

# FAQ

## Rhizobug



Koppert

# 1 Rhyzobug

(*Rhyzobius lophanthae*)

## What is Rhyzobug?

Rhyzobug is a product with the predatory beetle *Rhyzobius lophanthae* and can be used against armoured scales.

## What does *Rhyzobius lophanthae* look like?

The adults are on average 2.5 mm long and 1.8 mm wide. They have a brown coloured abdomen covered by hairs. The head is reddish brown. The larvae are grey with a light longitudinal light stripe. Pupae are orange/pink in colour.



Rhyzobius  
2,5 mm



Cryptolaemus  
1,6x larger 4 mm

## What is the mode of action of *Rhyzobius lophanthae*?

Both the adults and the larvae feed on armoured scale insects. Small scales are consumed entirely. In larger scales feeding damage is visible as irregular holes in scale cover.

## What is the life cycle of *Rhyzobius lophanthae*?

Eggs are laid underneath scales in groups of 1-5 eggs. After hatching, *R. lophanthae* goes through 4 larval stages, followed by a pupal stage. Adults emerge from the pupa. Total egg-adult development takes around 29 days at 25°C, and 25 days at 30°C.



### **What is the fecundity of *Rhyzobius lophanthae*?**

On average, females can lay around 600 eggs during their lifespan (at 25°C).

### **What are the optimal temperatures to introduce *Rhyzobius lophanthae* into the crop?**

The optimum temperature is around 25°C. From 18°C on they are active predators. Maximum temperature is not known, at 30°C they are still developing. Be aware that the air temperature underneath leaves could be lower than air temperature.

## 2 Application

### **What is the best application time during the day?**

Apply in the evening.

### **What is the best application time related to the pest level?**

As soon as the pest is detected.

### **How do I apply the *Rhyzobius lophanthae* into the field?**

Open the cap of the tube and tap the ladybird adults on the plants.

### **On which crops can Rhyzobug be used?**

Rhyzobug can be used in both greenhouse and outdoor crops, whenever armoured scale insects are present. Experiences in citrus, grapes, mango, kiwi and blueberries are positive.

### **Who can apply the product into the crop and is it safe to use?**

Everyone is able to apply Rhyzobug. It is safe for the user and no permits are required.

### **Introduction rates:**

- The dosage of Rhyzobug depends on climate, crop and armoured scale density and should always be adjusted to the particular situation
- Start introduction as soon as the first armoured scales are detected in the crop
- Introduction rates typically range from 500-3000 per ha/release in outdoor crops. Releases should be repeated once or twice

### **Could Rhyzobug be combined with other products?**

Yes, with all other natural enemies. The combination with Aphytis, a parasitic wasp to control armoured scales, will increase the effectiveness of the pest control.

### **Can I still use pesticides?**

Always check the Koppert side effects at Side effects ([koppert.com](http://koppert.com)). It shows the compatibility of the product.

### **Will ants influence the effect of Rhyzobug?**

Ants will remove larvae of Rhyzobug and carry them to their nest. This will decrease the effectiveness of the product.

### **I see a couple of adults not moving, are those dead?**

*Rhyzobius lophanthae* adults are not very actively moving and sometimes play dead, especially when disturbed.

### **While releasing they are not flying, is this normal?**

Adult *Rhyzobius lophanthae* do not fly immediately like other ladybirds, therefore it is normal if they just walk around during release.



# 3 Packaging

**How many adults are in the packaging?**

500 adults.

**What kind of carrier is present in the packaging?**

Buckwheat hulls.



# 4 Storage

**Can I store the product?**

Preferably release as soon as possible after receipt.



# 5 Target

## What is Rhyzobug used for?

Rhyzobug is used to control several species of armoured scale insects:

- *Aonidiella aurantii* (California red scale)
- *Aspidiotus nerii* (oleander scale)
- *Aulacaspis tubercularis* (mango scale)
- *Aulacaspis rosae* (rose scale)
- *Chrysomphalus dictyospermi* (Spanish red scale)
- *Diaspis boisduvalii* (boisduval scale)
- *Lepidosaphes beckii* (purple mussel scale)
- *Lepidosaphes gloverii* (long scale)
- *Parlatoria pergandii* (chaff scale)
- *Pseudalacaspis pentagona* (white scale)
- *Quadraspidiotus perniciosus* (San José scale)

## Soft scales

- *Parthenolecanium corni* (European brown scale)



## What do armoured scales look like?

There are many armoured scales. They are found underneath the leaves and on the stem. Nymphs and adults are small and covered by a scale. They are oval/ round and vary in colour from white to dark-brown. The scale is not connected to the body.

## What damage symptoms refer to armoured scales?

No honeydew.

The scale feeds by inserting its mouthparts deep into the plant tissue and sucking the parenchyma cell sap. As a severe infestation occurs, the leaves show characteristic yellow spots around each reproducing female, followed by leaf drop and defoliation, accompanied by the dying back of twigs and eventually large branches. Maturing fruit can become completely encrusted with all stages and start to dry out and fall off.

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