

## Evaluation of Brown Rot Blossom Blight Risk Model for Oregon

Jay W. Pscheidt, Oregon State University Extension Plant pathologist

**Purpose** Evaluate new blossom blight model for use in the Willamette Valley of Oregon. This model was originally developed for prunes in California. Historical weather records were evaluated to determine if there was any risk for brown rot blossom blight. Any risk of low, moderate or high using the model was given as a positive symbol (see table below). The number in parenthesis equals the number of risk periods identified. Historical fungicide testing data were also analyzed to see if nontreated trees had significantly more blossom blight each year than fungicide treated trees.

**Results** Risk periods, defined by this model on prunes, were identified during 1996, 1997, 1998, 2000, 2001 and 2002 growing seasons using the cherry phenology data. Each year a risk period was identified in cherries also corresponded to a year where significant blossom blight was observed. Fungicide treated trees did not have significantly more blossom blight than nontreated trees during the 1999 growing season which also corresponds to a year when no risk periods were identified.

Risk periods were identified during 1996, 1997, 1998, and 2001 growing seasons using peach phenology data. Each year a risk period was identified in peaches also corresponded to a year where significant blossom blight was observed, except in 2001. During the blossom period of 2001 there were 2 hard frost events that resulted in complete crop loss. Fungicide treated trees did not have significantly more blossom blight than nontreated trees during the 1999 and 2000 growing seasons which also corresponded to years when no risk periods were identified.

In 1996, all wet periods had an average temperature below 10°C, however, during one 39 hour wet period the temperature rose above 10°C for 6 hours. It appears the model may be useful for identifying brown rot risk periods in Oregon on both cherry and peach.

Year	Cherry		Peach	
	Brown Rot Risk During Bloom*	Significant Brown Rot Blossom Blight**	Brown Rot Risk During Bloom*	Significant Brown Rot Blossom Blight**
1996	+(1)	+	+(1)	+
1997	+(1)	+	+(1)	+
1998	+(2)	+	+(2)	+
1999	---	---	---	---
2000	+(1)	+	---	---
2001	+(1)	+	+(1)	._***
2002	+(4)	+	ND	ND

\* Luo, Morgan and Michailides. 2001. Risk Analysis of Brown Rot Blossom Blight of Prune Caused by *Monilinia fructicola*. *Phytopathology* 91:759-768

\*\* Nontreated trees had significantly more blossom blight than fungicide treated trees.

\*\*\* Frost at full bloom.

ND = Not Determined.