

# *Pathology and Horticulture of Fruit Crops*

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The objective of this research and extension program is to sustain and enhance the economic viability of fruit growing in the Rogue Valley.

Research results are regularly communicated to fruit producers in the Rogue Valley and throughout the Northwest. Highlights of 2007 include:

**Orchard Disease Forecasting.** Pear scab disease is on the rise! Timely response to weather conditions protected most Rogue Valley orchards from this costly infection. An organic strategy for pear scab control is under development. Fire blight disease problems can be reduced efficiently by targeting control treatments through our analysis of daily temperatures and the exact stage of tree development.

**Expanding the Marketing Window for Comice Pears.** A unique property of Comice and other “winter” pears is that they need to experience cold temperatures *after harvest* in order to develop the capacity to ripen when subsequently brought to room temperature. Producers typically hold Comice pears in cold storage for 30 days before first shipment to market. We have recently established that once pears reach maturity on the tree, the length of cold storage required before shipping decreases, allowing fruit to be marketed sooner. Furthermore, pears stored at 40-50°F for a brief period after harvest can develop the capacity to ripen sooner and be available for early marketing and earlier returns to producer.

*Pears stored briefly at 40-50°F after harvest can develop “ripenability” quickly and be available for early marketing.*

**Larger Bartlett Pears by Changing Fertilizer Practices.** We found that applying urea, a common fertilizer, to pear trees during bloom increases fruit size at harvest. Urea modestly thins the number of fruit per tree. The remaining fruit are larger, probably due both to thinning and to the nitrogen boost the fruit receive at the beginning of growth. Larger fruit are consistently more valuable and critical to the success of Bartlett pears in the fresh market. This practice is now being evaluated

throughout the pear-growing world.

**Diagnosis of Winegrape Problems.** Samples brought to the laboratory or observed during vineyard visits were evaluated and opinions were

shared with vineyardists. Diagnosis and discussion of treatment options help to sustain the health and economic value of Rogue Valley vineyards.

**Advances in the Management of Storage Decay of Pears.** Decay can be a serious problem during long-term pear storage. Growers and packers can manage decay in pears using our integrated programs, which combine diverse control tactics. Our results lengthen the potential marketing period through successful storage; help avoid catastrophic economic loss from decay outbreaks; and minimize producer costs associated with decay loss, re-packing, and the loss of marketing flexibility. Strategies are evolving for both conventional and organic management systems.