

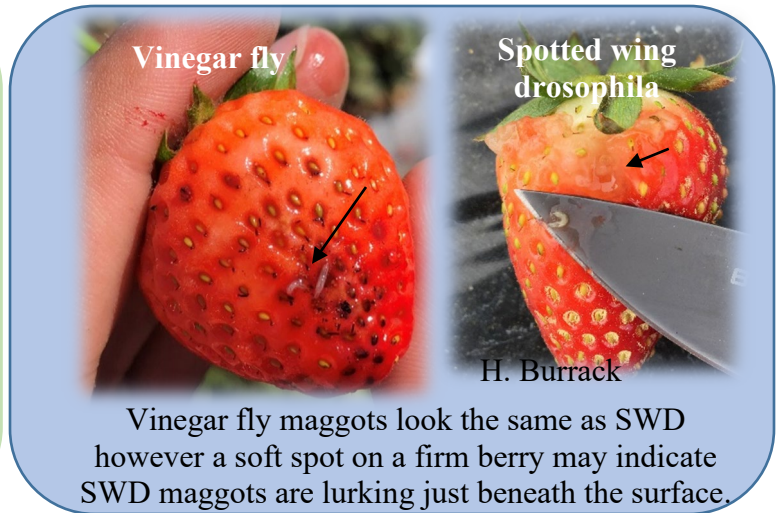
Assessing the effect of the bug vacuum on spotted wing drosophila

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Recognizing SWD females in the field can only be done with a 15x hand lens to see the saw-like ovipositor. Males can be distinguished by the spots on their wings.



Vinegar fly maggots look the same as SWD however a soft spot on a firm berry may indicate SWD maggots are lurking just beneath the surface.

The tractor-mounted lygus bug vacuum has been used to remove lygus bugs from strawberry fields but can it work on more than just lygus bugs? We tested spotted wing drosophila (SWD) adult flies to see if they get sucked into the vacuum and if any mortality occurs. There are 3 types of barrels currently available for lygus bug vacuums, C&N plastic barrel, the Cal Poly aluminum barrel, and the classic standard barrel, and we tested all 3 types mounted to a standard tractor. Flies were released in the bottom at canopy level and a large net was placed over each barrel to capture the flies as they exited the top. All three vacuum types killed over 70% of the flies released and the wind speed at which they were sucked up measured 45-50 mph. Since these flies are very mobile and can move between fields daily, and the vacuums typically run only 1-2x weekly, this will likely not act solely to control SWD, but will add to other practices growers are doing.



Grower standard

C&N new yellow plastic barrel style

Cal Poly new aluminum barrel style

71% SWD mortality
45 mph wind speed

71% SWD mortality
50 mph wind speed

73% SWD mortality
46 mph wind speed



The dead flies after they exited the barrels were often missing legs, wings or their heads but were otherwise intact.

