



Koppert

# Biological crop protection for grape

Partners  
with Nature

# Who we are?

To make our world more sustainable, we need ways of growing that are both safe and healthy. We believe the answers to these agricultural challenges lie in nature itself. So we partner with nature. And help our planet to find its balance. Using natural enemies to combat pests, bumblebees for pollination, microbials, and biostimulants that support, protect, and strengthen crops. Improving plant health both above and underground.

We were founded in 1967 by Jan Koppert, a Dutch grower with a clear vision; the world needed an alternative for chemical pesticides. He was the first to find a natural solution to combat the pest in his crop. Setting in motion a major transformation towards sustainable agriculture.

For over 50 years, we have been pushing agricultural innovation, and these efforts have impact. Growers worldwide use our products and knowledge to restore the natural balance in their crops. Improving crop health, resilience, and yield.

Together we are meeting the highest food safety demands on our way to our ultimate goal: 100% sustainable agriculture.

A clear goal we can't complete on our own. That's why we team up with growers, partners, universities, research stations, and governmental bodies worldwide. Together we contribute to the better health of people and the planet. So let's continue to move forward and Partner with Nature.

# Why choose our solutions



Easy to integrate in your IPM\* strategy



No residue solutions



Effective, high-quality natural products



Easy to use



Safe for the environment



Safe for users

Together with growers we strive for 100% sustainable agriculture

\* Integrated Pest Management (IPM) is a sustainable and broad-based approach that integrates practices for the economic prevention and control of pests and diseases in crops. Natural enemies can be effective, and pesticides (chemical substances for controlling pests) are only used when alternative options do not produce the required result.



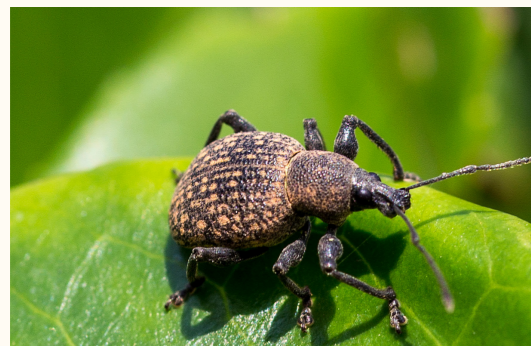
# Capirel

## When to apply

Autumn and springtime.

## Targets

Black vine weevil.

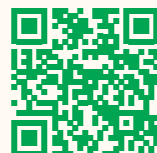


## Product description

These beneficial nematodes enter the pest and release symbiotic bacteria into the pest's body cavity. These bacteria convert the host

tissue into a food source, on which nematodes feed, develop, and reproduce inside the host. This kills the pest within a few hours to days after infection. Beneficial (entomopathogenic) nematodes are fast acting specific insect killers organisms. Considered as macroorganisms in most countries (like beneficial insects), they have increasingly become a powerful part of IPM solutions ; working together to either partly substitute, and sometimes replace the use of conventional pesticides, to manage pests that are extremely difficult to control and where chemicals fail or are simply not available anymore.

For more information on the product:



# Cryptobug

## When to apply

Multiple applications during the season, depending on pest pressure.

## Targets

All stages of many mealybug species.

## Product description

All moving stages of *Cryptolaemeus montrouzieri* prey on mealybugs, seizing their prey and consuming them entirely. Adults are good fliers and can disperse over a large area in search of prey. The body of the larvae is covered with waxy appendages which make the young larvae in particular resemble mealybugs. This 'wolf in sheep's clothing' resemblance enables them to hide among mealybugs.





# Aphytis

**When to apply**

Multiple introductions between April and October.

**Targets**

Armoured scales.

**Product description**

Aphytis is a parasitic wasp used for the biological control of various scale insects.

The adult female of *Aphytis melinus* deposits one or more eggs beneath the scale cover and upon hatching, the larva proceed to feed on the scale. Adults hatch by making a round to oval shaped hole in the scale. *Aphytis melinus* does not only kill hosts by parasitism. About 45% of hosts are killed by host feeding.



# Citripar

**When to apply**

Preventively or at fist signs of pest presence. Multiple applications during the season, depending on pest pressure.

**Targets**

Citrus mealybugs (*Planococcus citri*) and vine mealybugs (*Planococcus ficus*).

**Product description**

Citripar (*Anagyrus vladimiri*) is a parasitic wasp that parasitizes the mealybugs, particularly the second and third larval and adult stage of female citrus mealybugs (*Planococcus citri*) and vine mealybugs (*Planococcus ficus*).

Pupae develop in the mummified skin of the host and look like swollen mealybug larvae. Empty pupae have an irregular exit hole at the posterior end of the mummy after the pasitic wasps emerged.

For more information on the product:





# Rhyzobug

## When to apply

Curative introduction during the crop season, depending on pest pressure.

