



Please complete and return to Kim Brunson at [kimb@agmgt.com](mailto:kimb@agmgt.com)  
 Monday November 8, 2021

**Poster Title:** \_\_\_\_\_

**Poster Category:**

	Vineyard Establishment
	Vineyard Management
	Irrigation
	Economics
	Pests, Diseases, Disorders, Nutrition
	Weather
	Resources (ex. AgWeatherNet, Clean Plant Network)

Name of primary contact/author: \_\_\_\_\_

Primary contact email: \_\_\_\_\_

Required information for each author:

Name: \_\_\_\_\_ email: \_\_\_\_\_

Name: \_\_\_\_\_ email: \_\_\_\_\_

Name: \_\_\_\_\_ email: \_\_\_\_\_

**Abstract** (no more than 200 words):

Heatwaves can cause excessive heat stress on vineyards and affect vine growth. We developed a novel mist-type evaporative cooling system (MECS) to mitigate heat stress for grapevines. In 2020, we had shown that the MECS can alleviate heat and water stress by preventing canopy temperature from exceeding 95°F. However, the results showed no significant difference in juice and wine composition in Cabernet Sauvignon. In 2021 we modified the MECS target to mitigate excessive heat accumulation in the fruit zone. The heatwaves brought the record high air temperature to 112°F in late June during the critical period of berry size determination. The MECS kept the air temperature in the canopy 13°F cooler than the peak ambient temperature. Cooling the fruit zone during heatwaves resulted in larger berries, larger seeds, and more seeds per berry. Titratable acidity was higher in the juice of cooled vines. There was no significant effect of the cooling treatment on yield, disease incidence, berry splitting, sunburn, and shoot growth. Though wine composition, such as phenolics and anthocyanins, has not yet been fully analyzed, the MECS might be a tool for stabilizing berry characteristics during heatwaves.