

# MSU IN BLOOM

## MSU HORTICULTURE GARDEN NEWS



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# GARDEN HAPPENINGS

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BY AMY MCCAUSEY, WEDDING & EVENT COORDINATOR

## CURIOUS GARDENER

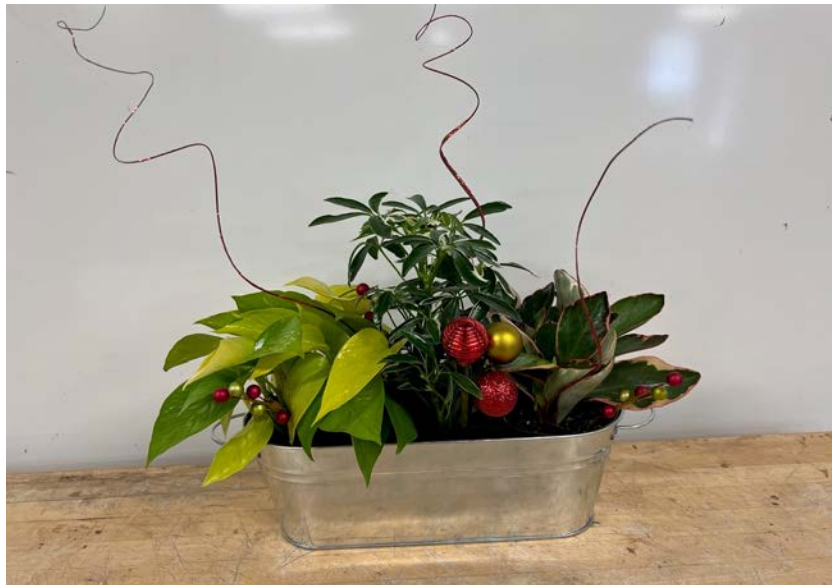
### HOLIDAY HOUSEPLANT MIXED CONTAINER AND HOT CHOCOLATE TASTING

December 13 from 1-3pm.

Is there anything better than a cozy afternoon playing with plants and sipping hot chocolate! At this workshop we will be creating a beautiful holiday houseplant container using foliage or succulent plants and take part in a hot chocolate taste test. All materials and recipes provided to participants. Space is limited.

\$30 for members (use the code on the back of your member card)

\$35 for non-members



## POINSETTIA SALE

The MSU Horticulture Gardens are mostly self-funded. Consider supporting these beautiful gardens to keep them running for many years to come.

Don't miss out on the 2023 Poinsettia Sale. Online only.

November 13 - December 15

Pickup will be scheduled upon checkout. All pickups will be at:  
1066 Bogue St, East Lansing 48824

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Curious Gardener - Holiday Houseplant & Chocolate  
Poinsettia Sale (online ordering)  
Poinsettia Pickup

December 13  
Nov 13-Dec 14  
Dec 4-15

# THE YEAR IN REVIEW

BY GARDENS STAFF

## Annual Garden-Abby

My recap of 2023 may be a little shorter than my coworkers on account of only having been here for the tail end of the season. I began my role as the Annual & Trial Garden Manager in September just in time to help with propagating plants for our Houseplant & Succulent Sale. In the midst of preparing for the sale I found some time to work out in my area, I was able to participate in the last few rounds of evaluations for our trial plants which allowed me to get a feel for how evaluating them will go in the future. I also had the pleasure of working with our wonderful volunteers to tackle some large weeding projects as well as pulling out the annual displays at the end of the season. As we head into the winter I've focused on trying to get compost on all of my garden beds and till the soil so that they are ready for next season. I look forward to seeing what 2024 will bring for me and my garden.



## Events-Amy

Looking back at 2023, it was a busy year for the weddings team. We successfully executed 80 events and processed over 700 inquiries. Our team has changed dramatically this year. Between students heading out to study abroad, graduating or

moving on, we are excited for the team we have put together for 2024. We were lucky to have the Conservatory thoroughly cleaned in late 2022 and started fresh. The trees & ferns filled in nicely and we were able to have the curtains in the Conservatory repaired.

