

GRAPE (*Vitis vinifera* 'Pinot Noir' and 'Riesling')
Powdery Mildew; *Erysiphe necator*

J. W. Pscheidt and J. P. Bassinette
Dept. of Botany and Plant Pathology
Oregon State University
Corvallis, OR 97331-2903

Early Occurrence of Grape Powdery Mildew in Western Oregon

The Fruit and Ornamental Disease Management Testing Program has annually provided Oregon growers with relative efficacy of fungicides, fungicide schedules or cultural practices for control of plant diseases since 1989. Testing has been conducted at the Botany and Plant Pathology Research Farm, Corvallis, OR. Among many crops, 5 acres of vineyards were established to test for grape powdery mildew (*Erysiphe necator*) or bunch rot (primarily *Botrytis cinerea*) management. Vineyards were managed for weeds, insects, cane or spur pruned and trained with vertical shoot positioning. Weather conditions were favorable for powdery mildew development such that non-fungicide treated plots frequently developed 100% incidence on leaves and/or clusters each year. Vineyards were surveyed intensively most years for the first occurrence of powdery mildew to determine fungicide program initiation. The first symptoms were recorded either as flag shoots (infected buds from the previous year), first individual colonies or both. The first symptoms did not always correspond to non-fungicide treated plots and occurred in multiple cultivars at the same time but were widely scattered through various vineyards. The date of first occurrence was as early as 26 April 2016 or as late as 30 June 1993 (Figure 1). Powdery mildew occurred an average of 21 days prior to Pinot Noir bloom ranging from 1 to 45 days before bloom. Flag shoots occurred in 9 out of 22 years surveyed (from 1993 to 2016) and in 5 out of the last 6 years (2011 to 2016). Overall trends from 1993 to 2016 indicate that powdery mildew has occurred earlier in the calendar year, prior to Pinot Noir bloom and more often as flag shoots. Growers in western Oregon are advised to begin fungicide management programs well before bloom (no later than BBCH 57) especially when not monitoring for spores of the fungus.

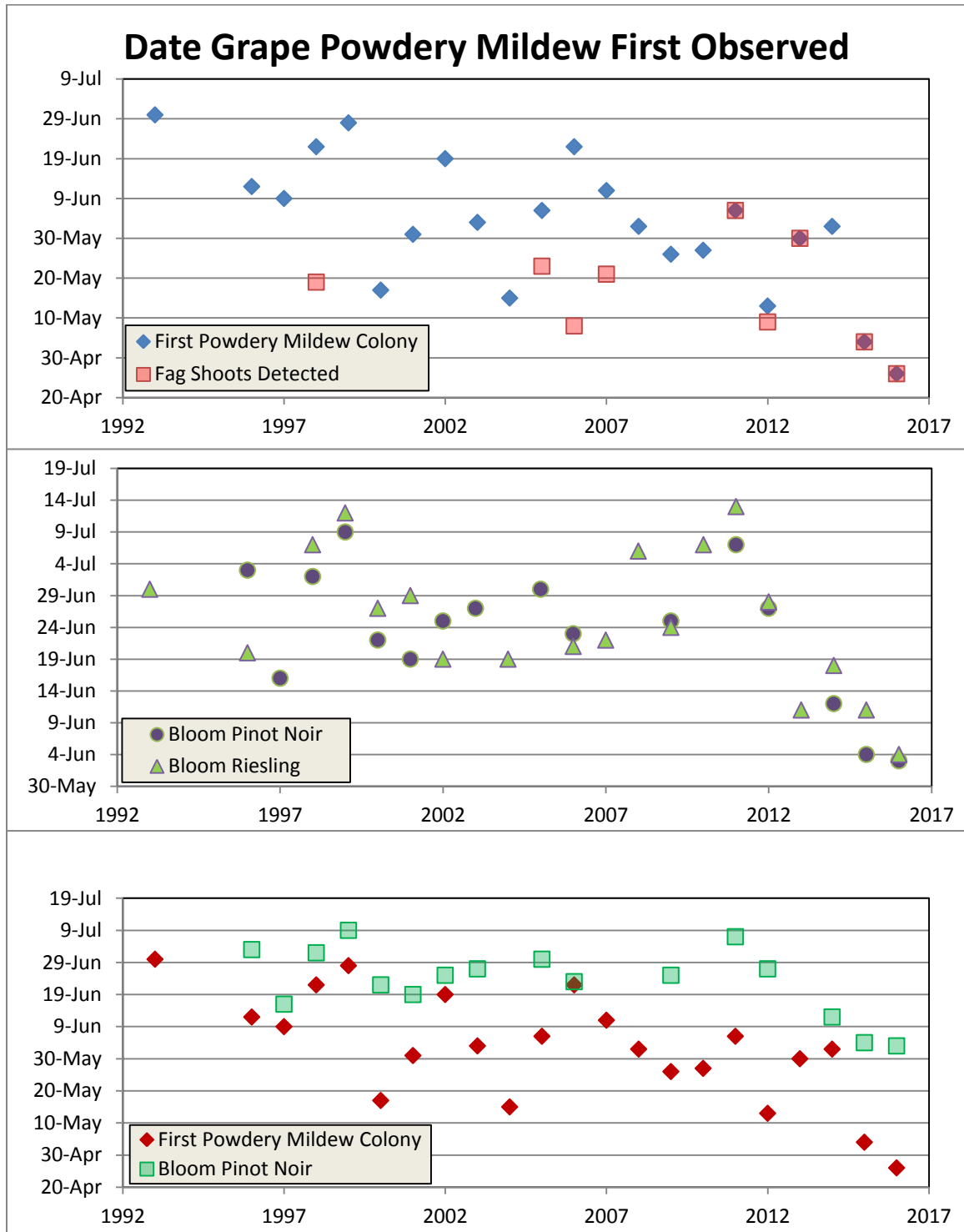


Figure 1. Top graph shows date when powdery mildew colonies or flag shoot were first observed in nontreated grape plantings from 1993 to 2016. Middle graph shows the bloom dates for Pinot Noir and Riesling grapes those same years. Bottom graph combines data from the first two graphs onto the same time scale.