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WHY PLANTS FAIL TO FLOWER

Plants that don't bloom when expected can be a big disappointment for gardeners. We wait all winter for the burst of spring color our bulb flowers and shrubs give us, and then often they fail to flower. This is a question I often receive many times throughout the year. Maybe it's a lilac that won't bloom, or peonies, tulips or even houseplants. The answer to the problem is usually related to one of six causes: the age of the plant, temperature, light, nutrition or pruning practices.

Many plants must reach a certain age before they are mature enough to produce flowers. Fruit trees, such as apples and pears, may require as long as five or six years before they produce fruit. Ginkgo trees can take up to 15 years to before flowering. If young plants are in a stressful environment, flowering may be delayed even further. Plants which have been budded or grafted may have delayed flowering or early flowering depending on the type of rootstock onto which the plant was grafted. Rootstocks which restrict growth (such as those used on dwarf trees), typically produce plants which flower at a younger age than plants on rootstocks which do not limit growth. Plants that are old enough to flower, or have done so in the past, may quit doing so for a variety of reasons. Flowering may be sparse or completely absent when a plant is under stress, so be sure the plant is positioned in an appropriate location for that particular species. For example, some plants flower best in full sun; others may prefer the cooler conditions found in the shade. Some plants, such as peonies, will flower sparsely or not at all when grown in shade. Similarly, shade-loving plants, such as begonias, will not bloom well in full sun.

Temperature can have an effect on a plant's flower buds. Cold weather may kill the buds or partially opened flowers. Plants that are not fully hardy in your area are the most susceptible to this type of cold injury. During times of hot, dry weather or drought, flowers or flower buds dry up and drop off when there is temporary lack of moisture in the plants.

Pruning plants at the wrong time of the year can also be a reason plants fail to bloom. If the flower buds are removed during the wrong season, plants may fail to bloom because there are no flower buds present. For example, spring flowering plants, such as lilacs, azaleas, and forsythias begin setting next year's flower buds in the late spring. Pruning these plants in the summer or fall may prevent flowering next year. The best time to prune spring flowering shrubs is immediately after they are finished flowering. Also, cutting back a plant severely, such as with climbing roses, can remove all the flowering wood, thus preventing it from flowering.

Nutrient imbalances such as too much nitrogen can cause plants to produce primarily leaves and stems. The plant will be large and usually very green and healthy but will have few or no flowers.

Some plants such as fruit trees require a cold period. Various apple cultivars and peaches require exposure to certain periods of low temperatures, or flowering will not occur. This is also true for most spring flowering bulbs.

A plant may fail to fruit because of all the reasons I've listed for failure to

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flower. If there are no flowers, there will be no fruits. Then again, a plant may flower but fail to have fruits. One of the most common explanations is improper pollination. Some plants cannot pollinate themselves. They require a plant of the same species but of a different variety for cross-pollination. Two trees of the same variety will not pollinate each other. They must be different varieties.

Lack of pollination can occur if cold, rainy weather occurs when a plant is in full bloom. These weather conditions will keep bees from working, thus reducing or preventing pollination and fruit-set. A frost while a plant is in flower also will kill the flowers and prevent fruit-set. Some plants are "dioecious." This means all the flowers on a plant are either male or female. Both a male and a female plant must be present, and cross-pollination must occur for the female to produce fruit. Examples of dioecious plants are holly and bitter-sweet.

GARDEN N' GROW TO BE HELD IN KIRKSVILLE AND QUEEN CITY



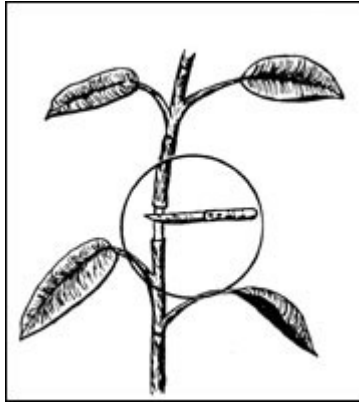
This summer University of Missouri Extension is offering Garden n' Grow, a summer youth garden program for children ages 9-14. This is a great opportunity for local youth to grow their own vegetables and learn about horticulture. The program also encourages the discovery of science and nature through gardening.

The Garden n' Grow program will be held from 9:00-11:00 am on Mondays and Thursdays May 28-August 13 at the Adair County Extension Center in Kirksville. The program will also be held on Mondays and Thursdays in Queen City, but you need to call the Schuyler County Extension office at 660-457-3469 for dates and times. Participants will have a garden plot where they will grow their own vegetables. Not only will the youth get hands-on experience with vegetable gardening, they will also learn about seeds, soil, how plants grow, insects, diseases, weeds, cooking with vegetables, nutrition, and many other topics. Each child will receive a tee-shirt. The vegetables that the children grow are theirs' to take home. Excess produce from the gardens is donated to the Adair County Salvation Army Food Pantry and the Schuyler County nursing home. **The program is limited to the first 10 youth to register. The deadline to register is Tuesday, May 26.** The cost for the program in Kirksville is \$25. For more information or to register contact the Adair County Extension Center at 660-665-9866.

