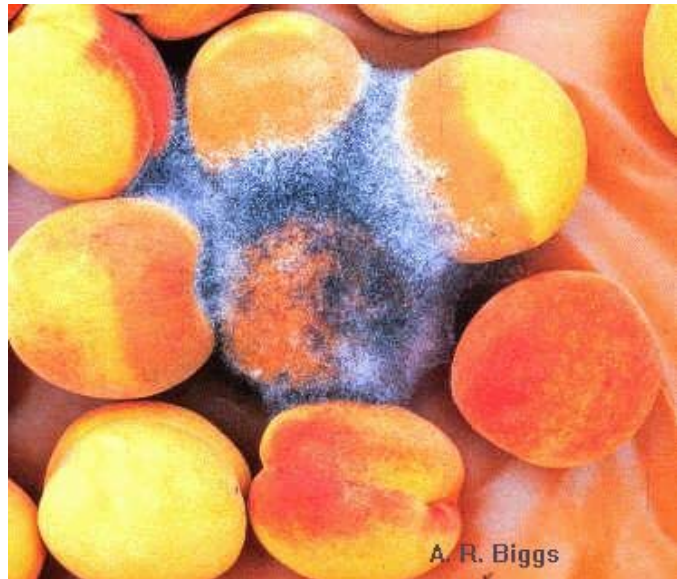


## Rhizopus Rot

*Rhizopus spp.*

**I. Introduction:** Rhizopus rot is a soft fungal rot of harvested or over-ripe stone fruits. Fungal growth and fruit decay are greatly retarded in cold storage but advance rapidly at warm temperatures, allowing loss of many fruit within the shipping container.

**II. Symptoms:** Dime-sized lesions are cinnamon or chocolate-colored and may be difficult to distinguish from early brown rot lesions. A distinguishing characteristic is that Rhizopus rot causes the skin to slip readily from the decaying flesh underneath, while brown rot does not. At warm temperatures, the fungus rapidly advances through the entire fruit. The early appearance of the fungal mycelium is as a fluffy white mass. This later turns dark gray to black as the fungus begins to sporulate (photo 2-65).



**III. Disease Cycle:** The fungus survives unfavorable environmental conditions as dark colored zygospores in the remnants of rotted fruit in bins or on the orchard floor. Fruit in the early stages of ripening require injury from factors such as insects, hail or cracking for infection to occur. At harvest the skin is often injured at the stem. Rotted fruit on the orchard floor allow for inoculum buildup as the harvest season progresses. After harvest, Rhizopus rot can spread from fruit to fruit without injury at the point of contact. Rot progression is temperature related, with rapid fungal growth at the optimum temperature of 81 F (27 C), but no spore germination or growth at 40 F (4 C).

**IV. Monitoring:** Be aware of conditions (insects, hail, birds) that injure fruit in the preharvest period and during the harvest operation. Check for Rhizopus rot (photo 2-65) buildup while monitoring for brown rot throughout the preharvest period. Monitor ten

fruit per sample tree for disease incidence. Greater than two infected fruit per ten acres (eight trees sampled) represents a high risk at this time. Rhizopus rot is more likely to be a problem where fruits are allowed to fully ripen on the tree. Monitor sanitary conditions of field bins or crates, the hydrocooler, and the packinghouse to reduce the incidence of this disease.

**V. Management:** Since the fungus attacks fruit mainly after harvest, storage at 39 F will control the disease because the fungus does not grow at temperatures below 40 F. To minimize the incidence of Rhizopus rot, handle fruit carefully to avoid wounds, keep storage containers and warehouses clean, and keep hydrocooling water clean. Preharvest fungicides, postharvest fungicide dips and/or sprays, or impregnated fruit wrapping papers help prevent the disease, also.

**TEXT PREPARED BY K.S. YODER AND K.D. HICKEY**

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