

SIMAZINE-TREATED MULCHES IMPROVE WEED CONTROL AND MANAGEMENT OF TRIAZINE-RESISTANT COMMON LAMBSQUARTERS (*CHENOPODIUM ALBUM*) IN *VINIFERA* VINEYARDS. 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.

In order to achieve successful *vinifera* grape production, growers in cold regions mound soil over the graft union in autumn to protect the graft union from winter injury. In the following spring, the soil hills are removed to avoid *vinifera* scion rooting and the subsequent susceptibility to the soil insect, phylloxera. This annual double-tillage practice, called “winter hilling”, is causing increased soil erosion and complicating weed control. In this study, we proposed that herbicide-treated mulches could be an alternative method for weed management in *vinifera* vineyards while simultaneously providing winter protection and soil conservation. Trials were conducted in two vineyards to test weed management by simazine treated soil, straw and bark. Density data were recorded for each identified species and subjected to ANOVA. Mulch provided significant suppression of most weeds in both vineyards. The efficiency of simazine on the suppression of whole weed community decreased as the season progressed. Simazine, a triazine herbicide, controlled common lambsquarters by killing triazine-sensitive biotype, resulting in a homogenous triazine-resistant population at both locations. However, simazine-treated mulches effectively controlled common lambsquarters without increasing the abundance of the triazine resistant biotype. In conclusion, simazine-treated mulches provided good weed control and a potential tool to manage triazine resistance biotypes.