PLANT PROPAGATION WORKSHOP TO BE HELD IN KIRKSVILLE

A plant propagation workshop will be held on Thursday, May 7 from 6:00-9:00 pm at the Missouri Department of Conservation Northeast Regional Office in Kirksville. The course will be taught by Clayton Dillavou, MS, in Microbiology and currently a Visiting Scholar in Biology at Truman State University. Clayton is also a graduate and an instructor of Master Gardener classes. Clayton will have numerous demonstrations of easy and inexpensive ways to propagate plants. Topics include working with cuttings, offsets, bulbs, rhizomes, grafting and microculture, etc. Also included are easy methods to germinate seeds as well as a demonstration of an easy and inexpensive method to make a plant propagation box.

There is a \$5 charge for the class to cover supplies. If you are interested in attending this class, please register by calling the Adair County Extension Center at 660-665-9866 by May 4.



CLARK COUNTY GARDEN TOUR TO BE HELD JUNE 28

The Perennial Garden Club of Clark County will have their annual tour of gardens on Sunday, June 28 from noon to 5 p.m. The cost is \$5. Those interested must pick up their ticket on the day of the tour in the park on the Kahoka town square. There will be a \$25 gift certificate door prize. Tours in the past have featured, in the main part, large gardens that are well-established and somewhat daunting for the beginning gardener. This year's tour will include five gardens that, though they are not large, will have interesting features from which any gardener, veteran or beginner, could get ideas. The club will have refreshments and may have some surprises along the way!

EASTERN REDCEDAR LOSSES

By: Mark Schall, MDC Forest Pathologist

In recent years we have been getting more and more reports of unexplained mortality of eastern redcedar throughout Missouri. A recent visit to a concerned landowner and subsequent laboratory samples collected from dying red cedars, confirmed the culprit appeared to be *Heterobasidion annosum*, which is the causal agent of Annosum root rot. However, we have reason to believe that other factors may be contributing to this problem. If you have seen areas where redcedar is declining rapidly, please let us know so we can document it and possibly sample those sites for contributing factors.

Few agents, with the exception of fire, a chainsaw, and possibly Annosum root rot, were thought to cause mortality of redcedar. Many diseases of redcedar are well known such as Phomopsis or cedar-apple rust, but these diseases are rarely severe. Annosum root rot is thought to be the most severe disease of redcedar, and can cause significant losses. Infection often occurs through spores infecting wounds at the base of trees. The fungus initially causes a "pecky" white rot and, in later stages, a yellow stringy rot on infected roots that eventually girdles the root collar.



Fruiting bodies are produced at the soil line of infected trees and disseminate windblown spores to fresh wounds on healthy trees. Underground transmission of the pathogen also occurs through root contact of infected trees with adjacent susceptible trees. This underground transmission often results in an expanding center of dying trees. Initial symptoms are decline of the tree and browning over the course of one to two growing seasons, but death of trees can occur quickly. Above-ground symptoms may not show up until half of the root system is infected, resulting in rapid development of symptoms. One landowner reported that trees browned up and died over the course of a few days. The most definitive sign of the Annosum root rot is the characteristic brown and white leathery fruiting bodies that are produced at the base of the trunk at the soil line or on exposed infected roots. Since *H. annosum* is a root pathogen it can be difficult to control. Once a tree is infected, there are no control measures available to cure the tree. The best advice to landowners is to reduce stress on the trees and avoid wounding the trees when possible.

For more information go to this website:

http://www.cals.ncsu.edu/course/pp318/profiles_mirror/annosum/arm.htm.

This article on cedar tree mortality was taken from the Missouri Forest Health Update newsletter.

FOOD PRESERVATION WORKSHOPS TO BE HELD IN KIRKSVILLE

University of Missouri Extension will be offering Food Preservation classes, "Quality for Keeps", beginning Thursday, May 14th at the Kirksville Telecommunications Community Resource Center (TCRC) located at 315 S. Franklin Street. Four workshops will be offered: May 14th-Water Bath Canning Fruits and Tomatoes; May 28th-Pressure Canning Vegetables; June 11th- Freezing Fresh Produce; and June 25th-Preserving Specialty Items (Pickles, Salsas, Jams and Jellies, and Pie fillings). Two class sessions will be offered on each date: 1:00-2:30 p.m. and 6:30-8:00 p.m. Class fees are \$2 per workshop or \$6 for the series. Judy Howard, Nutrition and Health Education Specialist will be the instructor. To register for any or all of the classes please call the Scotland County Extension Office at 660-465-7255 or the Adair County Extension Office at 660-665-9866.

ROSE PROGRAM TO BE HELD IN BROOKFIELD

A program on "Growing Fabulous Roses" will be held on Thursday, May 21 from 6:30-8:00 p.m., at the Brookfield Area Career Center. The program will be taught by Extension Horticulture Specialist, Jennifer Schutter. The program is free and open to anyone who is interested in learning about roses. Topics that will be covered include: Growing "carefree" roses, selecting rose cultivars, 2009 all-America rose selections, keys to rose success, cultural requirements, and diseases and insects of roses. For more information contact Jennifer Schutter at the Adair County Extension Center at 660-665-9866.



