

# Special EDITION

FRUIT  
LOGISTICA  
2014

**Higher yields,  
top quality  
produce,  
naturally.**

**Making the best  
out of nature work  
for your crop**



New and improved Biobest products for biological control and pollination have led to impressive new results: high increase in yield and quality and reduction of pollen consumption and labour thanks to Flying Doctors®. Plus a more effective, lasting and large-scale control of pests with Nutrimite® and Dyna-Mite®. No wonder Biobest won the Trends Sustainable Management Company Award in 2013 and a Sival D'Argent in 2014.

**Pear pollination:  
leave it to the Flying Doctors®**

**Flying Doctors® win  
SIVAL D'ARGENT**



**Kiwi pollination  
revisited**

**Better thrips control  
with Nutrimite™**

**A standing  
predatory mite army**

# Pear pollination: leave it to the Flying Doctors®

**Biobest bumblebees biologically  
increase ideally sized yield**



Biobest has recently cooperated with commercial pear growers in Belgium to test, develop and prove the impressive potential of bumblebee pollination. In pear production, pollination is a major critical success factor. Natural pollinators and even honeybees are usually insufficient to guarantee good fruit set, especially when there is cold weather during the flowering season. Many pear growers routinely spray plant hormones, but can't nature do better? Enter: Biobest's Flying Doctors®.



## Comparing standard treatment with bumblebees

It is not a routine practice for pear growers to bring bees into their or-

chards to improve pollination. While honeybees have occasionally been used (depending on the country), pear growers are not familiar with the use of commercial bumblebees in their orchards. Some are even outright sceptical about a bumblebee's ability to pollinate pear flowers.

That is why, during the 2013 season, Biobest and Veiling Borgloon set up a comparison between plots with the growers' standard treatment - hormone spraying, without pollinator insects - with plots in which bumblebees were introduced at a rate of 10 colonies per ha. The pears tested were Conference and Doyenné du Comice. Success was measured by taking into account both fruit set and size.



## Flying Doctors®: more effective pollination with bumblebees

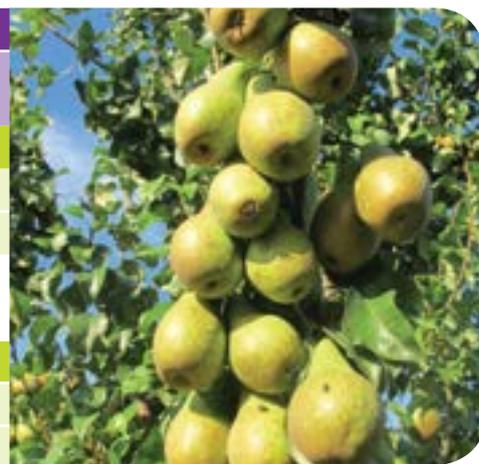
Biobest has been developing and refining bumblebee pollination since 1987. The Flying Doctors® take things a step further. Flying Doctors® bumblebee hives come equipped with a special dispenser in which you can introduce, for example, microbial products for disease control. The advantage is bumblebees carry the products and deliver them directly to the flower. The dispenser of a Flying Doctors® hive can now also be filled with pollen. Having pollen directly delivered right where it is needed has proven extremely effective. More and more fruit growers do realize how poor pollination

is hurting them in terms of yield and quality. Some are actually spraying or dusting pollen. As of now, go for "platinum" pollination performance and use the Flying Doctors®: a great solution, not only for pears, but also for other fruit like kiwi, kiwi grapes, cherries and apples.