Our membership has grown steadily since the pandemic. We had 304 members in 2023 and look forward to more in the coming year. The long-running Garden Day was transformed into a Garden Reception to celebrate our 30 year anniversary and was a huge success. I'm looking forward to what 2024 will bring, although I'm not looking forward to winter in Michigan.

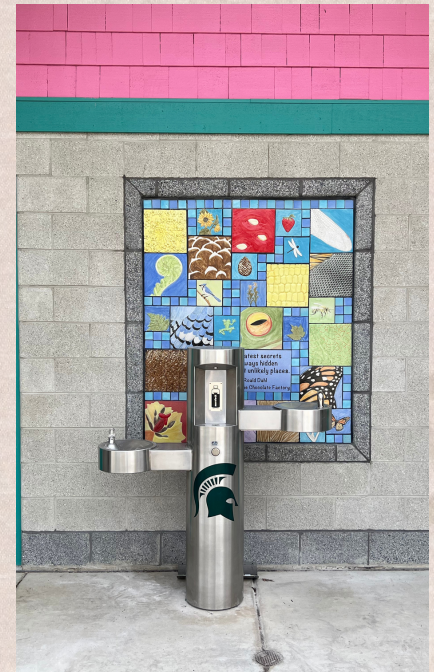


# 4-H CHILDREN'S GARDEN

## 2023 UPDATES AND PROGRAM PARTICIPATION

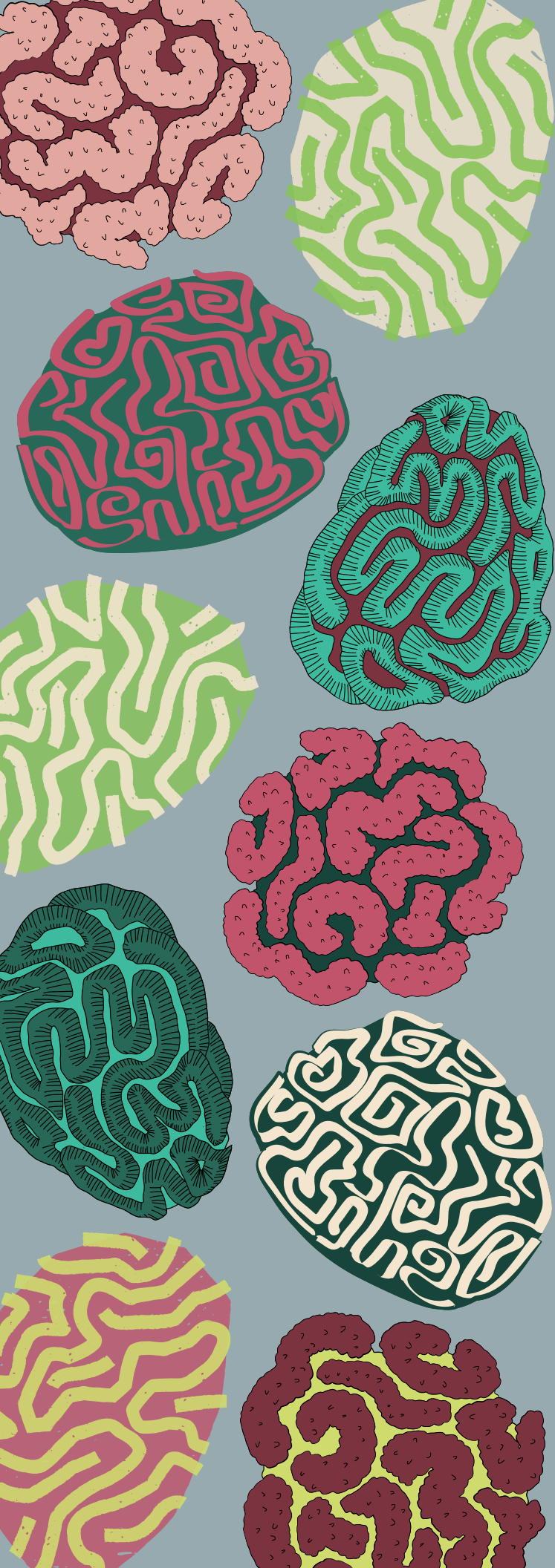


NEW DRINKING  
FOUNTAIN  
INSTALLED



MURAL IN AFRICAN  
AMERICAN GARDEN

The Michigan 4-H Children's Gardens celebrated its 30th anniversary this summer. In preparation for the year's celebrations, the pond was replaced, and the Monet bridge was repaired and repainted. A new drinking fountain was also installed near the outdoor restrooms. The Creation Station was also updated and repainted. New features include the MAC Garden which was installed in May and a new mural featured in the African American Garden. Overall, the gardens had 9,855 participants in its youth educational programs for the year.



