Effect of Early Leaf Stripping on Grape Diseases

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The goal of this research was to determine the effect of leaf stripping on important diseases of wine grapes that occur in British Columbia. Experimental plots were setup at two locations that represented south and central Okanagan Valley wineries. Disease incidence was recorded over the 2003 and 2004 growing seasons. The diseases that were studied were bunch rot and powdery mildew in 2003 and 2004 and sour rot at one location in 2004. Bunch rot caused by the fungus *Botrytis cinerea* is an important disease in BC especially in wet years or at humid locations and is favoured by grapes that form tight clusters. Previous studies in California and elsewhere have shown that canopy management is important in the control of this disease. Early leaf stripping (June, 2003) significantly reduced bunch rot at the Diamondback vineyard on Chardonnay from around 20% to 5%. It did not matter if one or three passes were used to remove leaves. In 2004 the bunch rot incidence was much lower but indications were that early leaf stripping (June, 2004) reduced disease expression. In order to more precisely evaluate the effect of leaf stripping on bunch rot, grape clusters sampled from two vineyards were monitored for *B. cinerea* by plating spores washed from the clusters on agar. The early leaf stripping samples had less *B. cinerea* spores than the control and these clusters would have the lowest potential to develop bunch rot. Powdery mildew which is the most important disease of grapes in BC was also evaluated for effect of leaf stripping. It is promoted by dense canopies and can be minimized by canopy management. Powdery mildew incidence was reduced by early leaf stripping (June, 2003) in one Chardonnay

trial at Diamondback. Disease incidence was reduced by approximately 30% in this trial by one pass of early leaf stripping. Sour rot is a new disease in BC. It is known in California and Europe with different causal agents in both areas. The sour rot in BC appears to be similar to the sour rot described in Italy. The disease is promoted by tight grape clusters and fruit with thin skins. The odour of vinegar and presence of fruit flies are always in evidence when this disease occurs. Leaf stripping could reduce the incidence of sour rot because in one trial less sour rot was found after early leaf stripping (June, 2004) with one pass. Further research will be necessary to determine its cause in BC and recommend a control. In summary, early leaf stripping reduces bunch rot, and may reduce powdery mildew and sour rot. If there are any questions on this research please contact Peter Sholberg by email: Sholbergp@agr.gc.ca or call (250) 494-6383.