

Effective use in Commercial Cannabis cultivation:

Rates with Aphidoletes in cannabis seem to vary a little from what the traditional, registered rates would indicate. Instead of treating in meters, and as a row crop, we recommend that each plant have direct attention paid to them, for optimal results. The climate fluctuation and temperature and humidity variations, along with the plant's rapid growth pattern, necessity to ensure proper air movement, and hairiness/stickiness of the plant all combine to make cannabis a complex and difficult crop to treat.

For Commercial Cannabis Rates please fill out our [Commercial Cultivation Inquiry](#) for a discrete, personalized Chemical Free Pest Management plan.

For Best Results:

Used preventatively, Aphidoletes will reduce aphid hot-spots from developing into problem areas. When aphids are found, continue to make these releases away from aphid infestations. This will allow Aphidoletes to search out any new infested areas.

During fall and winter, the 2nd generation of Aphidoletes will diapause in short-day conditions, unless there is supplemental lighting. It has been found that leaving on one 60-watt light bulb all night will prevent diapause in more than half of the larvae within a 20 meter diameter, as long as the night temperatures are above 60°F.

The larvae need to burrow into damp soil, peat moss, sawdust, or other growth media to pupate. In greenhouses with bare plastic or concrete floors, survival will be low unless organic materials are added. Adding a thin layer (1/8 in.) of sand, sawdust, or other organic material under the leaf zones of plants will improve the cycling of Aphidoletes.

For control of cotton/melon aphid (which reproduce very quickly), Aphidoletes should be used along with Aphidius parasitic wasps. It may be necessary to control ants in conservatories and around outdoor trees because they can protect aphid colonies by removing predator larvae.

Description

Aphidoletes larvae are voracious native predators of over 60 species of aphids. The larvae are legless maggots about 3 mm long, and orange in color, which make them easy to spot in foliage. Adults are small midges resembling mosquitos that are nomadic (meaning they will seek out heavy aphid populations to lay eggs near) and can be hard to find. They are most easily spotted in the evening, and may be found hanging (unstuck) from spider webs where mating often takes place.

Aphidoletes are available as 250 count 8oz. tray, pupae, 1,000 count 12oz. tray, pupae, 3,000 count 12oz. tray pupae and 5,000 count 12oz. tray pupae.

Use in Biological Control

Aphidoletes are used to control aphids indoors in commercial greenhouses and interior plant-scapes. They may also be used outdoors in zoos, orchards, shade trees, roses, home gardens, and botanical gardens.

Optimum conditions for Aphidoletes are 70-77° F and relatively high humidity (70%). This is especially important for the pupal stage, which must not dry out. If aphids are present in outdoor plants in late summer, a release of Aphidoletes at this time helps reduce the overwintering aphid population, while establishing overwintering predator populations that will be active early the following spring.

Life Cycle

The complete life cycle takes 24 days at 70°F, but can vary depending on temperature and availability of prey. Sex ratios may vary, but there are usually more (60%) females. Females lay eggs on leaves beside aphids (150-200 in a lifetime), which are shiny orange ovals, less than 0.3 mm long.

At optimal temperatures, the eggs will hatch in 2-3 days and the tiny, legless larvae crawl along the leaf in search of aphids. They feed by biting aphids and paralyzing them with a toxin before sucking out the aphid body fluids. They feed for 7-10 days and can kill up to 50 aphids per day.

Where aphid populations are high, they will kill many more aphids than they can consume. To pupate, larvae drop to the ground and burrow into the top ½ inch of planting medium to spin a cocoon. Adults will emerge in 2-3 weeks. Because of the “drop”, planting medium needs to be viable for them to burrow. Hydroponic and other similar systems should be verified for effectiveness before beginning program with Aphidoletes.

When used outside, the last generation of Aphidoletes in the fall will overwinter in cocoons in the soil. They are very hearty and will re-emerge in the spring as adults to find new aphid populations. Because of this, the same population is viable for more than one season.

Introduction Rates

Apply 0.5 - 2.5 per 10 square feet

250 tray: ideal size for hot spot treatment or prevention in an area of less than 8,000 square feet

1000 tray: ideal size for preventative release program for an area of less than an acre.

3000 tray: this tray is well suited for larger greenhouses or field crops. It allows an increase over the 1,000 sized tray without adding any more release points.

5000 A-Bomb: this product was originally developed as a Whitefly control for extreme Bemisia hot spots in Poinsettia. It is economical and suited for outdoor release for crops such as Hop, Pecan, Apple, Berries etc.

Generally, Aphidoletes should be released in the spring before the first sign of aphid infestations. Once aphids are detected, additional releases should be made (2-3 times at 7-10 day intervals) in the aphid areas to establish the predator. Further, recent research has indicated that, in greenhouses low levels (0.25-0.5 Aphidoletes/sq. meter) of weekly preventative releases will prevent the build-up of most species of aphids.