

Insect Netting Trial for SWD at Deer Ridge Farm, Guilford VT

Jerry Smith and Lisa Holderness operate this highly diversified small-scale organic farm that produces cut flowers, maple syrup, small fruits and vegetables on a handful of hillside acres in southern Vermont. The first confirmed report of SWD in Vermont was at this farm in early September, 2011 and since then it has had very high SWD pressure.

The farm has about a quarter acre of raspberries, primarily fall-bearing, and 60 blueberries. SWD was found in both these crops around the first of August in 2012 and in 2013. Unprotected fall raspberry fruit was almost completely infested and unmarketable, until about the first of October in both years. After that date SWD infestation greatly declined and most raspberries picked in October were marketable. Unprotected Blueberries were picked once and then abandoned, as all fruit was infested.

In 2013 a small trial was conducted with insect netting to exclude SWD, using ProTekNet 25. The netting was placed over a 30-foot section of a row of Heritage raspberries, 75-feet of a row of Caroline raspberries and 50-feet of a row of Bluecrop and Berkeley blueberries. Two 10-foot sections of electrical conduit were joined together to make 20-foot metal hoops to hold the net up over the crops. The ends of the conduit were forced into the ground, so the 21-foot wide net covered the hoops with about a foot of net remaining on each side; this was rolled up over wooden 2x4s to hold the net down. The net overlapped at the tunnel ends and there the net was secured with bricks on the ground; these were lifted when entering the net to pick.



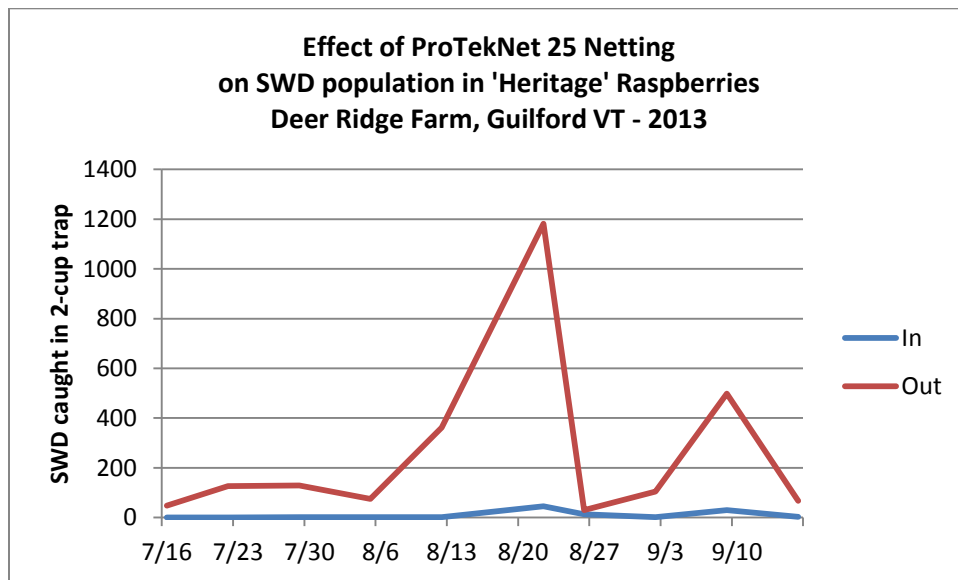
Electrical conduit used to support insect netting over fall raspberries.

Netting was applied over Heritage on July 1 because the primocanes from the year before had not been removed and were being fruited in the summer. The net remained in place all season. The summer crop of fruit had almost no SWD damage, nor did the fall crop borne on new primocanes. However, pollination appears to have been reduced as berry quality was lower than normal, with smaller, somewhat crumblier berries being produced. There was no harvestable fruit from the uncovered Heritage until October, when it was no longer infested, and in that month the uncovered plants yielded higher quality fruits with about 50% more size than those under the netting.

Netting was applied over Caroline on September 1. By then the early fruit was already infested with SWD. After netting, all fruit was picked and removed from inside the netted area. Three red plastic cup traps baited with a flour/sugar/yeast mixture plus a smaller cup with alcohol drowning solution were placed inside (and outside) the net. The traps were emptied and bait changed weekly. Ten days after covering with net, the Caroline fruit was virtually free of SWD, and it stayed that way.

Towards the end of September Jerry observed a lot of SWD male and female flies congregating on the south side inside of the netting but they did not infest the fruit. Clean fruit was picked until October 20, and the quality was terrific with no reduction in size compared to the uncovered Caroline plants. “It may be better to lose a few weeks of early production by delaying netting if this allows pollination to take place so the rest of the season’s crop is of high quality” says Jerry.

Netting was applied over the blueberries on July 1. There was no sign of SWD infestation in the covered fruit, which was picked all season. Blueberries outside the netting were picked once then abandoned due to near-complete infestation with SWD.



Vern Grubinger and Jerry Smith, 6/12/14