PLANT GEEK SERIES

# FASCINATING FASCIATION & RIVETING REVERSION

BY DAEDRE MCGRATH  
TRIAL GARDEN MANAGER

Welcome to our final installment of the Plant Geek series, focusing on some niche horticultural topics that I think are fascinating. I hope you do to! Last newsletter we discussed the importance of Latin nomenclature. This time we're discussing fasciation and reversion in the garden. Buckle up. We're about to get really geeky!

Sometimes plants go a little haywire and grow in unusual shapes and forms. Meristems are the active growing points on a plant. A number of factors can cause meristems to go a little wonky, producing abnormal stems or flowers. Genetic mutations, bacteria, viruses, nematodes, and chemical or mechanical injuries can all cause fasciation (also called cresting). Fasciated plants have a flattened, ribbon-like stem, leaf, or flower, instead of a cylindrical/spherical shape (Photo 1). Fasciation can happen in almost any type of plant, but is quite common in cacti and succulents, the Aster family, Celosia, Digitalis, Delphinium, Euphorbia, ferns, Forsythia, Veronicastrum, and many others. While less common, fruit can also be fasciated, such as strawberries and tomatoes. This is illustrated in the world's weirdest tomato cultivar 'Reisetomate', whose strange fruit (which develop from highly fasciated flowers) look like a cluster of fused grapes.

Some plants are intentionally cultivated to pass on the fasciation, which can be quite ornamental. For example, many fasciated cacti (Photo 3) and succulents look like brain-coral (Photo 4), as does *Celosia cristata* (Photo 5). Others, like fasciated ferns have frilly foliage. Cultivated fasciated varieties often have “monstrose”, “monstrosa”, or “cristata” as the species portion of their Latin name. Fasciated flowers look very odd, yet are fairly common to find. Look in your garden this summer (or even at the dandelions in your lawn) and you’ll likely find one! Fasciated stems often revert partially or entirely back to the normal growth form. If you want to maintain the fasciated form, cut out the reverted sections. This brings us to our next topic: reversion.



Photo 1



Photo 3. *Cereus peruvianus monstrose*



Photo 4. *Euphorbia lactea f. cristata*



Photo 2

Reversion happens when an altered form of a plant reverts to its original form. Variegated (Photo 6), fasciated, and dwarf (Photo 7) plants can all revert. Sometimes this happens to only a single section of a plant, or only on new growth. Reversion is generally a survival tactic to help the plant adapt to changing conditions, such as light levels. For example, if grown under insufficient light levels, variegated plants may start producing solid green leaves and stems in order to increase the plant's photosynthetic capacity. Reverted sections often grow faster, potentially out-competing the rest of the plant. To maintain the altered form, reverted sections should be removed.

And that's a wrap on the Plant Geek series. I hope you enjoyed it!



Photo 5



Photo 6. Variegation reverting on *Crassula muscosa variegata*



Photo 7. Reversion on Dwarf Alberta Spruce. Credit: [canr.msu.edu](http://canr.msu.edu)

# CHRISTMAS TREES AND THE SCIENCE BEHIND THEM

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BY DIXIE SANDBORN, MICHIGAN STATE UNIVERSITY EXTENSION



It's beginning to look a lot like Christmas. Fresh Christmas trees are just about on every street corner, or waiting to be cut from your local "you cut" tree farm, taken home and dressed in holiday sparkle. I started to think about Christmas trees, the history, science and traditions associated with this magical symbol of the Christmas holiday. There are pros and cons to fresh or artificial Christmas trees, but as a plant science educator, I will stick to the real deal. In this short series of articles, I am going to share some of what I have learned about Christmas trees, including the science, history, fun facts and the people who grow them here in Michigan.

