



Factsheet

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Codling moth *Cydia pomonella*

Exotic threat to Western Australia

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Background

Codling moth is a declared pest in Western Australia, and since its first discovery in 1903, it has been eradicated on twenty occasions.

Distribution

Codling moth is found in the world's major apple and pear growing areas, except Japan and Western Australia.



PHOTO: AGRICULTURE WESTERN AUSTRALIA

CODLING MOTH ADULT

Potential impact

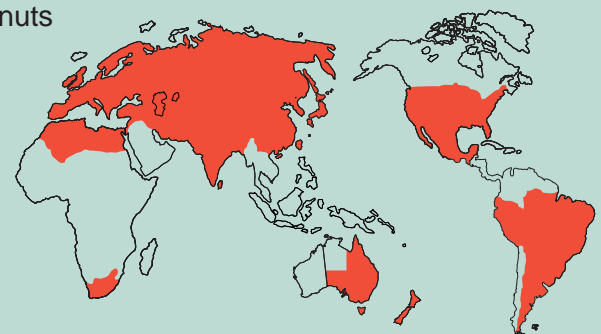
Codling moth is the most damaging insect pest of apples and pears, and has the potential to destroy virtually the entire crop. It is estimated that the establishment of Codling moth in Western Australia would expose the industry to an additional two million dollars per annum in spraying cost and production losses. It would impact on the competitive advantage Western Australia has in being able to market its fruit as "clean and green", low-pesticide, pest-free fruit.

Plants affected

The domesticated apple, pear and nashi pear are the primary hosts, but crab apple and quince are also affected. Stone fruit and walnuts are also attacked in some areas.

Season of occurrence

Larvae over-winter (diapause) in response to shortening day-length and declining temperature by seeking protected sites in cracks and under



DISTRIBUTION





PHOTO: AGRICULTURE WESTERN AUSTRALIA

LARVA WITH DAMAGE AND FRASS NEAR CALYX END OF APPLE



PHOTO: AGRICULTURE WESTERN AUSTRALIA

PHEROMONE TRAP

the bark of infested trees, where they spin cocoons. They pupate in early spring, and it is estimated that in Western Australia the moths would emerge in October and November, after which they lay eggs. By December the first larvae would have reached full size. After pupation the 2nd generation moths would then emerge in December and January, followed by a third generation in February and March. The resulting larvae of the 3rd generation would go into diapause and then start the 1st generation of the following season when they emerge in October and November. There is considerable overlapping of generations and some 1st and 2nd generation larvae also go into diapause.

Symptoms

Codling moth larvae are internal feeders of fruit. Two kinds of injury can be distinguished: stings and entries. Stings are superficial penetrations which do not show the typical excavation made by the 1st instar larva, and in most instances are an indication that the attacking larvae have perished before accomplishing the first moult. Entries denote that the attacking larvae have survived the moult, and have tunnelled from the superficial cavity towards the centre of the fruit. Entries can be distinguished from stings by the continued emission of fresh frass from the point of entry. In general, Codling moth larvae can not be detected until well past the time of effective insecticidal treatment. Monitoring is best aimed at adults by trapping males in pheromone traps. However, an apple or other pome fruit with a frass-filled tunnel reaching into the core, may well be an indication of a Codling moth infestation.

Other pests may cause superficially similar appearing damage, but unlike Codling moth they do not tunnel to the core and eat the seeds. Light brown apple moth may damage the surface of the fruit, and *Heliothis* larvae can bore into the fruit.

