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NEWS RELEASE

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Kern County Grape Nurseries Use Hot Water Treatments As An Added Precaution Against Vine Mealybug

Amidst growing concerns of the spread of vine mealybug throughout grape-growing regions of California, Kern County nurseries have increased their efforts to ensure that this pest is not spread artificially via nursery materials. The two largest grape nurseries in the county, Sunridge and Vintage, have both started a hot water treatment program to disinfest dormant cuttings, benchgrafts and rootings from any vine mealybug that may escape the nursery's intense field sanitation programs.

Hot water treatments for vine mealybug are built on technology developed for treating dormant nursery materials for phylloxera and root knot nematode. Research aimed at these two pests has proven very useful, as researchers documented the effects of hot water treatments on the vigor of treated materials, as well as the effects of the treatments on the callusing process of grafted cuttings. Also documented were the positive effects of hot water treatments on a wide range of bacterial and fungal pathogens of the vines.

Treatment protocols involve a three step process to warm the dormant cuttings or plants, treat them, and then cool them down as quickly as possible. For this process, Kern County nurseries are using 2000 gallon tanks that have been retrofitted with a network of intake and output pipes, high capacity pumps, and furnaces. Booms and steel cages are used to carry the plants from the warming tank at 90 degrees F, to the treatment tank, and then to the cooling tank at ambient temperature. The treated cuttings, benchgrafts or rootings are then refrigerated and prepared for grafting or shipment to the field.

In addition to hot water treatments, nursery managers are using intense monitoring and insecticide programs throughout their nursery blocks. Nurseries are using both foliar and systemic insecticides, primarily imidacloprid, to implement a zero-tolerance program for vine mealybug in the field. They have also implemented policies to not accept scion or other budwood from regions of Kern and other counties that are infested with this pest. Currently, the most effected region of Kern County is near Arvin, where vine mealybug was first found in 1998. Jennifer Hashim, viticulture farm advisor for the University of California in Kern County, estimated that between 2% and 5% of county vineyards have localized infestations.

Monitoring for vine mealybug in nurseries and vineyards is accomplished with a sex pheromone that was recently developed by Jocelyn Millar at UC Riverside. Pheromone traps, when laced with the sex pheromone, are highly attractive to the winged adult males of this pest. Reports show that the pheromone is active for at least two months in the field, and that it can attract male vine mealybug from up to 50 meters away. This added tool will greatly improve the ability of nurserymen to find small populations of vine mealybug that may have escaped insecticide treatments, or that may have recently been introduced into the fields.

Nurseries in Kern County have committed to providing high quality planting materials. This includes field sanitation programs, monitoring programs, the use of systemic insecticides and hot water dip programs. Feel free to contact the supplier of you nursery materials if you have any questions regarding their efforts to provide you with insect-free propagation materials. ■