In my search for a few fun facts, I came across the [National Christmas Tree Association](#) website, which is very educational and filled with incredible information. The trees we use to decorate as a symbol of Christmas belong to a group of trees called conifers. Here are some quick facts about conifers:

- Conifer comes from the Latin words *conus* (cone) and *ferre* (to bare). The word literally means cone bearing.
- The reproductive parts of coniferous plants are contained in cones.
- Most conifers bear male and female cones on the same plant. All are wind-pollinated.
- Most cones are woody, but some, such as those on yew trees, are soft and look like berries.
- The cones of pine and spruce trees usually fall to the ground in one piece, but the cones of cedars and most fir trees break up while still on the tree
- There are over 550 species of conifers.
- Their leaves are often needle-shaped.



- The needles often have a waxy-like surface that keeps them from losing water in dry environments, and freezing.
- Since most conifers are evergreens, they can carry on photosynthesis on sunny, winter days when most broad-leafed trees are leafless.
- Most conifers do not have to expend extra energy every year to produce a new crop of leaves in spring.
- There are seven separate families of conifers. The largest is the Pinaceae or pine family, which includes 232 species.
- Botanically speaking, all conifer family names end in “ceae.”
- The pine family includes familiar trees such as pine, spruce, fir and larch. Many of these trees make very nice Christmas trees.
- The pine family includes the oldest known trees, the bristlecone pines, many of which are known to be more than 4,000 years old.
- Conifers are one of the oldest groups of plants, with araucaria-like trees first appearing about 290 million years ago.
- Conifers, and other types of gymnosperms, are generally regarded as being more evolutionarily primitive than angiosperms.
- The term "gymnosperm" comes from the Greek word meaning “naked seeds.”
- Their naked condition is in contrast to the seeds and ovules of flowering plants (angiosperms), which are enclosed within an ovary.

## SUPPORT THE GARDENS

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Did you know that you can commemorate a loved one or special event in the Gardens? Consider purchasing a brick in memory of a special memory or event. The Gardens offers commemorative bricks in two sizes that can be engraved and permanently installed in one of several locations. Remember a loved one or special event each and every time you visit the Gardens. Find more information [here](#). If you would like a brick brochure mailed to you, please contact [hgardens@msu.edu](mailto:hgardens@msu.edu) or, 517-353-0443. Purchases can be made [here](#).

**Other ways to support the Gardens can be found [here](#)!**

# MEMBERSHIP HAS ITS BENEFITS

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Do you love the Gardens or know someone who does? Why not become a member? Or give a membership as a gift! Membership has many benefits!

- Early access to our Plant Sales
- Discounts on your Plant Sale purchases
- Discounts on our garden programming
- Free admission to 200+ American Horticulture Society reciprocal gardens across the country
- And more!

You can renew or join online here: [www.hrt.msu.edu/join](http://www.hrt.msu.edu/join). If you would like a brochure mailed to you, please contact [hgardens@msu.edu](mailto:hgardens@msu.edu) or, 517-353-0443, or download one [here](#).



Give the Gift of

*Membership*

this holiday season!

[www.hrt.msu.edu/join](http://www.hrt.msu.edu/join)

**MSU Horticulture Gardens**

**POINSETTIA  
SALE**

**NOV 13-DEC 15, 2023**

**ONLINE ONLY**

**SHOPMSUGARDENS.COM**

**GREAT HOLIDAY GIFTS!**

- MSU GROWN POINSETTIAS
- HOUSEPLANTS
- SUCCULENTS
- GARDEN T-SHIRTS AND MERCHANDISE



**COME ONE, COME ALL**  
**to the MSU Horticulture Gardens**  
**POINSETTA TREE**



**LOCATED IN THE CONSERVATORY OF THE TEACHING GREENHOUSES**  
**WEEKDAYS- 7am-4pm WEEKENDS- 8am-12pm**  
**NOVEMBER 30 - DECEMBER 22**

# CHRISTMAS TREES FOR CONNOISSEURS: TRY AN EXOTIC SPECIES THIS YEAR

BERT CREGG, MICHIGAN STATE UNIVERSITY EXTENSION, DEPARTMENTS OF HORTICULTURE AND FORESTRY

Michigan Christmas tree farms are producing an ever-widening array of tree types, including exotic or lesser-known tree species.

