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Spotted wing drosophila, *Drosophila suzukii* in sweet cherry orchards

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Abstract:

Drosophila suzukii fruit fly is a pest of fruit crops and is a serious economic threat to soft summer fruit.

For the first time in Europe *D. suzukii* was detected in September 2009 on raspberries (*Rubus idaeus L.*), highbush blueberry (*Vaccinium corymbosum L.*) and strawberry (*Fragaria x ananassa Duch*) in North part of Italy.

Drosophila suzukii is a species related to the popular fruit fly (*D. melanogaster*). However, the first one attacks healthy and intact fruit. Her males can be distinguished from male fruit flies by distinct spots on their wings, and by specialist examination also by combs on the legs.

Control is often based on chemicals (e.g. pheromones or allelochemicals) that are important in pest ecology and can be used as bait or repellent. The insects' reactivity to chemicals depends primarily on the internal and physiological condition of the insect and external environmental conditions. The results of latest research show that *D. suzukii* has adapted to use a number of irrigated crops and wild habitats in the mixed landscapes of the semi-arid region with cold winters and hot dry summers, and shapes pest management and biological control strategies.

In Section II we explain the insect pest spotted-wing-drosophila *D. suzukii*. In Section III we introduce our relations pest, crops and environment. Section IV deal with the subject of monitorization the pest. Next section explain crop protection strategies. Section VI summarizes the results of this work and draws conclusions.

The analysis contains data mainly based on research and publications since the beginning of the 21st century.

Key words: *Drosophila suzukii*, spotted-wing-drosophila, sweet cherry, fruits, monitorization, mass trapping

Resumo:

A mosca da fruta *Drosophila suzukii* é uma praga de culturas fruteiras e é uma séria ameaça económica para as frutas macias do verão.

Pela primeira vez *D. suzukii* foi detectado em setembro de 2009 em framboesas (*Rubus idaeus L.*), mirtilo (*Vaccinium corymbosum L.*) e morango (*Fragaria x ananassa Duch*) na parte norte da Itália.

D. suzukii é uma espécie relacionada à mosca do vinagre (*D. melanogaster*). No entanto *D. suzukii* ataca frutos saudáveis e intactos, ao contrário da mosca do vinagre, que só ataca frutos já afetados. Os machos podem distinguir-se das fêmeas pela presença de manchas negras na ponta das asas e pelo exame especializado das patas.

O controlo é frequentemente baseado em produtos químicos (por exemplo, feromonas ou aleloquímicos) que são importantes na ecologia das pragas e podem ser usados como atrativos ou repelentes. É importante ressaltar que a reatividade dos insetos aos produtos químicos depende do status interno e fisiológico do inseto e das condições ambientais externas. Os resultados mostram que *D. suzukii* se adaptou a várias culturas irrigadas, a habitats selvagens em paisagens mistas e a regiões semi-áridas, com invernos frios e verões quentes e secos. A investigação está a desenvolver estratégias de combate à pragas incluindo também o controlo biológico.

Palavras-chave: *Drosophila suzukii*, mosca-de asa-manchada, cereja, monitorização, captura em massa.

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