Spotted Wing Drosophila in Cherries in Southern Maryland

Growers and an alert county agent, Ben Beale, have found what most likely will be an infestation of spotted wing drosophila (SWD) in cherries in southern Maryland (St. Mary’s County). I say "most likely" because I have the cherries and the maggots but it is very difficult to identify SWD from other fruit or vinegar fly maggots. You have to, well OK I have to, wait until the maggots pupate and emerge as adults to positively identify them. But I am putting out this alarm so growers will start looking for the flies, damage and the maggots in their small fruit—especially cherries. The damage starts with the female fly cutting a slit into ripening fruit with her serrated ovipositor, this later looks like a "sting" in the berry (fig. 1). Maggots will then feed by tearing and shredding the interior of the fruit often causing a softened collapsed brown area (fig. 2). When ready to pupate the maggot will exit the fruit causing an exit hole, which can allow entry of microorganisms that cause rot. Fruit should be examined very carefully for any of these signs of SWD presence. SWD are active now, but their activity becomes reduced at temperatures above 86°F with adult males becoming sterile. I do not want growers to just start spraying unless they know they have SWD—you’d just be wasting your money and the sprays. Growers need to check their fruit for the first signs of adult activity and maggots. If you do have suspicious looking fruit you can determine very quickly the presence of maggots by placing the fruit into a bowl of salt water (the salt solution is made by dissolving 1 to 2 tsps. of salt in 1 cup of water and submerging the fruit) after about 10-15 minutes the maggots will come out of the fruit. All maggot species will come out not just SWD, but this lets you know you have maggots in your fruit. If you combine this larval detection method with SWD adult traps you’ll have pretty reliable information about the presence of SWD in your field.

Studies in California suggest that early season treatment, when fruit is green, has little effect on the amount of SWD fruit damage at harvest (treatment is just too early and few SWD are around). Insecticide treatments should begin when the earliest maturing fruit in the orchard turn from yellow to light pink. Fruit remains susceptible through harvest and repeat applications are required at 7 to 14 day intervals until harvest. Studies suggest that 2 or 3 applications are required to control SWD as long as there is not a heavy infestation already in the fruit. Organophosphates, pyrethroids, and spinosyn insecticides provide effective control for one to two weeks after application. The organophosphate insecticide (Malathion) has good adult knockdown but provides little control 7–days after treatment. The pyrethroid insecticides (particularly Warrior and Baythroid) provide moderate knockdown but offer some measure of control 14–days after application. The spinosyn insecticides (Delegate, Success and Entrust) provide moderate to good knockdown and moderate control for 7–days. Pyrethroids provide the best control after one week, followed by spinosyns. Be sure to check the label before you apply any insecticides. Rotate between materials of different chemical classes to slow the development of pesticide resistance.