Michiganders that purchase a real tree for the holidays each year are likely familiar with many of the “tried and true” Christmas tree species that usually appear at tree lots and choose-and-cut farms such as Fraser fir, balsam fir, Douglas fir and blue spruce. Michigan Christmas tree growers are an innovative lot, however, and consumers may find exotic or lesser-known species as they’re looking for this year’s tree.

## Why exotics?

Strictly speaking, an exotic is tree species that is not native to our area. In Michigan, we grow some conifers that are native Christmas trees like balsam fir, white spruce and white pine, but also commonly grow other trees that are not native like Fraser fir and blue spruce. When talking about Christmas trees, the term exotic has morphed into meaning less common or unusual.

Growers produce exotics to give their customers a greater range of choices when they come to their farm or tree lot. In certain cases, exotics may be better adapted to certain soil conditions, such as high soil pH or wet soils, or more resistance to diseases. This allows growers to produce trees on sites they might not be able to otherwise. Some growers are interested in the botany of conifers and enjoy learning about and growing different and unusual species.

For consumer that like something outside the box, Michigan State University Extension suggests the following exotic or less common Christmas trees you may want to keep an eye for as you look for this year’s tree.

## Subalpine fir and corkbark fir

Subalpine fir (*Abies lasiocarpa* for the botanists out there) is a conifer that is native to mountains of the western U.S. and Canada. In its native range, it is often noted for its spire-like form. Subalpine fir makes a beautiful Christmas tree with a compact, pyramidal form and bluish needles.



Corkbark fir. Photo by Bert Cregg, MSU.

Corkbark is a botanic variety (var. *arizonica*) within subalpine fir. Corkbark fir is slower growing and more compact than subalpine fir and has even bluer needles.

### Concolor fir

You could debate whether concolor fir (*Abies concolor*) should be included in a list of exotic Christmas trees. Many growers produce concolor fir, but it's still less known among consumers at large. Concolor fir has long, blue needles, giving it a unique, coarse appearance. This species also has a distinctive scent, often described as citrusy or orange-like.

### Nordmann fir and Turkish fir

Nordmann fir (*Abies nordmanniana*) and Turkish fir (*Abies bornmuelleriana*) are native to southeastern Europe. The species are closely related and some botanists suggest they are varieties of the same species. In any event, they are excellent Christmas trees. Nordmann fir is by far the most popular Christmas tree in Europe. Both species have deep green needles and layered appearance to their branches.



Subalpine fir. Photo by Bert Cregg, MSU.



Corkbar fir. Photo by Bert Cregg, MSU.



Nordmann fir. Photo by Bert Cregg, MSU.



Turkish fir. Photo by Bert Cregg, MSU.



Concolor fir. Photo by Rick Bates.



Canaan fir. Photo by Bert Cregg, MSU.

### **Korean fir**

As the name implies, Korean fir (*Abies koreana*) is native to mountains in Korea. Korean fir is an attractive tree with green needles that have silvery undersides. The arrangement of needles along the shoots of Korean fir give them a bottlebrush appearance. Korean fir can be a challenge for growers as they may not always keep a straight, single leader. Their needle coloration and appearance, however, give them a unique appeal.



Black hills spruce.

Photo by Jill O'Donnell, MSU Extension

### **Canaan fir**

Canaan fir (*Abies balsamea* var. *phanerolepis*) is closely related to balsam fir and Fraser fir. It is sometimes described as a cross between Fraser fir and balsam fir since many of its attributes are intermediate between those species, but it is actually a specific seed source of balsam fir from the Canaan Valley of West Virginia. It has excellent form and needle color.



Korean fir. Photo by Lou Waldock.

### **Black hills spruce**

As with Canaan fir, Black hills spruce (*Picea glauca* var. *densata*) is a geographic variety of a well-known species; in this case white spruce. Black hill spruce retains the pyramidal form and short, gray-green needles of white spruce, but has a slower growth rate and more compact form. This results in a tree that has a very natural Christmas tree shape. Because of its compact form, this tree makes an excellent table-top Christmas tree.