NATIONAL YOUTH FLOWERING PLANT KNOWLEDGE CONTEST TO BE HELD IN LAPLATA

Free flower garden tours will be provided for all interested persons at the LaPlata Silver Rails Event Center Flower Garden on Saturday, July 25 from 9:00 until 12:00. The tours will focus on plant identification and history. Over 100 plant species will be available. At 2:00 pm, a plant identification contest will be held for youth ages 15-19. Students must register for the contest by July 24. There will be prize money and trophies for the top four finishers. For more information or to register for the contest contact Clyde Burch at 660-332-7777.

GARDEN TIPS FOR MAY

ORNAMENTALS

- Pinch azaleas and rhododendron blossoms as they fade. Double flowered azaleas need no pinching.
- Fertilize azaleas after bloom. Use a formulation that has an acid reaction.
- Apples, crabapples and hawthorns susceptible to rust disease should have protective fungicidal sprays applied beginning when these trees bloom.
- Begin planting gladiolus bulbs as the ground warms, at two-week intervals.
- Plant hardy water lilies in tubs or garden pools.
- Continue monitoring pines, especially scotch and mugo, for sawfly activity on new shoots.
- Don't remove spring bulb foliage prematurely or next year's flower production will decline. Bulbs can be moved or divided as the foliage dies.
- Canker worms (inch worms) rarely cause permanent damage to ornamentals. Use B.T. if control is deemed necessary.
- Begin planting warm-season annuals.
- Plant summer bulbs such as caladiums, dahlias, cannas, and elephant ears.
- Scale crawlers are active now. Infested pines and euonymus should be treated at this time.
- Trees with a history of borer problems should receive their first spray now. Repeat twice at three-week intervals.
- Begin fertilizing annuals. Continue at regular intervals.
- Pinch back mums to promote bushy growth.

VEGETABLES

- Slugs will hide during the daytime beneath a board placed over damp ground. Check each morning and destroy slugs on the underside of the board.
- Growing lettuce under screening materials will slow bolting and extend harvests into hot weather.
- Place cutworm collars around young transplants. Collars are easily made from cardboard strips.
- Set out tomato plants as soils warm.
- Isolate sweet, super sweet and popcorn varieties to prevent crossing.
- Keep asparagus harvested for continued spear production. Control asparagus beetles as needed.
- Thin plantings of carrots and beets to avoid overcrowding.
- Control caterpillars on broccoli and cabbage plants by handpicking or use biological sprays such as B.T.
- Plant dill to use when making pickles.
- Remove rhubarb seeds stalks as they appear.
- Watch for striped and spotted cucumber beetles now. Both may spread wilt and mosaic diseases to squash and cucumber plants.
- Set out peppers and eggplants after soils have warmed.
- Plant sweet potatoes now.
- Make new sowings of warm-season vegetables after harvesting early crops.

FRUITS

- Mulch blueberries with pine needles or sawdust.
- Don't spray any fruits while in bloom. Refer to local Extension publications for fruit spray schedule.

TURFGRASS

- Keep bluegrass cut at 1.5 to 2.5 inch height.
- Mow tall fescues at 2 to 3.5 inch height.
- Apply post-emergence broadleaf weed controls if needed.
- Watch for sod webworms emerging now.

-MISSOURI BOTANICAL GARDEN-

UPCOMING EVENTS

May 2: Trip to Powell Gardens.

May 4: Fabius MG club mtg, meet at the "Y" junction of 15 and 136 at 6:00 to clean up there, then go to the Presbyterian Church for the meeting, Memphis.

May 5: Heartland MG club mtg; 7 pm, meet at the city barn on North Brunswick Ave in Brookfield. There will be a short business meeting.

May 5: Salt River MG mtg; 7 pm, Sesquicentennial Building, Flower City Park, Palmyra.

May 7: Plant Propagation Workshop, MDC, 6-9 pm. Pre-registration required.

May 12: Sullivan County MG meeting, 6:30 pm, American Legion Building in Milan.

May 12: Magic City MG mtg, meet at Rothwell Park Railroad beds at 5:00, meeting at 6:30.

May 19: Kirksville Area MG club meeting, 7 pm, location TBD. An email will be sent to Kirksville MGs.

May 21: "Growing Fabulous Roses", Brookfield Area Career Center, 6:30-8:00. No cost. Call me at 660-665-9866 or email me to register for the program.

May 25: Macon-Shelby MG mtg, 7 pm, Macon County Extension Center, program-container gardening.

June 28: Clark County Garden Tour, Kahoka.

July 13-18: NEMO Fair, Kirksville.

July 25: Nat'l Flowering Plant Knowledge Contest; 2 pm, Silver Rails Event Center Park, LaPlata. More info on page 3.

August 13-23: MO State Fair, Sedalia.

UNIVERSITY OF MISSOURI
Extension

Garden Talk!

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