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# Scientists obtain a bioinsecticide to control the Mediterranean fruit fly

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The Mediterranean fruit fly, *Ceratitis capitata*, is a world plague which represents one of the most serious problems for agriculture. However, the control methods currently present in the market for this plague are ineffective.

The research group of the Institute of Biotechnology of the University of Granada (Spain) has isolated and identified a stump of the genus *Bacillus*, extremely toxic for larvae of *C. capitata*. After subjecting such stump to a specific treatment, protected by a patent, we have managed to increase notably its toxicity against this fly.

According to Dr. **Susana Vilchez** (hired by the Ramón y Cajal), the Mediterranean fruit fly has a special economic relevance in the Mediterranean countries, like Spain. Given the capacity of the *C. capitata* to tolerate colder climates than the rest of the species of flies and their wide range of host plants, the *C. capitata* has been considered as one of the most important species from the point of view of economy. This plague attacks more than 260 species of fruits, flowers or nuts of agricultural fruits and it has been estimated that causes losses assessed in hundreds of millions of dollars annually in the countries where it settles.

## Biological alternative

Chemical insecticides such as malatión have been traditionally used, but they are not effective for the control of the *C. capitata*. In addition, their use presents a series of drawbacks such as environmental pollution, dangerousness for the staff, the need of safety periods before the commercialization of the fruit, insects-resistance phenomena, etc.

As the European legislation is getting increasingly strict with regard to the use of chemical insecticides -the use of malatión is forbidden since June of 2007-, the alternative of biological control is gaining prominence and is becoming a new exploitation field.

In this sense, the results obtained by the scientists from Granada are promising, as at present there is not any bio-insecticide in the market based on bacteria and active against this plague. In addition, this is a new technique for the of the Mediterranean fruit fly, environmentally friendly, non-toxic, easy to produce, and can be supplied by conventional methods.

The researchers maintain that the development of a commercial product based on these bacteria will mean an important advance for the agricultural industry.

Source: University of Granada

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