

LODI WINEGRAPE COMMISSION

MEALYBUG ID FIELD DAY

August 8th, 2017

A special thanks to our host, Jay Leone, and the American Vineyard Foundation for partially funding the Mealybug Biocontrol Research Focus Group's educational outreach.

AGENDA

Welcome by Stephanie Bolton, Lodi Winegrape Commission

Introduction to the Mealybug Biocontrol Research Focus Group

Importance of Mealybug IPM by Chris Storm, Vino Farms

Mealybugs and Biocontrol by Kent Daane, UCCE

Ant Identification by Dawn Brunmeier, BASF

Stations: This is an interactive field day, where you are welcomed into Jay's organic vineyard to learn how to identify vine mealybugs, vine mealybugs that are parasitized by the *Anagyrus* wasp, and ants. Enter any marked row and find someone there to show you the mealybugs or explore the vineyard for wet trunks and try it on your own. Check out the microscope table for an up-close look at ants and mealybugs!

We hope that you will go into your own vineyards and look for the parasitized mealybugs! If you find them, please let us know as we want to keep track of how widespread the parasitic wasps are in our region.

stephanie@lodiwine.com or 209.367.4727.

HOW TO FIND MEALYBUGS PARASITIZED BY THE *ANAGYRUS* WASP:

1. Look for wet trunks in the vineyard.
2. Check the bottoms of leaves near the wet spots for mealybugs.
3. A *healthy* mealybug will appear flat. *Parasitized* mealybugs will either be puffy and yellow (these ones still have the wasp egg inside of them) or puffy with an exit hole (the wasp egg hatched and the larvae ate its way out of the mealybug's body).





VINE MEALYBUG & VIRUS FACTS (aka why we care so much about these mealybugs)

- vine mealybugs can infect a grapevine with LEAFROLL VIRUS in just one hour
- each female vine mealybug can produce HUNDREDS of eggs
- vine mealybugs have SEVERAL generations each growing season
- vine mealybug mating in the late summer – fall determines the population for the next growing season
- vine mealybugs move into the lower trunk and roots during the Winter, then move up the vine in the Spring when the weather warms up
- vine mealybugs can live underground on the roots, and currently there is no method to destroy them down there → which means that even if you plant 100% certified virus-tested 2010 protocol rootstock cultivated on separate, virgin ground at the nursery, mealybugs underground at your planting site could quickly infect the new grapevines with virus
- vine mealybugs are especially hard to eradicate because they live underneath the trunk bark, where pesticides cannot reach
- grapevines infected with leafroll virus may experience lower yields, inefficient photosynthesis, higher acidity levels, and delayed ripening
- virus-infected vines are more susceptible to water stress and have a harder time reaching desired sugar levels

VINE MEALYBUG BIOCONTROL 101

- *Anagyrus* wasps lay an egg inside the female mealybugs, killing her
- *Cryptolaemus* beetles eat female mealybugs and are called the “mealybug destroyer” (if you haven’t watched a YouTube video of this yet, do it asap)
- the more mealybugs that are destroyed by natural insects, the better: biocontrol helps DELAY pesticide resistance in your vineyard
- pheromone mating disruption is becoming more economical and some growers have had success with it
- it’s very important that you think about beneficial insects when planning a spray program, and choose pesticides which only kill the bad insects, not the good ones (see “DON’T KILL THE GOOD INSECTS” chart, attached)
- some ant species will tend to the mealybugs because they feed off of their honeydew (the sticky material which makes trunks, leaves, and even fruit wet) → why ant control needs to be part of mealybug management

Read more on the lodigrowers.com blog – search “mealybug.”

BIOCONTROL

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MEALYBUG BIOCONTROL RESEARCH FOCUS GROUP

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* These companies or individuals were somehow involved in today's MEALYBUG ID FIELD DAY - thank you!!

Also a VERY SPECIAL thanks to Jay Leone for hosting everyone, the LWC Research, Education, & Communications Committee, and Melissa Macho and Stuart Spencer (Lodi Winegrape Commission) for helping set everything up!

Interested in joining our GRAPEVINE VIRUS RESEARCH FOCUS GROUP? Contact **Charlie Starr***, cstarriv@gmail.com.

Interested in joining our GRAPEVINE ROOTSTOCK RESEARCH FOCUS GROUP? Contact **Stephanie Bolton***, stephanie@lodiwine.com.

Want to participate in a UCDavis Grapevine Virus Survey? "Hello, I am Kari Arnold. I work with Deborah Golino, the Director of Foundation Plant Services at UCDavis, and Neil McRoberts, the UCDavis Plant Pathology Epidemiologist. I am surveying new, certified material (both rootstock and scion) which has been planted in the current year, or the past year or two, for viruses. I would prefer both the scion and rootstock be certified, but may be interested in material not provided via the certification program, ie you collected the scion wood from a neighbor or your own blocks. The survey will run from August 4th to the end of October and consists of no cost to the grower, so please reach out to me as soon as you can so we can schedule a visit!"

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