## And the winners are ...

Pear	Growing method	Yield (tons/ha)	
		Total	With ideal diameter
<b>ORCHARD 1</b>			
Conference + hormone	Conventional	52	3
	FD technique + pollen	55	30
Doyenné + hormone	Conventional	45	16
	FD technique + pollen	50	36
<b>ORCHARD 2</b>			
Doyenné no hormone	Conventional	27	13
	FD technique + pollen	68	48

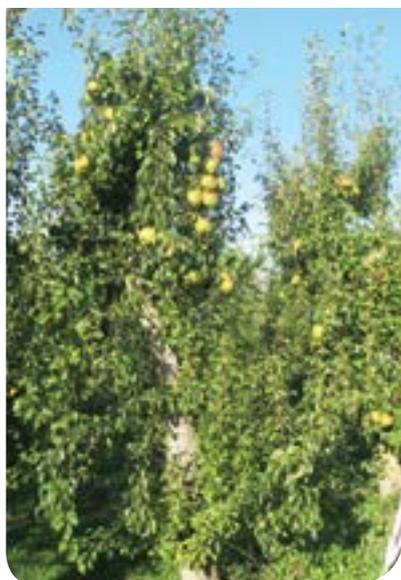


### Bumblebees do the job Biobest Flying Doctors® are best in class

All cases show an increase in both total yield and ideally-sized yield

- The orchard with hormone treatment sees a spectacular increase in yield with ideal size: x10 for Conference, x2 for Doyenné
- The orchard without hormone treatment has an impressive total yield increase: x2,5

These impressive increases in yield have been accomplished by applying 10 Flying Doctors® hives with pollen per hectare of pear in combination with the conventional growing method during blossoming. ■



## Flying Doctors® win SIVAL D'ARGENT 2014



SIVAL is a standard setting trade show for plant production with nearly 600 exhibitors and 19,000 professional visitors annually. The 2014 edition took place in Angers, France from January 14th to 16th. Each year, a select number of trend-setting innovations receive a SIVAL award. In the category agricultural inputs, the jury recognized the exceptional potential of Biobest's Flying Doctors® by awarding the product a SIVAL D'ARGENT.

"I'm honoured by this prestigious award" says Loïc Goeäü, General Manager of Biobest France. "SIVAL is a key event for agriculture and

horticulture in France and this will help us to better inform growers about the unique potential of our pollination solutions".

Just a couple of weeks ago, a research paper by Breeze and coworkers assessed the shortage of honeybees in Europe to ensure successful pollination of the wide range of crops for which insect pollination is essential. France, like many other countries, has less than 50 % of the honeybees that would be required. No wonder that there is an ever growing demand for bumblebees by growers of all kinds of fruits, not only in greenhouses but also in open air.

Loïc Goeäu comments: "This SIVAL D'ARGENT shows that, with the Flying Doctors® system, we've taken our proven bumblebee technology to an even higher level. Now we have a solution to deliver successful pollination even in orchards in which pollen is in short supply. The Flying Doctors® hive allows to add pre-collected pollen in a special dispenser, integrated in the hive

for targeted delivery to the flowers. We've conducted demo trials in pear, kiwi and kiwiberry with amazing results in terms of yield and calibre. For kiwi growers, used to spraying or dusting pollen, saving in labour and pollen costs are significant. Initial tests in cherry and apple are also promising."



## Kiwi pollination revisited

**Flying Doctors® reduce labour and pollen cost**



Both in kiwi and kiwi grape (*Ambrosia grande*) the Flying Doctors® delivered yield and quality (fruit size, number of pits) that was equivalent or better to what could be obtained with the most laborious and meticulously executed manual pollination techniques.

### Superior performance proven in the field

Tests were executed during 2013 in kiwi in Italy, in collaboration between Biobest and Zespri. The results were already published in *Kiwifruit*, the New Zealand kiwifruit Journal. Tests in kiwiberry were conducted in Belgium and France.

As of the 2014 season, commercial kiwi growers have access to "platinum pollination performance": just contact Biobest and get Flying Doctors® to do the job.

### Cross-pollination = critical

Growers of kiwi and kiwiberries know: pollination is the key to a successful crop. Kiwi varieties need to be cross-pollinated. Planting male trees in the orchard is the most common solution, but comes at a price: the male trees do not produce fruits. Hence, there are often situations in which there is not enough pollen around during flowering. Many kiwi growers look for alternative solutions. In kiwi, hand pollination or pollen spraying or dusting is commonly used. This is labour-intensive and very expensive in pollen consumption.

