular Gardens hours



Experience the living art of bonsai with this popular annual exhibit provided by the Susquehanna Bonsai Club. The exhibit will be displayed in the Hoop House. Included in admission; members are free.



## PUMPKIN GLOW

October 19, 20, 26 and 27 from 6 to 8:30 p.m.



Join the glow and walk the Gardens pathway with more than 150 carved illuminated pumpkins of various themes. Kids ages 12 and younger are invited to come in costume while trick or treating at candy

stops throughout the Gardens. Discover a unique collection of insects on display in the Creepy Crawly Gallery, and watch live pumpkin-carving demonstrations by students from the Lebanon County Career & Technology Center. *The Butterfly Atrium will be closed during Pumpkin Glow.* Pumpkin Glow is a special after-hours event requiring a ticket purchase at the door or online at [HersheyGardens.org](http://HersheyGardens.org). Members are free.

## Free Presentation: Climate Change & Penn's Woods – What Does the Future Hold?

Tuesday, October 23 from 7 to 8 p.m.

As the climate changes, plants and animals have three options: adapt, move or die. This is already beginning to happen in many places across the globe, including here in Pennsylvania. Greg Czarnecki, climate change and research coordinator for the PA Department of Conservation and Natural Resources, will share his vast understanding of the effects of a changing climate. His presentation will look at the current and projected impacts of climate change on our native species and forests, and the challenges and opportunities conservationists face in helping to ensure their survival. This program is free and open to the public. Please register by contacting the Manada Conservancy office at [office@manada.org](mailto:office@manada.org) or 717-566-4122.



## Crafty Christmas Creations

November 17, 18, 23, 24 and 25, December 1, 2, 8, 9, 15, 16, 22, 23, 24, 26-31, 2018; and January 1, 2019 from 10 a.m. to 2 p.m.

Kids, celebrate the holidays at Hershey Gardens! Join us in the Education Center for some holiday crafts. Create an ornament using items from nature, such as pine cones and wooden "cookies." A display of holiday trees decorated with ornaments made by local grade school students will add to the holiday spirit. Included in admission, members are free.

## New! The Christmas Tree Showcase

Saturday, November 17 through Tuesday, January 1 from 9 a.m. to 5 p.m. (Closed Thanksgiving & Christmas); during regular Gardens hours

Experience all things merry and bright at Hershey Gardens this holiday season! New this year, guests can enjoy a festive showcase of holiday trees in the Milton & Catherine Hershey Conservatory. Each tree will be exquisitely decorated by a different florist and will feature a variety of tree decorating styles and themes, while a stunning 14-foot poinsettia tree will take center stage. The Butterfly Atrium will be decorated for the holidays, too! Included in admission, members are free.



## Orchid Show, hosted by the Susquehanna Orchid Society

Friday, February 2 through Sunday, February 4; during regular Gardens hours (Member Preview: Thursday, February 3 from 2 to 5 p.m.)



Returning for the third year, the Susquehanna Orchid Society presents the 34th annual orchid show and sale in the Milton & Catherine Hershey Conservatory. More than 1,000 orchids representing dozens of orchid varieties will be on display including rare species and unique hybrids. In addition, vendors will have orchids for sale and showy displays that will be judged onsite and presented with awards. Included in admission; members are free.

# Butterflies - and Beyond

## MEET THE STARS INSIDE THE BUTTERFLY ATRIUM

### Featured Butterfly: The Owl Butterfly

#### Genus *Caligo*

Guests to the Butterfly Atrium can't miss the large owl butterflies, which frequently soar throughout the space. "The owl butterfly is one of five species within the genus *Caligo*," said Katherine Serfass, lead Butterfly Atrium associate. "They all have similar appearances: a mottled brown underwing with a noticeable eye spot. Don't be fooled though, the spot only resembles an eye and actually functions as a startle mechanism to ward off predators." When their wings are open, most of the owl butterflies are a muted blue and brown.

"The 'magnificent owl,' however, lives up to its name," said Serfass. "It has a rich purple and gold inside and an extra tan stripe that is visible when the wings are closed."



Owl butterflies are native to the tropical forests of Central and South America, and are among the world's largest butterflies.

shoot a noxious substance when threatened, blue death-feigning beetles 'play dead.' They will curl up their legs, flop on their back, and stay still until the perceived threat has passed. Sometimes this act lasts a few minutes, sometimes a few hours."

"Though it is entertaining to watch this behavior, we at the Butterfly Atrium do everything we can to prevent stressing our beetle residents," noted Serfass.

