

Flight capabilities of *Drosophila suzukii* as measured by flight mills

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Drosophila suzukii, spotted wing drosophila (SWD), is an economically damaging pest of small fruits. Current knowledge about SWD flight physiology and dispersal capabilities is limited. This project measures the flight capacities of SWD and the effect of diet with computerized flight mills. Another aim of this project is to measure the energy reserves used in flight by SWD. Results from this study provide estimates for SWD dispersal potential, which may support further research on management strategies and population modeling, and provide insight on the mechanism of this pest's rapid spread.

Fed female SWD flew further distances and for longer durations than starved flies. Of the fed SWD, the mean distance and duration of flight was greatest in SWD fed fruit diets and the lowest mean flight distance and duration was observed in flies fed the standard diet or the sucrose solution, although these differences are not statistically significant. Diet did not affect velocity of SWD flight. Preliminary data analysis showed that there was no significant difference in lipid, glycogen, or sugar levels between groups of SWD before and after flight, however there were slight positive correlations between the sugar content in flies and distance flown, and between sugar content in flies and duration flown.

