Beneficial Insects
TECHNICAL DATA SHEET

SUSTAINABLE CROP MANAGEMENT

PLANTPRODUCTS®
A member of Biobest Group

ADALIA-SYSTEM
Adalia bipunctata

***Adalia bipunctata* is a predatory beetle. Both adult and larvae are predacious. Adalia is also known as the two-spotted ladybug, and can feed on many different aphid species. This beetle is well suited for use against heavy aphid infestations in field or protected crops. Adults consume about 100 aphids/day and live for 2-3 months. It is common to see Adalia establishing in the crops, so multiple life stages (eggs, pupae and adults) can be observed besides the released larvae.**

Product Specifications

Commercial name	Specifications
Adalia-System - 100	• Plastic tray with 100 larvae • Carrier: shredded paper

Storage
Use immediately upon receipt. If not possible, product can be briefly stored at 46-50˚F (8-10˚C). **Caution:** Risk of cannibalism.

Rates

Mode	Dosage	Area	Repeat
Low curative	5-10 ind./plant	On infested areas	Weekly or biweekly
High curative	10-20 ind./plant	On infested areas	Weekly
Tree and bushes	200 ind./ Ø30 cm trunk	Apply to the crown of infested plants	Weekly

Features
- Generalist aphid predator
- Two-spotted lady beetle
- Both adult and young stages (larvae), are predacious of many aphid species
- Adalia predates all aphid stages (nymphs and adults)
- Consumes up to 100 aphids per day
- Able to eradicate aphid hotspots

Targets
- Aphids (multiple species)

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

ADALIA-SYSTEM

Instructions

Release conditions

Adalia bipunctata is active in temperatures ranging from 55-95°F (13-35°C) and a relative humidity of 30-90%.
The optimal conditions are 75-82°F (24-28°C) and 70-80% RH.

Timing of application

- Introduce once aphid presence is detected
- Don't wait until the hotspots are too big
- Use if hyperparasitism of parasitic wasps is detected or Aphidoletes-System can't get established due to the presence of Swirskii-System and Degenerans-System.

Release method

- Larvae from the trays can be transferred directly onto flat leaves or introduced using Bio-Boxes (recommended).
- Divide the content of the trays into the necessary release points or into Bio-Boxes.
- If using Bio-Boxes, hang them from infested plants.

Monitoring

After 1-2 weeks of release, Adalia should remain visible in the crop in some stage of development. Once established, it is common to see other stages of Adalia than the ones introduced, like yellow eggs, young larvae pupae and/or adults.

Caution

Ants will reduce the efficacy of ladybugs. Eliminate ants by using glue barriers or ant lures. If food is scarce, cannibalism among Adalia stages can occur.

Life cycle and appearance

Egg	Larva	Pupa	Adult
• Laid in clusters and standing upright • Yellow-orange • Oval shaped • 20-50 eggs / day • Duration: 4-5 days	• Elongated body with six legs • Grey / black body • Yellow and white spots • 4 larval stages • Duration: 7-9 days • Before pupating, the larva stops feeding and stays inactive	• Cylindrical shaped body • Covered with fine setae • Orange yellow with dark spots along the abdominal segments • Cocoon has a hard, shell appar-eance, found attached to leaves or stems. • Duration: 5-6 days	• Different variations • Red with two black spots • Black with red spots • Lives for 2 to 3 months • Total life cycle: 20 days, at 68°F (20°C) • Hibernates in outside walls, window frames and bark crevices