

WSGS Poster Abstract 2021 (200 words)

## Illuminating Alternative Grapevine Powdery Mildew Management

Authors: Alexa McDaniel and Michelle Moyer

Germicidal Ultraviolet-C (UVC) has promise as a management tool for grapevine powdery mildew. We evaluated UVC disease management efficacy for 2 years at WSU Prosser (2020, 2021). In these trials, a dose of 200 J/m<sup>2</sup> UVC was applied at different intervals. In 2020, we evaluated intervals of 7 or 14 days; in 2021 we evaluated intervals of 3-4 or 7 days. Untreated and standard spray programs were included. In 2020, UVC did not statistically reduce foliar disease severity, but there was a trend of lower disease with 7 day treatment. In 2021, the 3-4 day intervals trended towards lower foliar disease severity than the untreated control ( $p=0.09$ ). Natural disease pressure was low, untreated control's foliar disease severity was 43% (2020) and 16% (2021), cluster severity was 3% (2020) and <1% (2021). The consistent disease reduction, even when little disease is present, provides evidence that a 3-4 day UVC regime could be an effective alternative for disease management. Brix, pH, and titratable were not impacted by UVC treatment. In 2020, an increase was seen in total phenolics in fruit treated every 7 days. Phenolics for 2021 are still being processed. UVC at 200 J/m<sup>2</sup> will likely not impact basic fruit quality.