
Biological
crop protection
for citrus
Koppert
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

IPM strategy

Easy to integrate in your IPM* strategy

No residue solutions

Effective, high-quality natural products

Easy to use

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.

Trianum

When to apply

Trianum-P and Trianum-G:
At transplating.

Targets

Trianum-P and Trianum-G:

- Various soil borne diseases (f.e. Fusarium and Pythium)
- Promotes plant growth and uniformity

Product description

Trianum is a biofungicide, based upon the unique fungus *Trichoderma harzianum T-22*. Trianum is offering many positive characteristics that are beneficial for growersas it controls soil borne diseases, improves growth and results in a stronger and more resilient crop.

Once Trianum is applied, the fungus starts to develop around the roots of the crop competing with other pathogens for food and space. As the beneficial fungus is growing it produces substances (enzymes) that break down the cell walls of pathogens inhibiting their development, and produces antifungal substances making it difficult for fungal pathogens to develop.

When Trianum is growing on the roots, it triggers the crop to activate its natural defence mechanisms against pathogens, making the plant more resilient to stressful situations.

Trianum should be applied at the beginning of the crop cycle and is formulated as wettable granules (Trianum-P) and as micro granules (Trianum-G).

Check local registration before using.

For more information on the product:

Pegafit

When to apply
Repeating applications during the season, starting from early spring.

Targets
Ants and other “walking” pests.

Product description
Pegafit is highly adhesive tree glue that is applied around the trunk.

Once applied around the trunk of the tree, it creates a barrier that prevents ants and other insects from climbing the tree. As a result, the incidence of pests such as aphids, scale insects and caterpillars will be reduced.

The product is resistant to water and remains effective for about 10 weeks.

Citripar

When to apply
Preventively or at first signs of pest presence. Multiple applications during the season, depending on pest pressure.

Targets
Citrus mealybugs (*Planococcus citri*) and vine mealybugs (*Planococcus fcus*).

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:

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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.

For more information on the product:

Aphytis

When to apply
During the season depending on pest pressure.

Targets
Various armoured scales.

Product description
Aphytis melinus is an armoured 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.

Spical Ulti-Mite

When to apply
Preventively at the start of the spider mite life cycle.

Targets
Several species of spider mite.

Product description
Spical Ulti-Mite (*Neoseiulus californicus*) is a sachet which contains predatory mites with an excellent result in combating different kinds of spider mite (including two-spotted spider mite, fruit spider mite, citrus red mite). In addition and the predatory mite also has positive results in controlling various tarsonemid mites. The mites multiply in the sachet and disperse into the crop over a period of several weeks. They pierce the prey with their sucking mouthparts and suck out the contents.

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 predates 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 fruitset and size. The product consists of free amino acis in herbal extract that provides the plant with extra energy for the formation of fruit. Energy is provided by the free L-amino acids in the product. 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:

