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Technology

Bio-input

Biocontrol Agents in Pomaceous Fruit and Walnut Trees





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#carpocapsa | # lepidoptera | # pest control | # biological control | #pomaceous | # pip | #fruit trees

https://www.argentina.gob.ar/inta/tecnologias/biocontrolador-en-frutales-de-pepita-y-nogal

Pomaceous species suffer attacks from different pests, lepidoptera being the highest ranking in economic and commercial losses. For pest control purposes, management tools like biocontrol agents that do not affect consumer health, contribute to environmental sustainability and may be combined with other management strategies.

This species of idiobiont parasitoids, native of Argentina, parasites and feeds on the larval forms of many pest lepidoptera. It was assessed for more than 10 years to control *Cydia pomonella* (carpocapsa), *Grapholita molesta* and walnut moth in pomaceous fruit and walnut trees in Northern Patagonia. Its field effectiveness was proven, achieving control of the mentioned pests and 80% reduction of pesticides. Their massive multiplication had been impossible to date due to the intrinsic characteristic of their behavior, such as the strong aggressiveness among females, oviposition regulated by the host size, and the cost of massive breeding of the primary hosts employed. The team resolved such issues by changing the host, modifying the artificial diet, breeding containers, adopting technology to develop their diet and other components of the breeding process, such as photoperiod, temperature, etc.

Pomaceous and stone fruit farmers focus on sustainability and biocontrol in productive systems. Native parasitoid of pest lepidoptera, generic for fruit trees.

Potential use in other pest lepidoptera that impair productivity of horticultural and extensive crops. The host employed may be used to breed several biocontrol agents (as prey or host), with high reproductive rate efficiency and low breeding cost. Release in the field is performed efficiently using ad-hoc devices built with recycled materials, which are reusable. Highly sustainable technology with the environment, in technical efficiency terms (pest control, rational pesticide resistance management, etc.) and environmental footprints (reduces water and fossil fuel usage, etc.).

TRL6.

The product has been proven effective in the field. The controller device and product label were developed in house.

Image

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