



BIOBEE
Inspired by Nature

DEFEAT PESTS THE NATURAL WAY



CATALOG

INSECTS ARE THE
FUTURE

NATURAL POLLINATION

Bumblebee Hive

Bombus terrestris



TARGET CROPS

Greenhouse grown crops, outdoor crops and orchards.

DESCRIPTION

The bumblebee, *Bombus terrestris*, is much larger than the honey bee, both in length and width. Covered with black hair, two wide yellow horizontal stripes and a white abdomen tip, it's an exceptional pollinator.

ADVANTAGES

Greenhouse grown tomatoes, sweet pepper, eggplant, strawberry, melon and other crops greatly benefit from the bumblebees unique flower vibrating capabilities ("buzz pollination" mechanism). The bumblebee is capable of pollinating in cloudy and rainy conditions as well as in low temperatures (below 10°C) whilst the honey bee will not leave the hive under such conditions.

Better adapted to perform under confined greenhouse conditions, the bumblebee is less inclined to search for alternative sources of pollen and nectar outside the greenhouse.

Contact us for additional information

BUMBLEBEE HIVES ARE AVAILABLE IN SELECTED AREAS ONLY

AVAILABLE FORMAT

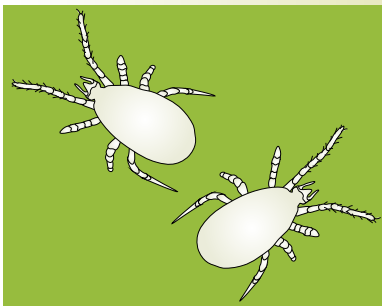
Pallet containing 18 hives



PREDATORY MITES

BioMontdorensis

Transeius montdorensis



AVAILABLE FORMAT



25,000/bottle

MAIN TARGETS

First and second larval stages of Thrips and eggs and larval stages of whitefly.

ADDITIONAL TARGETS

Spider mites, broad mites and russet mites.

DESCRIPTION

Montdorensis are smaller than 1mm, pale, pear-shaped mites. The eggs are oval and clear of color. Eggs are laid on the underside of leaves (mostly on hairs), under the calyx of fruit and sepals of flowers and in other protected areas. It takes 6-7 days at 25°C for *T. montdorensis* to complete their lifecycle. A female mite kills an average of 14 thrips larvae per day.

TIPS

Avoid dust and a humidity of >70% is beneficial to the egg laying capabilities of BioMontdorensis.

TEMPERATURE TOLERANCE



BioSwirski

Amblyseius swirskii



AVAILABLE FORMAT



50,000/bottle
250/sachet

MAIN TARGETS

Immature thrips (various species) and whitefly eggs and larvae.

ADDITIONAL TARGETS

Broad, russet and cyclamen mites.

DESCRIPTION

This efficient predatory mite is a good option for thrips and whitefly management on many ornamental and vegetable crops. *Amblyseius swirskii* does not hibernate and develops well in warm, humid environments.

TIPS

BioSwirski controls thrips at warmer temperatures than cucumeris mites. BioArtFeed and BioArtLine improve the establishment of BioSwirski populations. (see p.8)

TEMPERATURE TOLERANCE



BioPersi+

Phytoseiulus persimilis



MAIN TARGETS

Two-spotted spider mite (*Tetranychus urticae*), Red/Carmine spider mite (*Tetranychus cinnabarinus*) and related web-spinning spider mites.

DESCRIPTION

Considered an outstanding aggressive predator of two-spotted spider mites, under suitable conditions it reproduces twice as fast as its prey. BioPersi+ has the ability to navigate spider mite webs, making it an ideal choice to control spider mites in a wide variety of crops. BioPersi+ starts laying eggs from the first day of application.

AVAILABLE FORMAT



100 mites/sachet
4,000/bottle
10,000/20,000/bottle

TIPS

BioPersi+ performs especially well in strawberries and other crops where relative humidity remains above 65%.

TEMPERATURE TOLERANCE



BioCucumeris

Neoseiulus cucumeris



MAIN TARGETS

Larval stages of western flower thrips.

ADDITIONAL TARGETS

Other thrips larvae, broad mite, two-spotted spider mite, russet mites and cyclamen mite.

DESCRIPTION

Neoseiulus cucumeris is widely used in bio-control all over the world. This predatory mite grows to 0.5-1mm in length. Its ability to feed on pollen makes it possible to use BioCucumeris preventively.

