

Down the Garden Path

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GARDEN

Why Plants Fail to Bloom

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PUZZLE MANIA

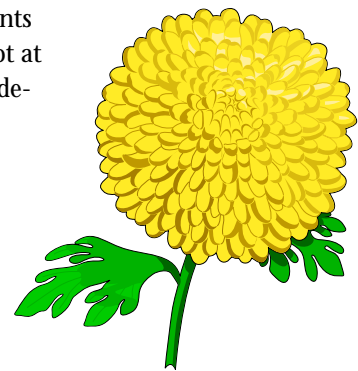
Flowering plants that don't flower can be a big disappointment in your garden. A little detective work can usually pinpoint the trouble.

The most common factors associated with blooming are light, plant age, nutrition, winter temperatures, and improper pruning.

Some, such as chrysanthemum, flower in response to short day lengths. 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.

Many woody plants must reach a certain age before they are mature enough to produce flowers. Fruit trees such as apples and pears can require as many as five or six years to become fruitful. Ginkgo trees can take up to 15 years to bloom.

Overfeeding plants with nitrogen can encourage plants to produce lush foliage at the expense of blossoms. A lack of nutrients, particularly nitrogen, phosphorus, and potassium, may also delay flowering. Stick with a balanced, low-analysis fertilizer such as 12-12-12 or 6-



10-4 to avoid applying excessive nitrogen.

Landscape plants that bloom in spring set their flower buds in autumn on one year old wood. These buds can be killed by extreme low winter temperatures or by late frosts in spring after growth has begun. Choose plants that are adapted to your area.

Pruning spring-flowering plants before bloom will remove the flower buds as well. The rule of thumb is to prune spring-flowering shrubs and vines after blooms have faded. ☺

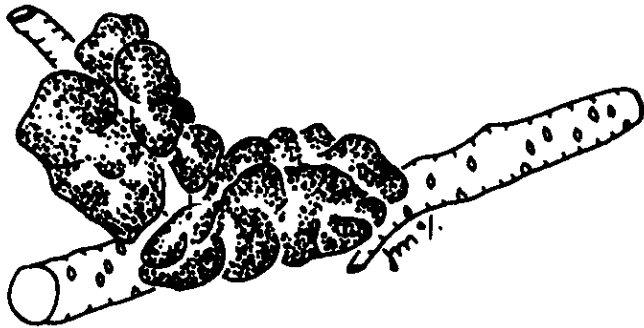


THE GRAPE VINE

Black Knot of Plum and Cherry

Gail Ruhl, Plant Disease Diagnostician

Most Indiana fruit growers, both professional and amateur, have at one time or another observed the black, knot-like warty growths that often occur on the woody parts of plum and cherry trees. This fungal disease is one of the most common stone fruit problems in America. It infects both wild and cultivated forms of cherries and plums; however, in general, plums are more severely attacked. A small swelling first appears on a twig or branch of a susceptible tree. Newly formed "knots" are greenish and soft but become hard and black with age. The growth enlarges every season, weakening the tree, and eventually it may completely girdle the infected branch. Trees severely affected by the disease are difficult to save.



Purchase only disease-free nursery stock. Never buy trees with visible knots or abnormal swellings on the twigs and branches. Look for this disease in its early stages, which appear as light brown swellings that later rupture the bark and turn darker. Prune and burn (or bury) all infected wood in late winter or early spring before growth starts and as soon as new knots appear. Make cuts four to eight inches behind any obvious, black-knot swellings. Knots on the trunk or on large limbs should be carefully cut out with a knife and chisel, removing about an inch of healthy bark and woody tissue beyond any visible gall tissue. If possible, destroy (burn) all available wild, neglected, or worthless plum and cherry trees.

Commercial fruit growers rely on timely fungicide applications, as well as pruning, to control black knot. Most infections occur between budbreak and two weeks after bloom, when wet conditions are accompanied by temperatures of 55 degrees to 77 degrees F. Fungicide sprays should be applied as buds break and continued every two weeks until about three weeks after petals fall. These early season fungicide sprays do much to prevent new infections but are not effective in stopping infections already present. For this reason, all visible knots should be pruned from the trees.

Editor's Note: Portions of this article were adapted from an article by Nancy Pataky, University of Illinois.

YARD

Alternative Controls for White Grubs

Zac Reicher, Extension Turfgrass Specialist

There is increasing interest in alternatives to insecticides for control of white grubs in turf. Alternative controls including parasitic nematodes, pathogenic fungi and bacteria, insect hormones, and other naturally occurring compounds are being considered and tested for white grub control. Though alternative controls are needed and welcomed for white grub control, unfortunately their effectiveness and consistency remains questionable. White grub control from parasitic nematodes, for example, can be dramatically affected by temperature, moisture, and soil type as well as the length and conditions of storage prior to use. Alternative controls for white grubs are improving but are not yet as reliable as traditional insecticides. However, significant research is being conducted to improve the efficacy and consistency of alternative grub controls and hopefully someday they will be as reliable and effective as chemicals.☺



OVER THE BACK FENCE

Q: A number of small branches from my oak tree are falling . What's going on?

A: You probably are dealing with twig pruners. Twig pruners are wood-boring beetles that belong to the family Cerambycidae ("the longhorned beetles"). In late spring, mated females chew a small hole in a branch or twig in which a single egg is laid. Once the larvae hatch, feeding occurs within the branch. As the larvae feed, small circular tunnels or paths are produced in the branch. At this point, the branch becomes weakened and is only attached to the tree by bark.

