

# **APPLE, PEAR, PLUM, PRUNE, AND WALNUT**

## General Information

CYD-X HP is an insecticidal virus product for control of larvae of the codling moth.

## GENERAL INFORMATION

### CYD-X HP BIOLOGICAL INSECTICIDE

### PRODUCT DESCRIPTION

CYD-X HP contains an insecticidal baculovirus (scientific name: *Cydia pomonella* granulovirus or CpGV) that is specific to larvae of the codling moth (*Cydia pomonella*). Because of this specificity to the codling moth, CYD-X HP provides a unique opportunity for biological control of codling moth without harmful effects on humans, domestic animals, wildlife, beneficial insects and plants.

### BIOLOGICAL PROPERTIES and MODE OF ACTION

CYD-X HP is a biological insecticide which must be ingested by larvae in order to be effective. Upon ingestion, the viral occlusion bodies (OBs) dissolve in the larval midgut and release infectious virions. These enter the cells lining the digestive tract and replicate in the nuclei of those cells. The resulting progeny virus infects other tissues within the larva, which stops feeding and eventually dies from massive viral infection. After death, the larva disintegrates, releasing billions of new OBs which may infect other codling moth larvae upon ingestion. Death occurs 3 to 7 days after ingestion of CYD-X HP, depending on dosage and ambient temperature. Death may occur more quickly at higher temperatures and higher dosage.

Baculoviruses have been found only in invertebrates; currently there are no reports of members of this family infecting vertebrates or plants. CYD-X HP virions do not reproduce in mammalian cells.

Bioactivity of CYD-X HP may decrease if exposed to temperatures above 86°F for more than 3 months. For best results, keep the product refrigerated or frozen when not in use.

## MIXING INSTRUCTIONS

Mix CYD-X HP with water and apply as a spray to fruit and foliage. For best results, use water at or near neutral pH (7).

CYD-X HP can be applied up to and including the day of harvest and storage.

## Limitations, Restrictions, and Exceptions

Apple, pear, plum, prune, and walnut

## Comments

Apply in sufficient water to thoroughly wet the tree canopy without excessive runoff. Select a spray volume appropriate to tree size and density of foliage. For small trees use 50-100 gallons of spray per acre. Larger trees with denser canopy may require 100-200 gallons per acre. Consult your local Cooperative Extension Service if you need advice about how to attain good spray coverage in your orchard.

Make at least two (2) applications of CYD-X HP per codling moth larval generation. Target small larvae early in their life cycle. Repeat as necessary to maintain control. CYD-X HP breaks down under direct exposure to sunlight. If codling moth are still flying and laying eggs, reapply after 7-8 sunny days.

If using temperature models (heat unit accumulation measured in degree days) and pheromone trap catch to predict codling moth development, make the first spray against the first larval generation around 250 degree days after codling moth Biofix (first moth flight). If targeting the second generation, start at approximately 1100-1200 degree days after biofix. "No Biofix" models (using heat units only, with no trap catch information) are now used in some growing regions. Consult your local Cooperative Extension Service for information about using degree day models to guide spray timing

If not using heat units to time sprays, apply CYD-X HP in the 1st and 2nd cover sprays against first generation larvae. For second generation, apply in the 4th and 5th cover sprays.

Frequent applications at low rates may be more effective than one or two applications at high rate.

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CYD-X HP can be applied up to and including the day of harvest and storage.

Method

[Spray](#)

Rates

[field rates 0](#)

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Restricted Entry Interval

4 hours

Timings

[N.A.](#)

[N.A.](#)