

# Product sheet

ADALIA SYSTEM / ADALIA-SYSTEM-PLUS / ADALIA-E-SYSTEM



## Beneficial organism

Family	Specie	Common name
Coccinellidae	<i>Adalia bipunctata</i> (Linnaeus, 1758)	two spotted ladybeetle

## Prey

*Adalia bipunctata* predates on several kinds of aphid species.

## Crops

This ladybeetle is used in ornamental, fruit and vegetable crops, as well as in public green.

## Product

### Specifications

Product name	Quantity	Package	Carrier
Adalia-System	100 larvae	280 ml plastic bottle	Shredded paper
Adalia-System-Plus	100 larvae	280 ml plastic bottle and a small jutebag	Shredded paper
Adalia-E-System	100 eggs	30 ml plastic tube	



## Storage

Release the beneficials immediately after arrival.

If needed, store in a dark place, for max. 1 to 2 days after reception, till expiry date, at 8°C (46°F) to 10°C (50°F).

Caution: risk for cannibalism.





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## Characteristics of *Adalia bipunctata*

### Biology

Stage	Appearance	Life cycle
Eggs	 <ul style="list-style-type: none"><li>- yellow-orange</li><li>- ovoid shaped</li><li>- in clusters</li></ul>	<ul style="list-style-type: none"><li>- 20-50 eggs / day</li><li>- Cycle: 4-5 days</li></ul>
larvae	 <ul style="list-style-type: none"><li>- elongated body with six legs</li><li>- no wing or elytra primordial</li><li>- grey – black body</li><li>- yellow and white spots</li></ul>	<ul style="list-style-type: none"><li>- 4 larval stages</li><li>- Cycle: 7-9 days</li><li>- before pupating, the larvae stop feeding and stay inactive</li></ul>
Pupa	 <ul style="list-style-type: none"><li>- cylindrical shaped body</li><li>- covered with fine setae</li><li>- orange yellow with dark spots along the abdominal segments</li></ul>	<ul style="list-style-type: none"><li>- cycle: 5-6 days</li></ul>
Adult	 <p>Phenotypic variations:</p> <ul style="list-style-type: none"><li>- red form, with two black spots</li><li>- black form with red spots</li></ul>	<ul style="list-style-type: none"><li>- live for 2 to 3 months</li><li>- total life cycle: 20 days, at 20°C (68°F).</li><li>- hibernate in outside walls, window frames and bark crevices.</li></ul>

### Mode of action

Both larvae and adults are voracious predators of many species of aphids. The young larvae first eat the egg-shell, and immediately after they will seek for prey .

*Adalia* prefers all aphid stages and can consume a total of up to 100 aphids / day, able to eradicate an aphid hotspot within a week.

### Conditions

*Adalia bipunctata* is active in a temperature range from 13°C (55°F) till 35°C (95°F) and a relative humidity of 30-90%.

The optimal conditions are 24°C (75°F) – 28°C (82°F) and 70-80% RH.

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## Application

### Dosage

Mode	Dosage	Interval	Sequence	Release area
Preventive	-	-	-	-
Light curative	5-10 ind. / plant	weekly	1x, repeat if necessary	on infested areas
High curative	10-20 ind / plant	weekly	2x, repeat if necessary	on infested areas
Tree & bushes	200 ind. / Ø 30 cm trunk	weekly	repeat if necessary	In the crown

### Release method

Introduce the ladybeetle larvae or eggs in the center of aphid hotspots. Don't wait that the hotspots get too big.

Releases on leaves are possible. The use of Biobox is recommended.

Hang out Biobox over the infested area and divide the product homogeneously respecting the advised dosage. Apply more product in heavy infested areas.

For application in trees and bushes, use the jute bag. Place the content of a Adalia-System-Plus in the jute bag and hang it in the tree respecting the advised dosage.

For heavy infestations or large numbers of branches, use more bags and product.

### Monitoring

After 1-2 weeks of release, the Adalia larvae should remain visible in the crop, and no more expansion of aphid hotspots should be observed.

### Caution

Ants will reduce the efficacy of lady beetles. Eliminate ants by using glue barriers or ant lures.

If food is scarce, cannibalism occurs.