Beneficial Insects
TECHNICAL DATA SHEET

SUSTAINABLE CROP MANAGEMENT

PLANTPRODUCTS®
A member of Biobest Group

APHIDIUS-SYSTEM
Aphidius colemani

Aphidius colemani **is a parasitic wasp of small aphids. The female wasps search for aphid nymphs or adults by sensing the odor of infested plants and the aphid's honeydew secretion. Using her ovipositor, the female inserts an egg inside the aphid host. When the egg hatches, the larva begins to eat the aphid from the inside out starting with non-vital organs but ultimately causing its death. Aphids will become swollen, will be attached to the foliage by silky threads and the outside of the aphid will turn into a golden-brown mummy. A new adult emerges through a round exit hole at the back of the mummy. Each female wasp can lay up to 300 eggs, most of them during the first 4 days of adulthood. Eggs laid soon after mating or late in their life cycle will most likely be unfertilized and will produce males. There is a sex ratio of 2 females per each male. The presence of a parasitic wasp can cause a panic reaction in an aphid colony. Aphids produce an alert pheromone and let themselves fall down to escape, some won't be able to climb back and will die.**

Features
- Parasitic wasp of small aphid species
- Suitable for preventative use
- Great searching capacity even at low pest density
- Easily disperses throughout the crop (Strong flier)

Targets
Small aphid species:
- Melon cotton aphid *(Aphis gossypii)*
- Black bean aphid *(Aphis fabae)*
- Green Peach Aphid *(Myzus persicae)*

Crops (Indoor / Outdoor)
- Vegetables / Herbs
- Fruits
- Ornamentals / Trees
- Cannabis / Hemp

Product Specifications

Commercial name	Specifications
Aphidius-System - 500	• 30 ml vial: 500 pupae • Carrier: sawdust
Aphidius-System - 2,000	• 100 ml bottle: 2,000 pupae • Carrier: sawdust
Aphidius-System - 5,000	• 250 ml bottle: 5,000 pupae • Carrier: sawdust

APHIDIUS-SYSTEM

Storage

Use immediately upon receipt. If not possible, product can be briefly stored at 43-46°F (6-8°C) and a RH of 85%.

Rates

Mode	Dosage	Area	Repeat
Preventative	0.15-0.5/m^2	Full field	weekly or bi-weekly
Low curative	0.5-1 ind./m^2	Hotspots and surroundings	weekly until control achieved
High curative	1-4 ind./m^2	Hotspots and surroundings	weekly until control achieved

Instructions

Timing of application

Aphidius-System can be released preventatively. When aphids are detected, increase the dose in line with pest density. In case of curative treatments a simultaneous release of predators like the gall midge *Aphidoletes aphidimyza* (Aphidoletes-System) or lacewings *Chrysoperla rufilabris* (Chrysopa-System eggs or larvae) is advised. More severe infestations can be tackled in combination with the ladybird *Adalia bipunctata* (Adalia-System). Aphidius-System is also suited for preventative control using banker plants.

Release method & conditions

Gently rotate the bottle horizontally to ensure homogeneous distribution within the carrier. Sprinkle the contents on flat leaves, or other dry areas (on top of slabs) or into Bio-Boxes and hang in the plants. Do not place mummies directly onto soil or substrate. Make sure the material remains dry and is not moved from its introduction site for at least a few days.

Aphidius colemani is most active at temperatures between 59-86°F (15-30°C). In summer time, the presence of hyperparasitoids can severely reduce the efficacy of *Aphidius colemani*. Excessive honeydew, secreted by large colonies of aphids can hamper the parasitoid mobility and reduce its efficacy. In both cases, adding predators into the system will help maintain a proper aphid control.

Monitoring

- Mummies can be observed on leaves of the crop 10-21 days after the first introduction, depending on temperature.
- The presence of a perfect round hole at the back of the mummy indicates that an adult of *Aphidius colemani* has emerged.
- A ragged/jig-sawed opening is indicative of hyperparasitism.
- Control is achieved when 80% of the aphids are parasitized.
- The efficacy can be checked by observing an increased number of mummies, reduced number of hotspots and healthy plant growth, free of honeydew or sooty mold.

Life cycle and appearance

Egg	Larva / Pupa	Adult
• Eggs are laid individually, inside the host aphid • Duration: 3 days*	• Larva develops inside the host • The larva fixes the aphid on the leaf and starts to pupate • Parasitized aphids swell and change into golden-brown mummies • Larval stage duration: 7 days* • Pupal stage duration: 4 days*	• Emerges through an exit hole in the mummy • Slender, black body with brown legs, long antennae and noticeable wing venation • 2-3 mm long • Lifespan: 2-3 weeks*
		

*At an average temperature of 70°F (21°C).