

## Plant Pathology Fact Sheet

# Gummosis and Perennial Canker of Stone Fruits

by John Hartman and Paul Bachi



Gummosis is a general, nonspecific condition of stone fruits (peach, nectarine, plum and cherry) in which gum is exuded and deposited on the bark of trees. Gum is produced in response to any type of wound, regardless of whether it is due to insects, mechanical injury or disease.

Gummosis most commonly occurs as a result of perennial canker, bacterial canker and the peach tree borer. However, gummosis can also be associated with *Botryosphaeria* cankers, certain viruses, adverse growing sites, winter damage, herbicide damage and many other factors.

In Kentucky, gummosis is most frequently due to perennial canker. It can be a destructive peach disease, especially when there is a high incidence of winter injury to trees. The fungi that cause perennial canker (*Leucostoma cincta* and *L. persoonii*) readily invade winter-damaged tissues.

## Symptoms and Spread

Perennial canker is characterized by oval or linear cankers which eventually become surrounded by a roll of callus at the margins. Cankers gradually enlarge until infected limbs are girdled and then die. Gummosis is usually associated with the cankers.

The canker fungi overwinter in active cankers in living wood 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.

### **Disease Management**

Reducing or eliminating perennial canker from a commercial or home orchard is extremely important if you want to increase the orchard's productivity and longevity. Once the disease becomes established, it becomes increasingly difficult to control.

Disease control must be based on several practices; no one practice is effective by itself. The following measures help indirectly by reducing ports of entry for the canker fungi, by moderating tree stress, and by reducing inoculum levels of the fungi. Each of these factors must be considered before adequate canker control can be attained in any given orchard.

1. Delay pruning activities until growth starts in the spring since callus formation starts quickly at this time. Fall pruning can severely weaken and stress trees and can set them up for winter injury and subsequent infection.

2. To promote rapid wound healing, prune branches to leave the swollen collar at its base. Do not leave stubs and avoid a very close flush cut. Do not leave weak-angled crotches when shaping trees as these are potential sites of infection.
3. Practice good orchard sanitation. Prune out and destroy (e.g. burn or bury) badly cankered limbs.
4. Fertilize trees according to soil test recommendations. Avoid late summer fertilization.
5. Avoid unnecessary injury and control insect pests, such as peach tree borer and lesser peach tree borer.
6. Water trees during dry weather to reduce stress.

(Revised 11-05)