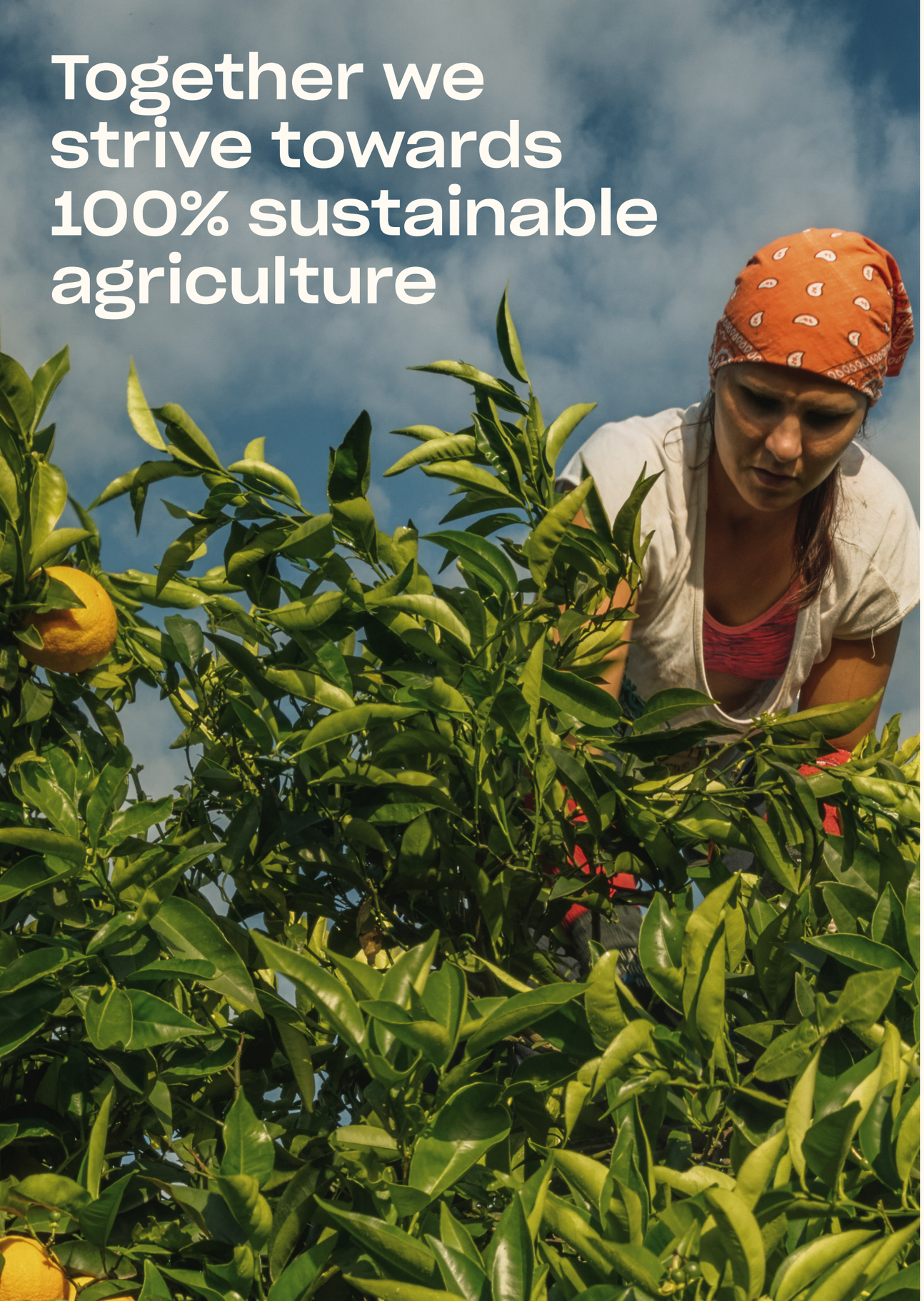
Monitoring and traps

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.

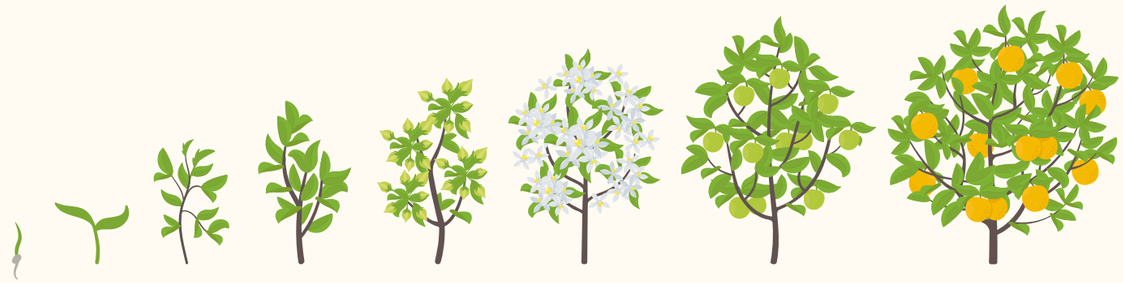
To explore our product range:

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.



Together we strive towards 100% sustainable agriculture

When to apply?



Trianum-P	
Trianum-G	
	Pegafit
	Citripar
	Crypobug
	Rhyzobug
	Aphytis
	Spical Ulti-Mite
	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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