## Targets

Armoured scales.



## Product description

Rhyzobug (*Rhyzobius lophanthae*) is a classic biological control agent. It's a predatory beetle. Both adults and larvae predate various scale species in all stages. They make an irregular hole in the scale and predate on the insect underneath. The Rhyzobug is relatively well adapted to low temperatures, with a minimum threshold for development of around 8 degrees Celsius, optimal temperatures are around 25 degrees Celsius. Eggs are laid under the scale of the armoured scales in small groups of one to five eggs.

# Vidi Terrum

## When to apply

During flowering and fruitset.

## Targets

Improve fruitset and size.

## Product description

Vidi Terrum supports the plant's metabolism leading to better fruit set and size. It provides the plant with extra energy for the formation of fruits. The product consists of free amino acids in herbal extract, giving direct energy to the plant. Plants can take up Vidi Terrum both through their roots and leaves. Vidi Terrum can be sprayed on the plant canopy.

Vidi Terrum can be tank mixed with most soluble fertilizers and pesticides. However, test any mix on a small surface for unexpected effects prior to extensive use.

For more information on the product:



# Monitoring and traps

## Efficient monitoring is key

The success of integrated or biological pest management depends heavily on knowledge of the pests present and on the correct use of natural enemies. IPM is precision work. You have to adjust your approach to the specific pests present or those expected in the crop, and do this at the right time. A full range of different types of sticky traps, sticky ribbons and pheromone traps is available for these tasks.

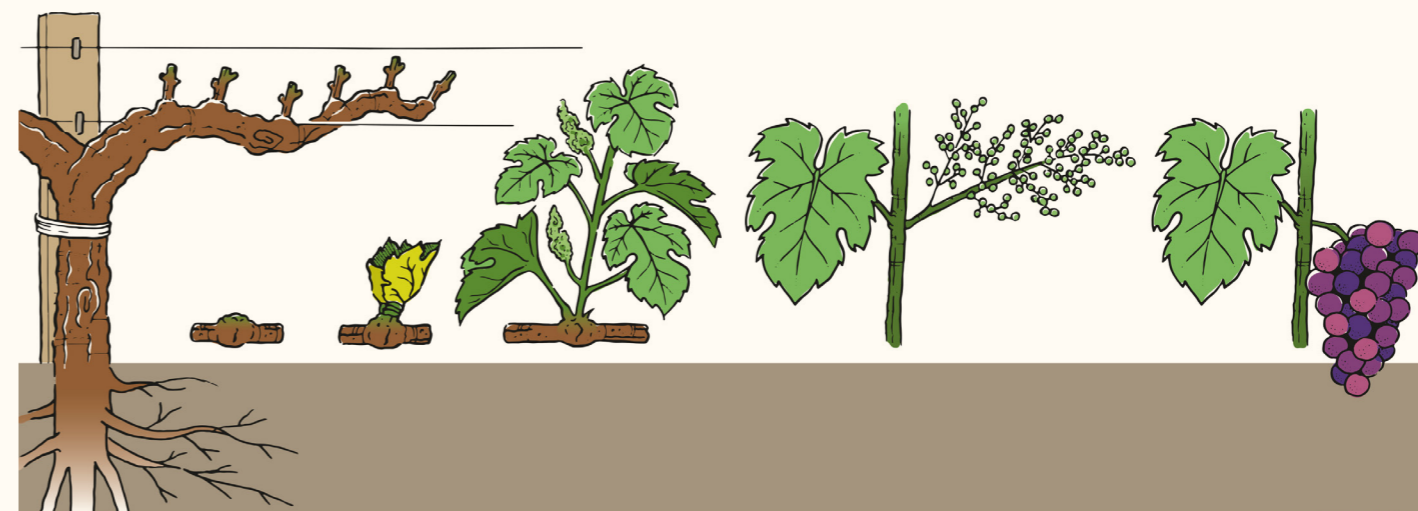
For more information you can always contact your local Koppert contact.

To explore our product range:



Giving you greater insight into what's happening in your crop and putting you in control of potential pests, requires careful monitoring. And that's something Koppert now aims to take to the next level of innovation and effectiveness.

# When to apply?



Capirel		Capirel
		Cryptobug
		Citripar
		Aphytis
		Rhyzobug
		Vidi Terrum

Pesticides can have (in)direct effects on biological solutions. Find out which pesticides have side effects on the products you would like to use.

For more information:



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#### Disclaimer

The general conditions of Koppert (Koppert B.V. and/or of its affiliated companies) apply. Only use products that are permitted in your country/state and crop. Check local registration requirements. Koppert cannot be held liable for unauthorized use. Koppert is not liable for any loss of quality if the product is stored for longer than recommended and/or under incorrect conditions.

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