

Bio.Bulletin

Spidermite control with Biobolo® Veggie deadly efficient

Robert van Zeijl: "2,5 h per hectare, scouting and distribution at once. On my own!"



quick to adopt and use the Biobolo® Veggie for spider mite control.

Phytoseiulus vs Tetranychus: 1-0

"Spider mite is a pest that you can see coming every year, again and again." van Zeijl speaks from experience. "Thanks to the introduction of Phytoseiulus-System you can get the pest population under control, if you act promptly. But this takes up a lot of time! Count on one day per hectare, if you want to do it well. That's why I asked Nic.Sosef if an automatic solution would be possible. And indeed it is!"

Our job is to make your job easier ...

On request of van Zeijl and other vegetable growers, Nic.Sosef and Biobest have set up a program to adapt the Biobolo® to vegetable crops. With the Biobolo® Veggie we found a solution that is effective and efficient and practical. Even for tall crops such as sweet pepper. The system can be

Orange fever

"The orange sweet pepper normally brings in a better price per kilo, compared to the red and green ones. But yield is lower and you are more bound by picking times." At 73 000 m² of growing area, Robert van Zeijl is one of the main growers of orange sweet pepper in the Netherlands. Three years after an expansion and modernization, the company is in great shape.

The company, located at Harteveldlaan in Honselersdijk, radiates professionalism. Automatisations where possible, human expertise where desired. This manifests itself in for instance, a robotic transport and sorting system, and a fully automatic spraying robot. They were

BIOBEST RESEARCH: YOUR KEY TO SUCCESSFUL ICM!

The new Biobolo® Veggie is a big step forward in the use of predatory mites for your ICM program.

Soon, Biobest will release its new predatory mite-dispensing system. Following the success of the Biobolo® in ornamentals, Biobest cooperated with Nic.Sosef to adapt the system for vegetable production.

The result, Biobolo® Veggie, is undergoing severe pre-production testing, both in our laboratories and in real production facilities. Preliminary results show clearly that the great advantages of Biobolo® in ornamentals will be similar in vegetables:

- Optimal and uniform distribution of mites in the crops
- Very high survival rates
- fast distribution, less work

The new Biobolo® Veggie will hit the counters very soon, in the months to come. If you want to know more, visit www.biobolo.com.



Bio-Bulletin is published by
Biobest Biological Systems
Ilse Velden 18 - B - 2260 Westerlo
tel.: + 32 14 25.79.80
fax: +32 14 25.79.82
info@biobest.be
www.biobest.be



installed on any spraying robot or electric cart. The grower only needs to refill with predatory mites, and the robotic Biobolo® Veggie does all the rest.

But the Biobolo® Veggie is also effective against hot-spots. "I installed the Biobolo® on the electric cart. I scout at regular times, and in case of hot-spots I introduce locally. The Biobolo® remains turning in the mixing mode. When I notice an infestation, I turn it and the Phyto's are distributed where I want them."

Gaining time + good distribution

"With the Biobolo® on the electric cart I count on 2.5 hours per hectare. On my own. That is of course a lot faster. I

ride into a pathway and sprinkle at one side of the row. At the end of the row I turn back the Biobolo® and I sprinkle the next row. And so I only need to ride in every other pathway. And I can cross the concrete path without dismounting from the cart."

Choosing the Biobolo® Veggie is a choice for uniform distribution. The predatory mites do not stick together in the upper part of the carrier. Therefore, the proportion of mites in the carrier remains unchanged."

Professional advice

"At a beginning infestation, I introduce 2 Phyto's per square meter. In case of fewer, smaller infestations, I introduce

locally. If a pest increases, I raise up to 5 predatory mites per square meter. Or even more. But then I first consult the advisors of Biobest/ Nic.Sosef. And then we also start with strategic introductions. Once it starts, you need to act promptly. In that case I install the Biobolo on the spraying robot, which does all the rest." says van Zeijl. ■



Biobest symposium Morocco: Advice across the Mediterranean



Last May 5-6, 2009, Biobest Morocco hosted a symposium on "Advances in biological and integrated crop protection in the Mediterranean area".

Growing importance

In Morocco, the production of early vegetables is growing in economic and social importance. It is a strong locomotive of technological progress and productivity increase in the whole agricultural sector. At the same time it is very research- and technology-driven. This is especially true in the field of crop protection. This is one of the reasons

why Biobest Morocco & Biobest Belgium decided to organize this specific seminar.

Healthy crops, healthy companies

In Morocco, as in most parts of the world, growers are increasingly eager to start an integrated crop protection scheme. The reasons for this choice are plentiful:

- Maximum residue limits (MRL) are getting stricter, both because of government regulations and demands from consumers/ large dis-

tribution groups/ supermarkets.

- The growing problem of resistance to an increasing number of chemical agents.
- The prohibition of certain chemicals by national authorities.
- A stronger stress on protection of employees' health and environmental issues
- No re-entry intervals. Especially in vegetables, the fact that biocontrol actions can be carried out at any stage of the production process is a great economic advantage.
- With IPM, there are no phytotoxic effects on young plants, with less premature abortion of flowers and fruit.
- Integrated control provides a proactive approach which is easier to plan in comparison to a reactive chemical strategy. This also proves beneficial on budget- and time-planning.

Knowledge is key

The choice pro IPM may be straightforward, but the implementation of an effective scheme is a question of careful research and planning. This is where the focus on advice from Biobest jumps out. Research and the proliferation of our knowledge has always been a key factor in our company, and it is especially in this field that we can assist in our customers' success.

