Pest e-alerts

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Grapevine Oddities: Grape Gall Midges

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Most viticulturists are aware of galls on grape leaves caused by the aerial (leaf) form of grape phylloxera, *Daktulosphaira vitifoliae*. However, an entirely different type of gall and causal agent have been seen in Oklahoma vineyards this year. Several species of midges, which are small flies in the family Cecidomyiidae, can cause galls on grapevines. There are three types of these grape galls commonly found in the Midwest: grape blister gall, grape tomato gall, and grape tube gall. Of these, only grape tube galls have been observed in Oklahoma vineyards in 2016.

Figure 1. Larvae of grape gall midges. Photo credit: Ohio State University, OARDC.

Figure 2. Grape blister galls. Note the small holes where midge larvae have emerged. Photo credit: Bruce Bordelon, Purdue University.

Adult females lay their eggs in or on grape leaves, petioles, tendrils, or cluster stems. Gall midge larvae are orange and maggot-like (Fig. 1). Upon hatching from eggs, larvae burrow into grapevine tissues and their feeding induces the plant to grow abnormally, enveloping the developing larva in a fleshy or blister-like gall. The type of gall that forms depends on the species of gall midge infesting the tissue. Blister galls are caused by *Cecidomyia* sp. and form on leaves and shoots. These galls are pink or green and measure about 1/8 inch in diameter (Fig. 2). Tomato galls are caused by several midge species, but the most common is likely *Lasioptera vitis*. These fleshy galls occur on leaves or tendrils, are green or red, and

measure 1/4 to 3/4 inch in diameter (Fig. 3). Tube galls, caused by *Cecidomyia viticola*, form on leaves and are conical, red or green, and measure 1/4 inch long (Fig. 4). Fully mature larvae exit from the gall, drop to the soil, and pupate. There may be three or more generations produced in Oklahoma, depending on temperature and vineyard location.

Grape gall midges rarely cause economic harm to grapevines and control measures are not recommended. Removing galls via pruning may be of some benefit to reduce numbers of adult flies emerging later in the season. However, galls should be removed prior to small holes appearing on the galls (Fig. 2), which indicates larvae have already emerged.

Figure 3. Grape tomato galls. Photo credit: Ohio State University, OARDC.

Figure 4. Grape tube galls. Photo credit: Oklahoma State University, Plant Disease and Insect Diagnostic Lab.

References:

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