Let the Flying Doctors® do the job,

eliminate manual labour and reduce the amount of pollen needed with 50% or more.



# Making predatory mite advantages last

## Introducing Nutrimite™

achieve the most efficient introduction and long-term establishment of predatory mite populations.

“Less is more” is the motto: Nutrimite will enable you to achieve a larger and healthier predatory mite population delivering better biocontrol with less labour. ■



Predatory mites such as *Amblyseius swirskii* are widely used to biologically control pests like thrips, whitefly and spider mite. But there are situations - often caused by a lack of food supply for the mites - in which these beneficials struggle or even fail to establish in the crop. A serious bottleneck to the success of biological pest control in a range of crops and plant nurseries? Not anymore. Biobest has developed the solution: Nutrimite™, a plant-based food supplement that boosts hungry predatory mite populations. The result: three times more predatory mites.

### Ornamental crops

Finding a juicy prey from time to time is what keeps predatory mites going. Biological pest control generally works well in crops that tolerate a certain level of the pest. However, in ornamental crops, the economic damage-threshold is usually very low. In fact, it is so low that there is too little prey to keep your hunting allies alive and kicking.

Absence of prey food can be compensated, as most predators also have a vegetarian side to their menu. In flowering crops with

sufficient pollen like e.g. pepper, the pollen and nectar generally serve as a good alternative diet on which the predatory mites can survive and develop. The most challenging situations for the use of predatory mites thus occur when there is neither sufficient prey nor pollen available.

### The healthy snack for predatory mites

In collaboration with researchers Biobest has now developed a simple, efficient and innovative technique to solve this problem: just apply Nutrimite™ pollen as a healthy snack for your predatory mites and watch their populations prosper. Flower power in a bottle!

The results are spectacular: up to three times more predatory mites with Nutrimite™. Applying Nutrimite™ is fast and easy. Several commercial growers have already started using this innovative strategy. Biobest keeps investing in further development and fine-tuning of Nutrimite™-powered biocontrol strategies. Specific release schemes are being tested for a range of crops and predatory mites. The goal is to advise growers on how to

### Nutrimite™ the right balance



Nutrimite™ is based on a natural pollen type which has been selected for its particular characteristics. Once applied to the crop, the pollen remains suitable food for two weeks.

It is highly attractive and nutritionally balanced for predatory mites, while being relatively unsuitable for thrips.

Recommended application rate: 500 g/ha

# Better thrips control with Nutrimite™

Twan Wijnen: a happy Nutrimite™ pioneer



## A spirit of innovation

On July 1st, 2013 Biobest announced the launch of Nutrimite™. Cucumber grower Twan Wijnen in The Dutch province of Limburg was one of the first to start large scale use of Nutrimite™ in cucumber.

In his greenhouse, with 9 ha of cucumber, he already had significant expertise with biocontrol.

"We've been using *swirskii* with

reasonably good results", says Mr. Wijnen, "but we did not always achieve the level of control that we were striving for. Especially thrips has become more and more challenging to control in recent years."