AVAILABLE FORMAT



25,000/50,000/bottle

TIPS

This mite performs well under cooler temperatures and is often used for thrips prevention early in the season or in cooler climates. BioArtFeed & BioArtLine can improve the establishment of BioCucumeris (see p.8).

TEMPERATURE TOLERANCE



BioCalifornicus

Neoseiulus californicus



MAIN TARGETS

Various species of spider mites.

ADDITIONAL TARGETS

Broad mites, cyclamen mites, some russet and gall mite species.

DESCRIPTION

Neoseiulus californicus is able to operate better than many other predatory mites in higher temperatures and lower humidity conditions. It is also able to survive without feeding for long periods of time, making it possible to use BioCalifornicus preventatively in a wide variety of crops.

AVAILABLE FORMAT



5,000 /per bottle
25,000/50,000/per cylinder
250/per sachet

TIPS

BioCalifornicus may perform better than other predatory mites when humidity is low (between 40-60%).

TEMPERATURE TOLERANCE



PARASITIC WASPS

BioAnagyrus

Anagyrus vladimiri



AVAILABLE FORMAT



250/500/bottle

MAIN TARGETS

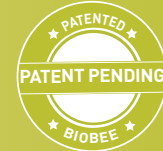
Citrus mealybug (*Planococcus citri*), vine mealybug (*Pseudococcus ficus*), grape mealybug (*Pseudococcus maritimus*), obscure mealybug (*Planococcus viburni*) and the oleander mealybug (*Paracoccus burnerae*).

DESCRIPTION

The patented BioAnagyrus is a solitary endoparasitoid of mealybugs. This wasp is efficient at locating low density mealybug populations. It is shipped as "mummies" ready for release in orchards, vineyards and protected crops.

TIPS

It may be used in conjunction with BioCryptolaemus, BioNephus, and BioPerminutus, for season long mealybug control.



TEMPERATURE TOLERANCE



BioDiglyphus

Diglyphus isaea



AVAILABLE FORMAT



500/bottle

MAIN TARGETS

Leafminer flies in the genus *Liriomyza* (Diptera: Agromyzidae).

DESCRIPTION

This small (2mm) non-stinging parasitic wasp effectively controls leafminers in greenhouse and field crops by laying its eggs in leaf mines (serpentine tracks in the leaves left by leaf miner larvae), in the vicinity of the host.

TIPS

Release wasps in tomato, cucurbits, pepper, eggplant, legumes, other vegetables and susceptible ornamental crops at first sign of infestation.

TEMPERATURE TOLERANCE



BioAphidius

Aphidius colemani



AVAILABLE FORMAT



500/bottle

MAIN TARGETS

Aphids, including the melon/cotton aphid (*Aphis gossypii*), green peach aphid (*Myzus persicae*) and tobacco aphid (*Myzus nicotianae*).

ADDITIONAL TARGETS

Cannabis aphid (*Phorodon cannabis*).

DESCRIPTION

This parasitoid targets over 40 aphid species. BioAphidius is supplied in bottles containing Aphid mummies with wasp pupa ready to emerge. BioAphidius is used in greenhouses, nurseries, interiorscapes and open field crops.

TIPS

Look for golden brown mummies 2-3 weeks after the release of BioAphidius.

TEMPERATURE TOLERANCE



BioTrichogramma

Trichogrammatoidea cryptophlebiae



MAIN TARGETS

False codling moth (FCM) (*Thaumatotibia leucotreta*).

ADDITIONAL TARGETS

Macadamia nut borer MNB (*Thaumatotibia batrachopa*).

DESCRIPTION

BioTrichogramma is a tiny (0.2-1.5mm) egg-parasitoid with a yellowish-brown body. The parasitized FCM eggs turn black.

TIPS

Release early morning or late afternoon, when weather is more temperate. The BioTrichogramma arrive as parasitized FCM eggs on cards which are attached to a cardboard, making it easy to hang on branches. Each envelope contains 25 cards.

AVAILABLE FORMAT



1,000/card
25,000/envelope

TEMPERATURE TOLERANCE



BioPerminutus

Coccidoxenoides perminutus



MAIN TARGETS

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

DESCRIPTION

BioPerminutus is a small black parasitic wasp (1mm) with noticeably translucent wings. BioPerminutus parasitizes the smaller life stages of its mealybug hosts: 1st to 3rd instar.

