

Gummosis on (Cherry) Prunus

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I have needed this written documentation of this common problem for years. I finally found an easy to understand explanation. Reading this should provide a better understanding and a realization that the cause can be complicated and frequently undetermined.

Simply stated, plant stress is the cause. Stress is a killer of plants and man.

Gummosis is a general, though nonspecific condition of *Prunus* trees (both fruiting and flowering) in which gum is exuded through the bark. Gum is produced in response to any type of stress, not necessarily a wound, regardless of whether it is due to insects, mechanical injury, drought, cold injury or disease.

Gum production (gummosis) is often associated with fungal (*Botryosphaeria* canker) and bacterial cankers of cherry and the peach tree borer. However, gummosis can also be associated with drought stress, certain viruses, adverse growing sites, winter damage, herbicide damage, wounds, bruising of stem tissue and many other factors.

Canker causing fungi overwinter in active cankers in living or in dead wood. Infection occurs where the bark is damaged or injured. Infection following cold injury frequently occurs in the crotch angles of affected trees. Other ports of entry for these fungi include pruning wounds, mechanical damage, insect damage and leaf scars.

Moisture is required for spore production, spore dissemination and infection. The rate of canker development following infection depends on temperature and the species of fungus involved. When temperatures do not favor fungal activity, calluses form. Canker activity resumes when temperatures again favor the fungus. This back and forth battle between the tree and the fungus usually ends with the fungus winning.

The horticultural myth with gummosis is that it is an indication of borers. This is seldom the case. Peachtree borers will attack cherry trees and other members of the *Prunus* genus. One symptom of borers in *Prunus* can be gum.

However, peachtree borer is not the only thing that can cause the gummy sap to appear on cherry and *Prunus* trunks. If the gum is emerging from rather high up on the trunk, rather than from near the root crown, the bleeding is not likely caused by peachtree borers.

Look for frass mixed in with the exuding gum. Frass is a combination of wood boring dust and the body excrement of borers. The presence of frass, with or without gum, confirms a borer. Peachtree borer injury occurs low on the trunk, usually within 3 feet of the soil. Use a sharp knife to slice behind the gum into the bark. A hole made by a borer will be revealed if a borer is involved. No hole and no frass indicates the condition referred to as gummosis. (cutting into the bark as suggested will likely heal)

The exuding of gum from plants in the genus *Prunus*, including the cherries, is so common it has been given the name gummosis. The name gummosis does not define a cause, only a response. Peachtree borer injury and simple mechanical injury can result in gummosis. There are also several infectious diseases that can result in gummosis.

There are three groups of organisms that can cause cankers on cherries and result in a gummosis response. One is a bacteria in the genus *Pseudomonas* which causes a disease known as bacterial canker. Another is a fungus in the genus *Leucostoma* (*Cytospora*) that causes *Leucostoma* canker of *Prunus*. The third is usually called fungal gummosis and is caused by the fungus *Botryosphaeria dothidea*. It is not important to identify the specific organism involved, but, it is important from a diagnostic point of view to differentiate between insect infestations, mechanical injury, and infectious disease.

A canker is a necrotic (dead), often sunken lesion on a stem, branch or twig of a plant. It will become more evident with time as the healthy tissue grows and the dead area does not. The dead area appears to have sunken. The dead bark will slough off in time, exposing the dead wood.

In most cases where a canker and its casual disease is concerned the infected tree is, or has been, under some type of environmental stress. This has frequently been cold injury or drought stress in the past. Man does not always recognize that sufficient stress occurred to have been a factor. Cherry trees stress easily compared to many other landscape trees and this opens the door to an invasion of one of the canker causing diseases and the resulting gum bleeding.

The presence of gummosis does not mean the plant will die.

References:

- 1 Hartman, John and Paul Bachi. rev 7-94. Gummosis and Perennial Canker of Stone Fruits in Kentucky. University of Kentucky, PPFS-FR-T-8, Plant Pathology Fact sheet.
- 2 Stewart, Bob. June, 2000. "Bleeding Cherries" appeared in the Green Industry News, vol 6, #4; produced by the Univ of Maryland Extension Service. Bob Stewart is an Area Extension Educator in commercial horticulture for Anne Arundel and Prince George's counties in Maryland.
- 3 Windham, Alan. 2004. Disease Management of Woody Ornamentals in Nurseries and Commercial Landscapes. Univ of Tenn Ext Pub #1234, pg 4

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