

Integrated pest management in the control of the cherry fly (*Rhagoletis cerasi*): a review

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Abstract

The cherry fly, *Rhagoletis cerasi*, is one of the most important pests in cherry production, because it causes direct damage by piercing the fruit with the female ovipositor when making posture. The eggs are placed inside the cherry developing into a larva that will feed of the fruit pulp, depreciating this sweet fruit. When they finish their development they leave the fruit to pupate in the soil, leaving a wound that can be an entrance for certain diseases (indirect damage).

The fly *Rhagoletis cerasi* develops itself throughout four distinct stages: egg, larva, pupa and adult. The adults have a shiny black thorax, a yellow scutellum, characteristic traits in the wings and three pairs of legs. Females also have an ovipositor that allows the oviposition and are usually larger 1 mm than males, reaching 5 mm.

Informed decisions based on the phenology of cherry variety and on the calendar of fruit maturity are essential in this pest's integrated management which main focus should be on reducing the interval of time that the cherry is vulnerable to attack by this fly. One of the tools that can be used successfully, when this pest becomes a problem, is the use of early varieties harvested in spring, which are considerably less susceptible to *Rhagoletis cerasi*, since this fly only begins its flight in May.

There are several methods that can be used in the control of *Rhagoletis cerasi* including biological, cultural, biotechnical and chemical methods. The chemical method must be regarded as a last resource due to its potentially adverse effects on the environment and on the consumer's health. The Integrated Pest Management approach is closely interlinked with the concept of Sustainable Agriculture, as it aims at protecting the environment, promoting conservation of natural resources, producing goods that match human needs and expectations as well as promoting the economic viability of agricultural activities and enterprises. Under this view, efficient and environment friendly strategies for the control of cherry fly must be further investigated and extended to all cherry producers in Portugal.