### Featured Insect: Blue Death-Feigning Beetles

#### Genus *Asbolus verrucosus*



This fascinating insect gets its name from several obvious traits. "The beetles have a blue appearance but their true color is black," said Serfass. "They secrete a waxy layer for protection from the arid deserts of the Southwest United States where they originate. This wax makes them appear light blue."

"They also have a unique behavior," said Serfass. "While some insects bite, sting or

### Featured Plant: Elephant Ears

#### Araceae family



Upright Elephant Ear *Alocasia macrorrhizos* 'Lutea'

Elephant ears are stunning plants with large flat leaves. "There are many types of elephant ears ranging in size from small to large, and with various colors including

yellow, green and purple," said Sadie Smith, manager of conservatory habitats. "The Butterfly Atrium features several different varieties."

Elephant ears are native to tropical Asia, Australia and the Pacific Islands. "Not only are elephant ears beautiful, they are also a food source in many tropical regions," said Smith. "The starchy tubers of the plant, called taro, provide nutrients, while the stems and leaves of the plant can be eaten, but are poisonous until cooked."



Elephant Ear *Alocasia* spp. 'Hilo Beauty'

Elephant ears thrive in hot, humid environments. "Here in Pennsylvania, they do well outdoors in the summer, but as soon as temperatures drop below 45 degrees, they should be brought indoors," said Smith. "The tubers can be dug up and kept inside for the winter, then replanted outdoors again in the spring."

Elephant ears also like moist environments and require plenty of water and fertilizer. "They grow quickly, and a new leaf can emerge as often as once a week," said Smith. "Typically, each leaf that emerges is larger than the previous one."

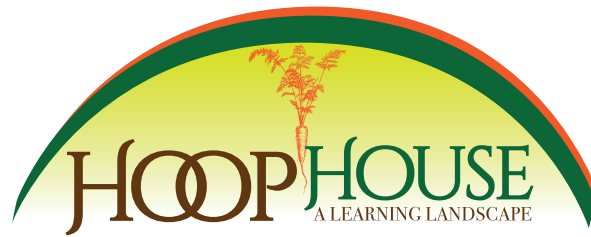
Elephant ears generally prefer part shade and will burn in direct sun. "There are some newer cultivars that can tolerate the sun," noted Smith. "Elephant ears



Elephant Ear *Alocasia* spp. 'Seredipity'

are a great canopy plant in shady areas and make a bold statement in any garden."





# The Importance of Pollination

## Our Agriculture Depends on Honey Bees and Other Pollinators

by Jody Davey, Hershey Gardens Horticulturist

**E**arly fall brings cooler weather and an abundance of ripe, colorful vegetables and fruits in the Hoop House. This season's harvest is yielding a bumper crop of tomatoes, cucumbers, peppers, eggplant, cantaloupe, watermelon and strawberries.

Gardening harvests like these require the obvious things such as regular watering, proper nutrients, ample sunlight and protection from pests, whether insects, animals or birds. But perhaps the most overlooked ingredient in growing healthy fruits and vegetables is the role of pollinators.

Pollination is the transfer of pollen from the anther, or male part of a flower, to the stigma or female part of the same flower (self-pollination), or another flower on the same or a different plant (cross-pollination). Pollen fertilizes the ova of the plant, leading to seed/fruit development.

Pollinators are forces or animals that facilitate pollen transfer. Wind can act as a pollinator for some plants by shaking pollen loose and blowing it onto nearby plants. Other plants need more precise pollination by insects like bees and butterflies, attracted by nectar found in their flowers. These creatures act as transfer vehicles - pollen sticks to their legs and bodies and is distributed as they move from flower to flower. The beating of insect wings also fans pollen grains



into the air, distributing it throughout the immediate vicinity. Vertebrates like hummingbirds and bats act as pollinators in similar ways through physical transfer and fanning.

Within the larger agricultural industry, while staple crops like corn, rice and wheat are wind-pollinated, one out of every three bites of the rest of the food we consume results directly from the work of animal pollinators, particularly the familiar European honey bee. Many of our most important crops depend on bees for the large yields required in an agricultural industry that produces billions of dollars' worth of food each year in the United States alone. The \$2.3 billion per year California almond crop, for example, is supported almost exclusively by honey bee pollination. The honey bee is the most important pollinator of almond blossoms, allowing the trees to produce the

billions of pounds of almonds harvested each year through managed bee hive introduction to almond orchards.