TIPS

Use in conjunction with BioAnagyrus to ensure all mealybug life stages are combated.

AVAILABLE FORMAT



3,000/box

TEMPERATURE TOLERANCE



BioAphytis

Aphytis melinus



MAIN TARGETS

California red scale (*Aonidiella aurantia*).

ADDITIONAL TARGETS

Oleander scale (*Aspidiotus nerii*) and Oriental scale (*Aonidiella orientalis*).

DESCRIPTION

Yellow in appearance, this ectoparasitoid actively searches for a suitable host. BioAphytis has a very rapid life cycle compared to its host and can move through three generations in the same time it takes its hosts to move through one generation. The adult wasps will also engage in host feeding.

TIPS

Release early morning or late afternoon, when weather is more temperate. Each biodegradable cup contains 8 pieces of cardboard that act as a release point.

AVAILABLE FORMAT



5 000/bottle

TEMPERATURE TOLERANCE



BioEncarsia

Encarsia formosa



AVAILABLE FORMAT



5,000/15,000/bottle

3,000/15,000/box of pupae cards

MAIN TARGETS

Greenhouse whitefly (*Trialeurodes vaporariorum*).

ADDITIONAL TARGETS

Limited control of sweetpotato whitefly (*Bemisia tabaci*)

DESCRIPTION

An effective parasite of the greenhouse whitefly, these tiny wasps are shipped as 'mummies'. These emerging black and yellow wasps search for immature whiteflies to parasitize. BioEncarsia provides a solution for greenhouse whitefly control in greenhouses nurseries, on crops including, strawberries, cucumbers, tomatoes and ornamentals.

TIPS

It's important to identify species of whitefly in your crop. For maximum flexibility in whitefly control use it in combination with BioEretmocerus (*Eretmocerus eremicus*).

TEMPERATURE TOLERANCE



PREDATORY INSECTS

BioNesidocoris

Nesidiocoris tenuis



AVAILABLE FORMAT



500 individuals /bottle
(adults & nymphs)

MAIN TARGETS

Tuta absoluta, Greenhouse whitefly (*Trialeurodes vaporariorum*), sweetpotato whitefly (*Bemisia tabaci*) and spidermite.

DESCRIPTION

A generalist predator, all the mobile stages are predacious, from the first instar to the adult. They might also feed from the plant under certain conditions.

TIPS

After feeding on large number of red spider mites, the nymphs abdomen turns red. Under given circumstances, *Nesidocoris tenuis* population must be controlled in order to avoid plant injury by the Mirid bug.

TEMPERATURE TOLERANCE



BioOrius

Orius spp.



AVAILABLE FORMAT



3,000/tube

TARGETS

Thrips (both adults and nymphs).

ADDITIONAL TARGETS

Aphids, whiteflies, mites and *Lepidoptera* eggs.

DESCRIPTION

The minute pirate bug is a versatile generalist predator and has a wide range of applications. Equipped with its piercing-sucking rostrum, *Orius* is used in dozens of agricultural crops, including ornamentals and vegetables.

TIPS

Establishes best in pollen-rich crops. BioArtFeed and BioArtLine can improve the establishment of *Orius* populations (see p.8).

TEMPERATURE TOLERANCE



BioCryptolaemus

Cryptolaemus montrouzieri



AVAILABLE FORMAT



500/container
50/core

MAIN TARGETS

Mealybugs.

ADDITIONAL TARGETS

Soft scales.

DESCRIPTION

This lady beetle is called the 'mealybug destroyer' because both larvae and adults feed voraciously on mealybug and can consume more than 250 during their lifetime. The highly mobile adults disperse in the crop looking for mealybug hotspots, reducing the need for sprays. BioCryptolaemus are shipped as adults, ready for release in orchards, vineyards and protected crops.

TIPS

BioCryptolaemus are attracted to and often lay egg on the mealybugs' waxy secretions and ovisacs (egg masses).

TEMPERATURE TOLERANCE



BioNephus

Nephus bipunctatus



AVAILABLE FORMAT



200/container

MAIN TARGETS

Mealybugs.

DESCRIPTION

BioNephus is a small (1.5mm), black predatory beetle with a brown spot on the rear end of each elytra (hard outer wing).

TIPS

Release early morning or late afternoon, when the weather is temperate. BioNephus larvae look similar to mealybugs, with white waxy filaments covering the body. CAUTION: Do not confuse with mealybug.

