Brown Rot of Stone Fruits

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One of the questions most commonly asked by amateur fruit growers is "Why do my plums and peaches rot and dry up just as they are getting ripe?" The brown rot disease that is responsible for this rot condition will cause some loss every year; and in years when humid, rainy weather occurs, the disease may destroy the entire fruit crop. Brown rot can be just as damaging to cherries, nectarines and other stone fruits.

Symptoms
Brown rot usually first appears during bloom. The blossom clusters wilt and turn brown. If wet weather prevails during bloom the diseased blossom cluster becomes covered with a gray spore mass of the fungus. About two weeks after bloom, the infection will have progressed down the flower stalk into the twigs and branches of the tree. Twigs infected in this way quickly wither causing a die-back of the young terminal shoots. Brown rot on the fruit becomes more noticeable as the fruit approaches maturity. The first evidence of the rot is the appearance of a small circular brown spot that develops very rapidly if the fruit is mature. The rotted area eventually becomes covered with gray-colored tufts which break through the skin of the peach—see Figure 1. It is this stage that gives the disease the name "Brown Rot." The fruit usually retains its form and remains attached to the tree for some time after it is completely rotted; then it either falls or, if retained on the tree, gradually dries into a firm "mummy."

Cause
Brown rot is caused by the fungus, Monilinia fructicola. The fungus overwinters

Figure 1. Brown rot caused the damage to the left side of the peach.
in infected twigs or in mummified fruit on
the tree or on the ground. These overwin-
tering sources supply spores for infection
in the spring. The blossom clusters and
twig which become infected in spring will
then provide a secondary source of spores
for fruit infection later in the growing sea-
son. Therefore, it is important to control
these early infections. The disease is most
damaging in years when wet weather prevails
during bloom and from 3 weeks prior to
harvest until harvest.

Control

Brown rot cannot be effectively prevented
by one or two sprays or dusts applied in the
spring. A combination of both cultural and
chemical control measures as outlined below
is required for control of brown rot.

Cultural practices

Orchard sanitation is of major impor-
tance in controlling brown rot. Trees should
be pruned to eliminate weak and dead wood,
including small twigs that may have been
killed by brown rot the year before, and to
open them so good spray penetration can be
obtained.

Mummied fruit left on the tree after
harvest and those on the ground should be
removed in early spring and either burned or
deeply buried. Rotten fruit that appear in the
trees early in the summer should be removed
immediately since they are a source of in-
fection for fruit at harvest time.

Chemical Control

Sprays must be applied at the proper
time for good control of brown rot. The
following spray schedule is suggested: (1)
prebloom (when blossom buds show pink);
(2) bloom (when 50% of blossoms are open);
(3) petal fall (when 75% of petals have fallen);
(4) shuck fall (when most shucks have fallen);
(5) first cover (10 days after shuck fall); and
(6) preharvest sprays (apply 14, 7 and 2 days
before harvest). Note: Read container label
for days between final spray and harvest.

Equally important as the timing of sprays
is the spray material itself. Fungicides
effective in controlling brown rot are: benomyl
(sold as Benlate 50WP); captan (sold as Ortho-
cide 50W, Captan 50W, etc.); mirofine wettable
sulfur 95%; or general purpose fruit sprays
which contain any one of the above fungicides
(see BP-3-1 for further information on general
purpose sprays). Note: for users of general
purpose fruit sprays it is suggested, and
often required because of harvest restriction
days, to use one of the specific fungicides,
e.g., captan or benomyl for the preharvest
sprays. See container label for rates of use
and ALWAYS READ THE CONTAINER LABEL
FULLY AND FOLLOW ALL DIRECTIONS
AND PRECAUTIONS.