During high winds, branches break off and fall to the ground. In most cases, larvae will be found in the branches that have fallen to the ground. Feeding continues throughout the summer months. In the fall, larvae pupate within the branches and overwinter. In the following spring, adults emerge, mate, and females lay eggs. Twig pruners only have one generation a year.

Twig pruners feed on a wide variety of host trees: maple, hickory, oak, redbud, linden, hackberry, elm, honeylocust, and many other deciduous trees.

When observing fallen twigs, check the cut ends to determine if the twigs were cut by a pruner. The pruner cut is a clean cut with a small hole in the center pack with fibrous frass. If this is the case, pick up the severed twigs and destroy them. This will help control future populations. Normally, only slight leaf loss will be encountered from a twig pruner infestation. --Corey Gerber ☺

Q: All of the leaves on my ornamental purple plum tree have recently turned brown and crispy. This tree is eight years old and has been doing well in this site. I would like to know why this is happening and whether this tree will recover?

A: With the recent change in weather, some trees and shrubs that appeared to be growing vigorously are now exhibiting leaf scorch, branch dieback and in some cases, total tree death. This decline may appear to be sudden and may be erroneously thought to be caused by a recent stress factor. However, the symptom expression visible now is more likely related to prior root or cambium injury from stressful environmental conditions in previous years, masked earlier in the growing season due to the cool, wet, spring-like conditions. In some instances, trees may still be suffering from transplant shock from last fall.

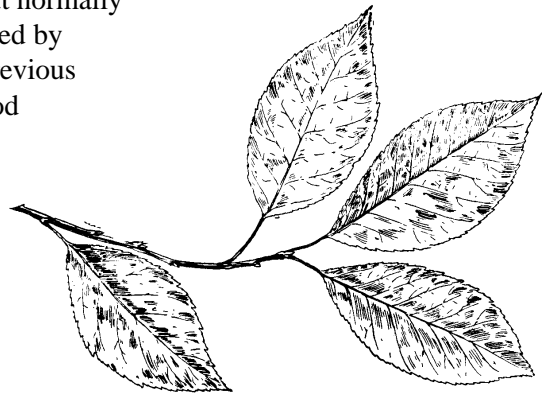
Plants vary in their susceptibility to cold injury, and factors such as plant age, species, exposure, soil type, location, and individual genetic variation will all affect the degree of damage a particular plant will experience. Cold injury can appear as stem or trunk cankers, foliar browning, twig and branch dieback, or entire plant death. Damage from extreme cold temperatures cannot be prevented by cultural practices. The tissue just beneath the bark, the cambial layer, may be damaged by the cold temperatures and this damage obstructs the normal water and food movement throughout the woody plant. The injury is insidious because the

woody plants leaf out normally in the spring supported by sapwood from the previous year. As this sapwood

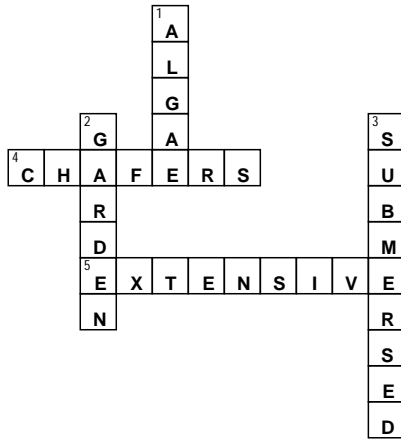
hardens, the injured cambium is unable to produce new sapwood to carry the increasing amounts of water demanded by the foliage. As a result,

the entire plant or individual branches may begin to die back or wilt suddenly. This is often the first above ground symptom of this type of winter injury and occurs commonly after a hot spell in June or July.

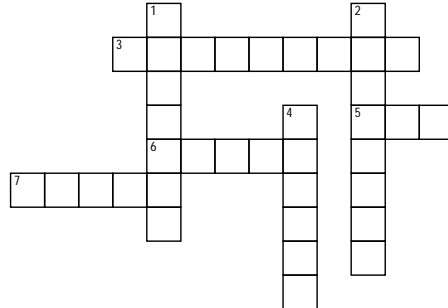
Successful control measures depend on the amount of cambial damage. If dieback symptoms become apparent on individual limbs, prune out all dead or dying branches and invigorate the root system with supplemental watering during drought periods and proper fertilization next spring. If the entire tree appears to be dead or dying, it is likely that the tree is permanently damaged. --Gail Ruhl ☺



The answer to the puzzle from the last issue (No. 98) is shown below.



PUZZLE MANIA



Peggy Sellers, Editor
Janet Whaley, Subscriptions

Dan Childs, Weed Science
Corey Gerber, Entomology
Timothy Gibb, Entomology
B. Rosie Lerner, Horticulture
Karen Rane, Plant Pathology
Zac Reicher, Turfgrass Agronomy
Gail Ruhl, Plant Pathology
Cliff Sadof, Entomology

Across

- 3 these can be used as an alternative control for grubs
- 5 twig pruners have this many generations per year
- 6 this is a common factor associated with blooming
- 7 do this as soon as black knot appears

Down

- 1 twig pruners are this type of insect
- 2 shade-loving plants such as these will not bloom well in full sun
- 4 leaf scorch can be caused by this

Down the Garden Path is published 17 times a year by the Plant and Pest Diagnostic Laboratory. For subscription information and comments, write to:

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