

The production of oranges and lemons is an important industry for local and export markets. In Australia the potential contamination of crops by snails is a significant problem particularly for the export market. The main snail pests are the common garden brown snail (*Helix aspersa* or *Cantareus aspersus* as it is now called) and the small brown snail, *Microxeromanga vestita*. The small brown snail has established itself in the Riverland and Sunraysia districts and is now becoming established in the Riverina district. Infestations of up to 8000 per square metre have been reported. The control of these snails has, in general, been less than completely satisfactory. In order to control the snails it is necessary to understand the lifecycle of the snails and their ecology. The lifecycle of the small brown snail in citrus orchards appears to be typical of snails of the Helicidae and Hygromiidae families. The eggs hatch in late autumn to early spring, the snails grow during spring, towards the end of spring they cease feeding, climb up into the trees and aestivate (ie they stop feeding, close themselves off with a layer of mucus and slow their metabolism down). At the first autumn rains they descend to the soil, start feeding and mate. Subsequently they lay eggs and the lifecycle starts again. The period of aestivation depends on the season and location.

There are a number of cultural practices that can reduce the problem and these should be integrated with chemical treatment. It is important that good hygiene is practised throughout the orchard. All rubbish, such as packing material/pallets should be removed. All prunings should be removed and it is important to minimise leaf litter/grass consistent with overall orchard practice. Leaf litter will reduce moisture lost but significantly increase the snail problem. The trunk is an important access point for snails to climb up into the tree. Skirting of the trees, that is removing branches that touch the ground is a good way to reduce the number of snails in trees. Chemical control needs to be targeted carefully. It is extremely important that the numbers of snails are not allowed to build up to severe pest levels as it is difficult to get severely infested orchards back to acceptable levels within two years even with extensive baiting.

The common brown snail and small brown snail can be treated by applying **ERADICATE** at a rate of 2.5 kg/ha for mild infestations and up to 7.5 kg/ha for significant infestations (assuming only the area under the canopy is treated). Two treatments are recommended. The best time to apply baits is after the snails have ceased aestivating but before mating, usually end of March and April. There is a fairly small time window, the dates of which vary from season to season. The second best period to apply baits is in spring when the snails are on the soil and feeding. This is usually a much larger window of time but snails often climb the trees or vines before aestivating. It is important to place the bait under the canopy of the tree. This area is out of the reach of birds, which might consume the bait and is generally moist but out of the rain which allows **ERADICATE** to be effective for an extended period of time.



Microxeromanga armillata



Helix aspersa