There is little doubt that of all pollinators, the honey bee is the real "work horse" in agriculture. But recently, since 2006, there has been concern over the declining honey bee population. The number of colonies in the U.S. has dropped to about 2.5 million from more than 4 million in the 1970s. Causes are thought to include increases in mites,

fungal and viral diseases, pesticide use and habitat loss. Adding to the concern, a phenomenon called "Colony Collapse Disorder" has been observed during the last decade or so. Bees in hives affected by this mysterious condition disappear suddenly, inexplicably leaving behind brood, food stores and very few dead bees.

While beekeepers are working to increase colony numbers, recent attention has also been focused on native bees as crop pollinators. Mason bees, for example, are important for spring pollination of orchard fruit crops, and bumblebees, leaf cutter bees and squash bees for pollinating summer crops. Native bees are tunnel or ground nesting, often solitary bees that may actually be more efficient pollinators than honey bees. Mason bees are messy foragers, known for their "bellyflopping" technique - essentially, they crash land onto flowers and wallow in the pollen, spreading it all over their extra hairy bodies and fanning it into the air around them. Honey bees by contrast, are more careful and precise in their collection of nectar and pollen, and are consequently less efficient at pollen distribution, bee for bee. In fact, it's estimated that one mason bee is capable of pollinating as well as 100 honey bees. The agriculture industry is beginning to seriously examine the potential role of native pollinators in production and ways to attract native bees to their crops.

### Plants Dependent on Insect Pollination

Alfalfa  
Almond  
Apple  
Asparagus  
Avocado  
Blueberry

Broccoli  
Carrot  
Cauliflower  
Celery  
Cherry  
Cranberry

Cucumber  
Kiwifruit  
Legume seed  
Macadamia  
Melons  
Onion

Pumpkin  
Raspberries  
Squash





# Is Fall for Planting?

By Lois Miklas, Penn State Master Gardener Coordinator,  
Lancaster County and Retired Educator, The M.S. Hershey Foundation

In climates with four distinct seasons, common sense would suggest that most planting should be done in spring, at the beginning of the warm season. However, fall has some advantages as a time to plant, and some plants are biologically designed to be planted before cold winter winds blow in Pennsylvania. Below is a look at plants to consider planting in autumn, including benefits and cautions.

## Trees, Shrubs and Hardy Perennials

Container-grown plants in this category can be planted from early to mid-fall. Check with your local nursery or county Penn State Extension office about how easy they are to transplant. In general, ornamental plants that are touchy or have delicate roots are best planted in spring. You should plant early enough in fall for the root system to establish itself in the new soil (plan on at least six weeks before first frost). Before winter sets in, you should check weekly and water if dry. A thick layer of mulch will keep them from heaving out of the ground during periods of freezing and thawing.

A huge advantage to planting woody plants and perennials in fall is that they are often on sale at nurseries. You should make sure they are not “pot bound” from growing in a container all summer, however. Pot-bound plants may appear dry, because the water has no area to soak in, and may have roots growing out of the bottom of the container. For any container-grown plant, loosen the roots before planting. In the case of trees and shrubs, you should cut an X in the bottom of the root ball and several shallow slits on the sides of the roots to allow them to spread out into the backfilled soil.

## Lawns

Most of the turf grass grown in Pennsylvania lawns is “cool season,” including Kentucky bluegrass (*Poa pratensis*), perennial ryegrass (*Lolium perenne*), and fine fescues (*Festuca* spp.) Because these grasses grow best in cool weather, late summer to early fall is an ideal time to plant a new lawn, patch bare areas, or overseed an existing lawn. Grass seed must receive regular irrigation, especially until it begins to germinate.



This is more likely to happen naturally in fall rather than in spring, when the new grass must withstand hot summer days.

When purchasing, you may find grass seed embedded in what looks like dryer lint. The premise is that this will hold water when the seed is planted and watered. Though this may seem like a good idea, the best practice for getting grass seed to sprout is by making sure it has good contact with the soil. This can be done by loosening the top of soil before planting or raking the seed in. Newly planted seed may be mulched with a light layer of straw.

## Cover Crops

You don't have to be a farmer to grow a cover crop. If you have a garden area where you grow warm-season vegetables or annuals that you normally leave fallow in winter, you can improve the soil during the winter season by growing a grain or legume.

Cover crops:

- Retain nutrients in the soil and, in the case of legumes, fix nitrogen in the soil
- Help keep soil from eroding
- Alleviate compaction
- Add organic material to the soil when turned under in the spring

Below is a list of cover crops that can be planted in fall, and their primary advantages.