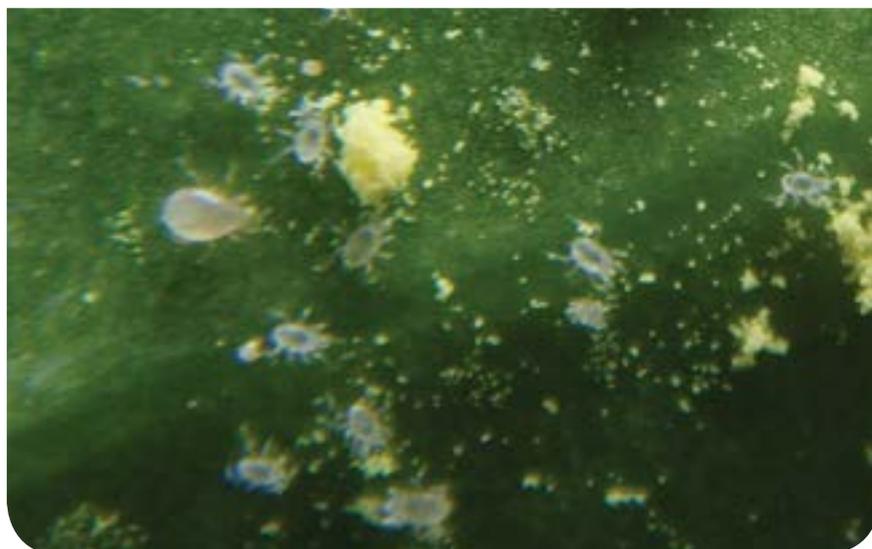
The grower found Biobest's Nutrimite™ system to boost the power of his predatory mite population compelling and worked closely with Biobest and Arend-Sosef, Biobest's distributor in Holland, to apply Nutri-

mite™ on all 9ha in combination with *swirskii*.

## Excellent thrips control: Swirskii-System + Nutrimite™

"I have been really satisfied with the results. I've seen much higher population levels of *swirskii* than normal. Without Nutrimite™, for sure, I would have been heading for another year with high thrips pressure. Nutrimite™ helped me get a clean crop." continues Mr. Wijnen.

"I was curious to see how well Nutrimite™ would work in a crop that can grow as fast as half a meter per week. Biobest proposed a strategy with modulation of the Nutrimite application frequency during the season. They really helped my *swirskii* army do a wonderful job. They were all happily snacking on Nutrimite™, but that made them even more aggressive thrips hunters. I'm about to plant my 2014 crop and my *swirskii*'s need not worry about going hungry while hunting, they can look forward to another year of Nutrimite™ snacking." ■



# A standing predatory mite army

## Dyna-Mite® G-System for effective biocontrol in rose



at relatively low temperatures, even under 10°C. Fully tried and tested in rose, in collaboration with leading commercial growers. Tests in a range of other crops including different species of potted plants are ongoing. ■



With Dyna-Mite® G-System Biobest introduces the first *Euseius* species to be commercially produced at large scale. As of now, the product is already commercially available for the Netherlands, France and Belgium. It offers a standing predatory mite army in your crop to keep thrips and whitefly under control - even in a rose crop, in which other mites such as *A. swirskii* are unable to establish a stable population.

### Bombs of predatory mites

Dyna-Mite® G-System mites establish quickly. In combination with Nutrimite™, applied every two weeks, its population grows explosively.

They prove to be a highly efficient predator of thrips and whitefly, which makes them ideally suitable for crops with low pest tolerance. Moreover, they are highly mobile and active

### Dyna-Mite® G-System is now available



### Biobest's Dyna-Mite® strategy: the two pillars

Dyna-Mite® G-System

(*Euseius gallicus*)\*

New  
predatory mite

+

Nutrimite™

Food supplement for  
predatory mites

- *Euseius gallicus*
- Delivered per 10.000 mites in 1L sprinkler tubes with vermiculite
- Use in combination with Nutrimite™ at 500g/ha every two weeks
- Use only compatible chemical crop protection products
- Commercially available in the Netherlands, France and Belgium (additional countries under preparation)
- Contact your Biobest representative or distributor for specific release schemes



\* Check with Biobest if *Euseius gallicus* is authorized in your country

# Biobest wins gold in Trends' Sustainable Management Award 2013



Biobest has been awarded the first prize for sustainable management in the annual corporate competition by Belgian Business magazine Trends. That does not only confirm the superb quality of Biobest biological products and matching service.

CEO Jean-Marc Vandoorne: "Sustainable management goes well beyond offering sustainable products. The jury also took into account that we deliver consistent growth and looked at a broad range of other parameters. We clearly convinced them that Biobest is well prepared to further develop its worldwide activities in the years to come."

**Visit our booth  
@ Fruit Logistica - Berlin**



## Colofon

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