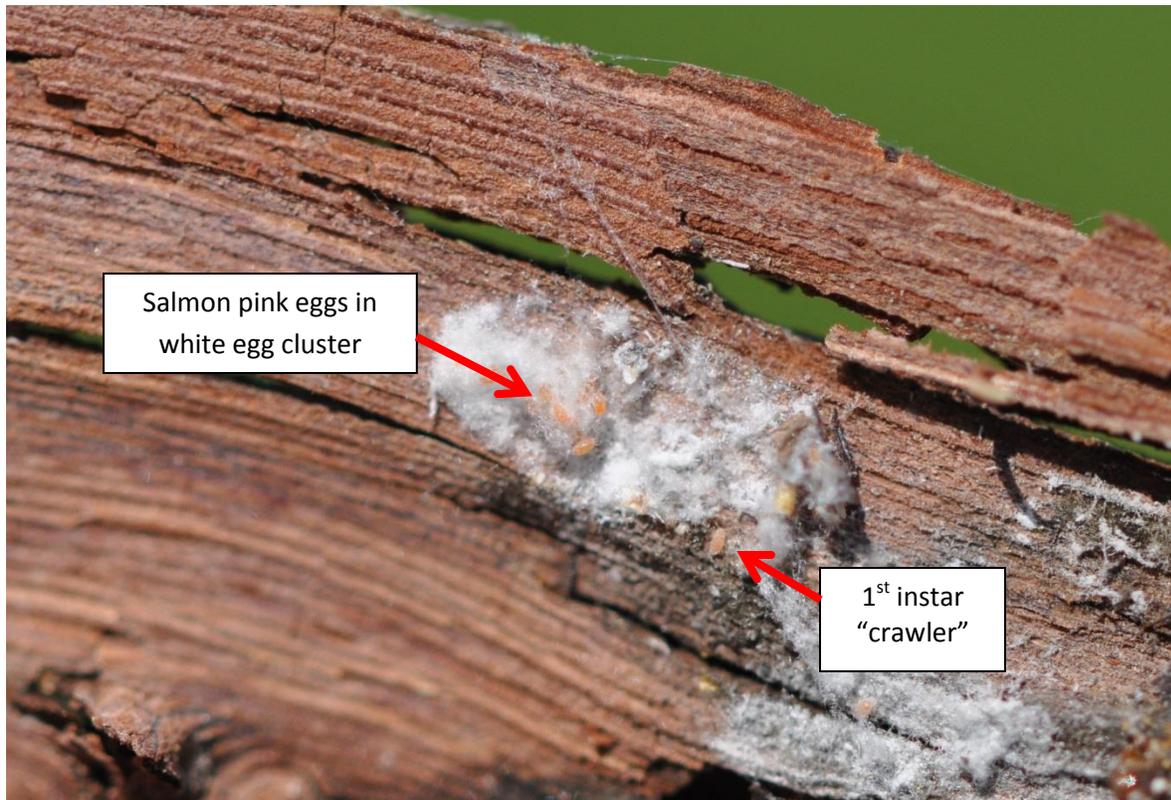


My crew has been out monitoring mealybug development in several vineyards this summer. The majority of mealybug populations are in the egg or first instar stage. The eggs are always found embedded in clumpy white webbing under the bark of trunks or cordons, especially those with loose, peeling bark. The eggs hatch to produce first instar “crawlers”.



The crawlers move from the egg clusters and feed on the vascular tissue of the vines. They are the most efficient stage for vectoring Grapevine Leafroll-associated Virus-3, which is the most common leafroll virus in Ontario. If they feed on an infected vine and move to a neighbouring uninfected vine and feed, they can transmit the virus. In order for this to occur, they must leave the protection of the bark and move to the foliage. While my crews have been unsuccessful in finding exposed miniscule crawlers on foliage, we must believe that they are there as it is the only explanation for the spread of leafroll disease in vineyards that has been observed the past few years. The tiny 1<sup>st</sup> instars are able to move about 1 m, so are able to move from one vine to an adjacent vine.

Crawlers are also the most susceptible stage to insecticides. A Movento spray applied in the past 2 weeks up to the end of this week will move in the vascular tissue both under the bark and into the foliage so that when mealybugs feed, they will ingest the insecticide and die. Some foliar insecticides timed in the next week may contact the first instars that are exposed but it is critical for sprays to penetrate the canopy and coat both sides of leaves and shoots. Consult Publication 360, Table 5–7. “Activity of Insecticides on Grape Insect Pests” for more information.

Equipment (leaf removers, hedgers, etc) and clothing on workers can carry the virus-carrying crawlers from infested to uninfested vineyards. Therefore, always work in mealybug- and virus- free vineyards first

before moving to ones with mealybug and leafroll. Power wash equipment away from the vineyard to remove any hitchhiking crawlers.