### Alfalfa, crimson clover, hairy vetch

*Legumes; fix nitrogen in the soil; alfalfa's deep roots break up the soil*

### Barley, oats, winter rye, winter wheat

*Add organic material; improve soil structure*

Cover crops can be planted between the last of your warm season vegetables to give them a head start before the weather cools. If you have waited until the end of September (or even early October) to plant a cover crop, winter rye is probably the best choice.

## Bulbs

Bulbs such as hyacinths, narcissus, and show-stopping tulips, such as the ones displayed at



Hershey Gardens each spring, are programmed to grow foliage and bloom after an extended cold period. They should be planted when weather is cool in the fall and before the first hard frost. Most people are familiar with this time table for planting the best-known spring-blooming bulbs. You might want to also consider planting some of the lesser known, but subtly beautiful spring-blooming bulbs. *Fritillaria* have nodding, bell-shaped flowers available in various colors (my favorite is the checkered variety *F. meleagris*). *Galanthus* are commonly known as ‘Snowdrops’, which perfectly describes these small, white flowers. *Scilla*, sometimes called wood squill, sport clusters of small star-like flowers and can be found in shades of purple, white and pink.

Fall planting is definitely for the patient gardener. The reward in spring will be well worth it!



**JOIN  
US!**

# Cultural Expressions

An elegant, progressive dinner at three historic settings

**Saturday, October 6, 2018**

**6:30 - 9:30 p.m.**



**Enjoy dinner in The Hershey Company corporate offices.**

*Hershey Trolley Works will escort guests throughout the evening.*

The evening will begin with a rare opportunity to visit High Point Mansion, Milton and Catherine Hershey's former home. Enjoy drinks and hors d'oeuvres as you tour the gracious restored home that was built in 1908.

Next stop: enjoy dinner at the former Hershey Chocolate Corporation offices (1935 - 1991), currently the newly renovated corporate offices of The Hershey Company. Learn about Hershey's architectural legacy as architect Rob Kinsley describes the monumental task of blending Hershey's rich history with modern-day design at 19 East Chocolate Avenue.

Final stop: delight in desserts and entertainment at the Milton & Catherine Hershey Conservatory at Hershey Gardens. Take a stroll through the indoor Butterfly Atrium!

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**All proceeds benefit The Hershey Story  
"Share the Story" Scholarship Fund**

**Reservations:**

\$175 per guest | \$150 for Hershey Gardens members

**Limited seating is available; please reserve early. Dinner attire.**

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**Corporate Sponsorship Opportunities (each includes a table of 8):**

Philanthropist level: \$3,500 Industrialist level: \$2,500 Entrepreneur level: \$1,750

**Individual Sponsorship Opportunities:**

Visionary level: \$1,000 (4 tickets) Leader level: \$500 (2 tickets)

**Reserve your seats by calling 717.298.2203.**

**Hosted by The Hershey Story Museum**



The M.S. Hershey Foundation



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170 Hotel Road  
Hershey, PA 17033  
HersheyGardens.org

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## TAKE A CLASS WITH US!



**Meadowbrooke Gourds presents**  
**"Make a Turkey Gourd" Workshop**  
**Sunday, November 18 at 10 a.m.**  
**Members: \$55, Non-Members: \$65**  
**Advance registration required**  
**at HersheyGardens.org.**

Enjoy the fall splendor of the Gardens as you create a turkey gourd for yourself or as a gift for the Thanksgiving hostess! This cute turkey is approximately 6" in diameter, 10" – 12" tall and comes with the accessories shown.

**Winter Wreath Making**  
**Saturday, December 8 at 10:30 a.m.**  
**Members: \$55; Non-members: \$65**  
**Advance registration required**  
**at HersheyGardens.org.**

Celebrate winter by creating a festive wreath, perfect for the holidays! Using fresh limbs, twigs and pods pruned from the Gardens, class participants will learn how to create a stunning, long-lasting 24" wreath for their door or table. All supplies and materials are provided. Led by Jody Davey, Hershey Gardens Horticulturist.



## Thank you, Summer Volunteers!

A big "thank you" to the 2018 Hershey Gardens' Volunteers! This annual eight-week summer program for teens ages 12 to 15 helps build work experience as teens learn to interact with guests.

"We had an amazing group of 30 students," said George Vaites, manager of education and volunteer programs. "They worked the Bugologist Cart, facilitated learning games, read stories aloud and helped with crafts."

The Volunteers contributed a total of 714 hours from June through August. "They enhanced the Gardens experience for our visitors, while gaining valuable customer service skills," said Vaites. "We thank them for their dedication."



**Volunteers show visitors Madagascar cockroaches at the Bugologist Cart.**



**A young guest enjoys a book with a Volunteer.**