TEMPERATURE TOLERANCE



BENEFICIAL NEMATODES

BioHB

Heterorhabditis bacteriophora



TARGETS

False codling moth, macadamia nut borer, thrips pupa, chafer grubs and black vine weevil.

ADDITIONAL TARGETS

Strawberry root weevil, white grubs and other grub species.

DESCRIPTION

BioHeterorhabditis is an Entomopathogenic nematode containing infective juveniles of *Heterorhabditis bacteriophora* in an inert carrier.

AVAILABLE FORMAT



250 million infective juveniles
500 million infective juveniles

TEMPERATURE TOLERANCE



NemaPlus Depot P

Steinernema feltiae



TARGETS

Fungus gnats (sciarids), Shore flies and thrips pupae.

DESCRIPTION

Each capsule contains approx. 1,600 nematodes (*Steinernema feltiae*) in a water-oil emulsion enclosed in an alginate shell. Upon contact with the soil/substrate, the alginate shell becomes permeable within a week and the nematodes migrate. Over several weeks, new nematodes enter the substrate and look for pests.

AVAILABLE FORMAT



32,000 Capsules
(50 million *Steinernema feltiae*)

TEMPERATURE TOLERANCE



BioSc

Steinernema carpocapsae



TARGETS

Turf pests including billbug, flea, cutworm, armyworm, sod webworm and crane fly. Orchard, ornamental and vegetable pests including banana moth, codling moth, cranberry girdler, dogwood borer and other clearwing borer species, peachtree borer and shore flies.

AVAILABLE FORMAT



250 million infective juveniles
500 million infective juveniles.

TEMPERATURE TOLERANCE



BioSF

Steinernema feltiae



TARGETS

Fungus gnats (sciarids), Codling moth and thrips pupae.

DESCRIPTION

BioSF is an Entomopathogenic nematode containing infective juveniles of *Steinernema feltiae* in an inert carrier.

AVAILABLE FORMAT



250 million infective juveniles
500 million infective juveniles.

TEMPERATURE TOLERANCE



PREDATOR FEED

Great Feed Makes Great Predators!

BioCIFeed

Carpoglyphus lactis



DESCRIPTION

BioCIFeed is a highly nutritious feed for predatory mites. The feed helps establish and maintain a larger and more stable population of predatory mites in the crop in the beginning of the season and at low prey densities.

BioCIFeed is an alternative feed source for *Amblyseius swirskii*, *Amblyseius andersoni*, *Neoseiulus californicus*, *Neoseiulus cucumeris*, *Transeius montdorensis* and for *Amblydomalus limonicus*.

AVAILABLE FORMAT



5 million mites per cylinder

BioSwirski Combo

Amblyseius swirskii + *Artemia* decapsulated cysts



DESCRIPTION

BioSwirski Combo is an innovative product that contains both the predators and the feed allowing for the early establishment of the natural enemy before the pests arrive.

BioSwirski and the feed are applied simultaneously in the same area, achieving precise application which allows the predators to start feeding and reproducing immediately.

TIPS

Exact feed dosage sustains the predators for a period of approximately 2 weeks. The improved and simplified field application saves time, manpower and prevents waste.



BioArtFeed

Artemia decapsulated cysts



DESCRIPTION

A novel high-quality insect feed which supports the early establishment of beneficials prior to the pests' arrival. Supplied as a 'shaker' for direct application on crops or for mixing with blower applications.

TIPS

Works with BioCucumeris, BioSwirski and BioOrius.

AVAILABLE FORMAT



BioArtLine

Artemia decapsulated cysts



DESCRIPTION

A revolutionary easy application method for the novel high-quality insect feed which supports the early establishment of beneficials prior to the pests' arrival. Supplied as a feeding tape that doubles as a highway for your bios to spread in the crop without leaving artemia residue.

TIPS

Works with BioCucumeris, BioSwirski and BioOrius.

