

## Data Sheets on Quarantine Pests

*Choristoneura rosaceana***IDENTITY****Name:** *Choristoneura rosaceana* (Harris)**Synonyms:** *Loxotaenia rosaceana* Harris*Tortrix rosaceana* Harris*Cacoecia rosaceana* Harris*Archips rosaceana* Harris*Teras vicariana* Walker*Tortrix gossypiana* Packard**Taxonomic position:** Insecta: Lepidoptera: Tortricidae**Common names:** Oblique-banded leafroller (English)

Tordeuse à bandes obliques (French)

**Bayer computer code:** CHONRO**EPPQ A1 list:** No. 208**EU Annex designation:** I/A1**HOSTS**

*C. rosaceana* is a polyphagous pest, but preferred hosts are predominantly Rosaceae. It is now considered as a pest in orchards of apples (*Malus pumila*) and to a lesser extent of pears (*Pyrus communis*) and peaches (*Prunus persica*), though in the past *C. rosaceana* was mainly found on wild apples and seldom in orchards (Glass, 1975). It also occurs on soft fruits such as raspberries (*Rubus idaeus* and *R. strigosus*) and blueberries (*Vaccinium*), on ornamental shrubs and on a wide variety of broadleaved trees (*Acer*, *Betula*, *Platanus*, *Populus*, *Salix*, *Ulmus*). However, it causes no significant damage on forest trees. Damage on hazelnuts (*Corylus avellana*) (Gangavalli & Aliniaze, 1985a, b) and pistachios (*Pistacia vera*) (Rice *et al.*, 1988) has also been reported.

**GEOGRAPHICAL DISTRIBUTION**

*C. rosaceana* is a widely distributed species in temperate North America. It is most prevalent in the West at low elevations except in the arid Southwest.

**EPPQ region:** Absent.**North America:** Canada (Alberta, British Columbia, Nova Scotia, Ontario, Quebec), USA (at least Arkansas, California, Iowa, Massachusetts, Michigan, New York, North Dakota, Oregon, Pennsylvania, Utah, Washington, Wyoming).**EU:** Absent.**BIOLOGY**

Two generations per year are usual (e.g. in New York, Oregon, low elevations in California), but in colder areas there is only one (e.g. in Nova Scotia, British Columbia, northern Utah, high elevations in California). Egg masses are laid in summer, larvae start

feeding and under certain conditions enter diapause (at 2nd or 3rd larval stage) and overwinter in sheltered places. At constant temperatures of 24, 20 and 16°C, diapause is induced by short photoperiods. A critical photoperiod of 14-15 h of light per day at 20°C and 16°C has been observed (Gangavalli & Aliniyee, 1985a). In the following spring, the larvae start feeding again and complete their development (usually six larval instars are observed), then pupate and give rise to adults which may start a new summer generation if conditions allow for a second generation.

Concerning temperature requirements, Gangavalli & Aliniyee (1985b) have shown that on average 111.9 day-degrees (above 10°C) were required from oviposition to hatching, 435.6 day-degrees for the 6 larval instars, and then pupae require 117.4 day-degrees (above 9.5) for adult eclosion and females require 35.2 day-degrees before oviposition.

For more information on the biology of *C. rosaceana* refer also to Furniss & Carolin (1977) and Reissig (1978).

## **DETECTION AND IDENTIFICATION**

### **Symptoms**

*C. rosaceana* is a leaf feeder and leaf roller, but damage on fruits (apples and peaches) or buds (Simmons, 1973) can be serious. On apple fruits the most serious damage is caused by overwintering larvae which can be found inside bud clusters feeding on various floral parts. Larvae continue to feed on the flowers during bloom and developing fruit after petal fall. They then start to feed on both fruit and rapidly expanding leaves. Most damaged fruits drop before harvest, those remaining on the tree showing corky scars and deep indentations. Then newly hatched larvae of the first summer generation also damage fruits and may induce very serious skin injury.

On peaches, the larvae are not usually observed to feed on the foliage but on the surface of the fruits, especially on peaches with open split pits where they feed around the opened stem end and down into the fleshy areas around the pit.

### **Morphology**

#### **Eggs**

Eggs are laid in masses.

#### **Larva**

Mature larvae are dark-green with a brown or black head.

#### **Adult**

Brownish-red with a darker, oblique band across the centre of the forewing.

## **MEANS OF MOVEMENT AND DISPERSAL**

Spread of *C. rosaceana* is ensured locally by moth flight. In international trade, *C. rosaceana* is liable to be carried by plants and cut foliage of its host plants. Since the larvae feed externally on the fruits, it is not likely that commercially traded fruits would carry them.

## **PEST SIGNIFICANCE**

### **Economic impact**

*C. rosaceana* is a rather important pest in orchards, especially in apples but is not considered a problem in forests. Attacks on fruit reduce their quality and yield, as many will fall before harvest.

## Control

Chemical control is the main method applied against *C. rosaceana*. In apple orchards, many chemicals applied against *Cydia pomonella* have an impact on *C. rosaceana*. The use of sex pheromones for trapping (monitoring) and mating disruption is under study, as well as the influence of natural enemies (e.g. *Itopectis conquisitor*, *Meteorus trachynotus*) in integrated pest management programmes. For more information see also Hagley & Barber (1991) and Delisle (1992).

## Phytosanitary risk

*C. rosaceana* was recently added to the EPPO A1 list, but is not regarded as a quarantine pest by any other regional plant protection organization. Due to its very wide range of host plants and its wide distribution in the temperate regions of North America, *C. rosaceana* certainly presents a risk for the EPPO region, especially for fruit trees.

## PHYTOSANITARY MEASURES

Measures recommended by EPPO (OEPP/EPPO, 1990) against other quarantine pests like *Cydia packardii* should be effective against *C. rosaceana*.

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