

HERBICIDE TREATED MULCHES IMPROVE WEED CONTROL, SUPPRESS SCION ROOTING AND PREVENT WINTER INJURY IN VINIFERA VINEYARD. Linjian Jiang, Imed Dami, Hannah Mathers and Doug Doohan, Graduate Student, Assistant Professor, Associate Professor and Associate Professor, Department of Horticulture and Crop Science, The Ohio State University/Ohio Agricultural Research and Development Center, Wooster, OH 44691.

The grape species *Vitis vinifera* is extensively grown for wine production in the US. Roots of *vinifera* grapes are susceptible to a soil insect, phylloxera. Grafting to a resistant grape root stock is widely used to prevent damage by this pest. However, the graft union may be damaged by extreme winter temperature. Grape growers in cold regions mound soil over the graft union in autumn to protect the scion from winter injury. In the following spring, the soil hills are removed to prevent *vinifera* scion rooting and the susceptibility to phylloxera that would result from that event. This annual tillage practice, called “winter hilling”, often results in severe soil erosion, chemical run-off and increased weed problems. In this study, we proposed that herbicide-treated mulches could be an alternative method for weed management, winter protection and soil conservation in *vinifera* vineyards. Trials were conducted in two vineyards to test weed management by simazine treated soil, straw and bark. Scion rooting number was also recorded when the soil or mulch was removed in June. The degree of winter protection was determined by temperature loggers buried under soil and different mulches. Weed density data were recorded for each identified species and applied to a SAS ANOVA model. Mulches significantly suppressed most weeds in both vineyards. Mulches also significantly reduced scion rooting, and provided as good winter protection as soil. In conclusion, herbicide-treated mulches provided an alternative method for the management of weeds, winter protection, scion rooting and soil erosion problems in *vinifera* vineyards.