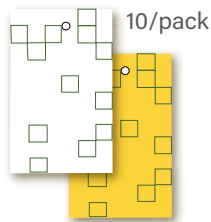
AVAILABLE FORMAT



COMPLIMENTARY PRODUCTS



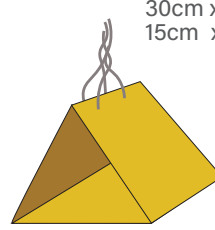
Sensus Trap



Sticky Traps & Cards

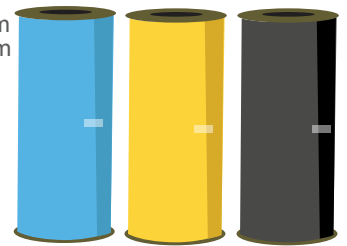


Yellow bucket trap



Delta Trap

30cm x 100m
15cm x 100m



BioRoll

(X10 magnification)



Scout Magnifying Glass



D-Box



Pheromone lures, Mating disruption



CRI Pest Identification Booklet
Citrus Scouting Manuals
Citrus Scout Training &
Packhouse Training

Books & Manuals

✓ Main Target

+ Additional Target



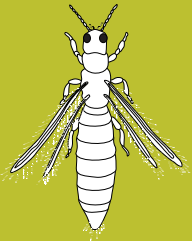
Aphids



Whitefly



Fungus gnat



Thrips

PREDATORY MITES



BioCalifornicus

BioCucumeris

BioPersi+

BioSwirski

BioMondorensis



PARASITIC WASPS



BioAnagyrus

BioAphidius

BioTrichogramma

BioPerminutus

BioAphytis

BioDiglyphus

BioEncarsia



PREDATORY INSECTS



BioNephus

BioCryptolaemus

BioOrius

BioNesidocoris



BENEFICIAL NEMATODES



Nemaplus Depot

BioSc

BioSF

BioHB

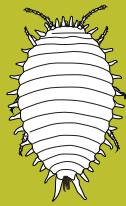




Leafminer



Scale insect



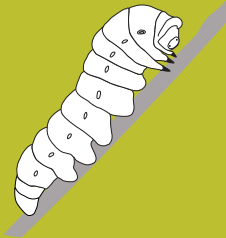
Mealybugs



Spider mites



Grubs



Caterpillars
FCM & MNB

			✓		
			+		
			✓		
			+		
			+		

		✓			
					✓
		✓			
✓	✓				

		✓			
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			+		+
			✓		

					✓
					✓
+					+
					✓

We know it is possible and economically feasible to produce healthy, high quality agricultural products using less chemical pesticides, in an environmentally friendly, sustainable and responsible way.

We, are BioBee.



BioBee Integrated Crop Solution (Pty) Ltd. acquired the activities from DuRoi IPM (Pty) Ltd. in 2015 and has since become the largest insectary in South Africa.

BioBee South Africa is also one of the sister companies of the internationally renowned BioBee Sde Eliyahu; which for over 36 years has been a pioneer in the mass rearing and implementation of beneficial insects and mites for agriculture.

BioBee develops natural agricultural solutions inspired by nature. With teams of professionals around the world, 5 production sites and a world renowned R&D department, BioBee is a world leader in its field.

Our state-of-the-art production facility is situated in Letsitele, in the Limpopo Province of South Africa. We mass produce locally and implement beneficial mites, insects, micro and macro organisms which are a natural, smart, efficient, and economical alternative to chemical pesticides. BioBee SA prides itself in the supply of high-quality products and professional service.

Our Biologically Based Integrated Pest Management programs enable farmers to control pests and diseases for the entire growing cycle and deliver healthy fruits, vegetables, cannabis and ornamental plants to the markets, with low or zero chemical residue.



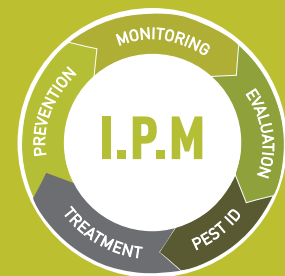
ADVANTAGES OF THE BIOBEE INTEGRATED PEST MANAGEMENT (IPM)

- Does not produce pest tolerance or resistance to pesticides
- Reduces the use of agrochemicals
- Avoids pre-harvest and worker entry limits in the crop
- Healthy crop yields
- Minimizes pesticide residue
- Creates new markets and opportunities for our clients
- Offers a safer work environment for farm workers and adjacent communities



ADVANTAGES OF OUR TECHNICAL ASSISTANCE

- Custom IPM programs to meet individual needs
- Assistance with natural enemies applications
- Frequent supervised monitoring of pests and biological control agents
- Highly trained technical team
- Mass production in our modern mass rearing site in South Africa
- Back up support from the Research and Development team in Israel



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Get in touch with us, we have solutions!

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INSECTS ARE THE
FUTURE