During the symposium, different specialists from inside our company, our distributors and the academic world presented their views and conclusions on integrated crop protection in Morocco and the broader Mediterranean area. The climates and the crops over the region show a lot of similarities. And so the experience of e.g. tomato growers in Spain proves to be very beneficial to their colleagues in Morocco.

Topics and trends

The two-day symposium brought a lot of new and useful information to the different participants and especially the Moroccan growers. Some of the interesting topics included:

- Comparisons between the different countries in the western Mediterranean area.
- A clear “state of the business”, including very interesting views on new trends and techniques
- Talks on side-effects of plant protection products to beneficial arthropods
- The effects of fungicides on entomopathogenic fungi
- Visits to IPM-controlled tomato and sweet pepper greenhouses
- The tomato leafminer, *Tuta absoluta*, a new threat
- Current problems and solutions in the field of pest resistance to pesticides
- Conservation of mirid bugs for biological control in greenhouse tomato
- Control of soil-borne pathogens in organic tomato



Conclusions

In vegetable-production in Morocco, IPM will likely take a center stage in the years to come. A great number of new strategies and products are being introduced to help combat the

different pests that Moroccan growers are faced with. This will help them to achieve the high standards that their customers expect.

For more information on this symposium, please visit our website. ■

Biological crop protection in Ornamental Greenhouses in North America



In the last few years, biological control has increasingly become a part of the overall pest management strategies in North America’s ornamental greenhouse production. Growers are looking for alternatives because existing strategy with traditional pesticides are failing to control pest problems. Not many new pesticides are coming down the pipeline and also registration of new product is difficult. Preserving of the pesticides that still work by using other tools in pest management can help to reduce resistance development. In this first article of

a series of three on biological pest control in ornamental production in North America, we are highlighting the strategy at Bevo Farms in Langley, British Columbia, Canada.

Introduction

BEVO Farms Inc. is North America’s largest propagator of vegetable plants with a total 34 acres of state of the art facilities in Langley, British Columbia. (www.bevo farms.com) Founded by Mr. Jack Benne in the late '80, BEVO

Farms grew to the existing size together with the growth of their customers, the greenhouse vegetable growers of British Columbia, Alberta, US and beyond. They did this also by setting high quality standards on all their products. The current day-to-day business is with Leo Benne, Jack's son, and his team of highly trained professionals. However, Jack is still often found in the greenhouse talking with the staff and looking at the crops that are grown.

Pest management and Biological Control at BEVO Farms

BEVO Farms has been familiar with Biological Control for many years, as their core business originates in the greenhouse vegetable industry. As a propagator of young vegetable plants, the definition of a 'clean' plant is very well known since the early start of BEVO Farms. Greenhouse vegetable growers have been using biological control as their core pest management program for decades and a clean plant means a plant that is free of pest and diseases at delivery, but also doesn't have any hard long-term residue pesticides that could harm the bio-control input after planting out at the customer's greenhouse. BEVO has been successfully using a pest management strategy including biological control agents and where necessary only IPM compatible pesticides for many years already in their vegetable propagation season.

Having experience with biological control agents in the vegetable propagation already, BEVO is now expanding the use and implementation of biological

control in their other crop seasons. Traditionally, working with extreme low tolerance levels in ornamental bedding plant production and poinsettia production, pest management consisted regular pesticide applications, with again short residual pesticides in order not to create trouble with the vegetable propagation season. However, with the increase of bio-control agents available today, the knowledge base, and all the experience that BEVO already has with the use of BCA's, it is an excellent opportunity and logical step to include BCA's in BEVO's ornamental season pest management strategy.

Poinsettia and spring bedding plant season

In 2007 BEVO Farms decided to start their poinsettia season with the input of biological control agents. Being informed of the work that Mr. Graeme Murphy, IPM specialist with the Ontario Ministry of Agriculture and Rural Affairs, had done in previous years, BEVO and Biobest, together with their distributor The Bug Factory, set up a strategy based on each stage of the poinsettia crop cycle. *Encarsia formosa* and *Eretmocerus mundus* for whitefly control were released on a weekly basis from very early on in the crop. *Hypoaspis miles* and *Atheta coriaria* were released once after transplanting for fungus gnat and shore fly control. BEVO's poinsettia season in both 2007 and 2008 were concluded with great success of producing high quality clean poinsettia plants for their customers. BEVO's 2009 poinsettia season is off on a great start and repeating their success

of the previous 2 seasons. BEVO Farms also is expanding and optimizing their strategy for the bedding plant season. Implementation of biological control in the bedding plant season has already become a part of the pest management strategy. New techniques with banker and trap plants are explored to improve the overall strategy.

Experienced staff and a solid strategy: The key to success

BEVO's growing staff has lots of experience with pest management and in particular also the different biological control agents that are used at BEVO. They have been active in the industry for many years and understand the necessity of a pro-active approach and solid monitoring procedures. In the regular contact with Biobest's and Bug Factory's bio-control and IPM specialists, BEVO's growing team is kept up-to-date with the latest information as well as keeping the current pest management strategy up-to-date. This leads to producing clean plants. The results:

- High quality poinsettia and bedding plants, ready for retail and creating a positive experience with the consumer.
- High quality clean vegetable plants for the vegetable growers, ready to start a successful biological control program in their greenhouse.

Biobest wishes BEVO Farms continued success with their pest management strategies in both vegetables and ornamental production. ■



Colofon

Bio.Bulletin is published by Biobest N.V. The publisher and authors declare that they have compiled this document carefully and to the best of their knowledge. However, no warranty or representation is made to the accuracy or completeness of the information contained in this document. The publisher and authors assume no liability whatsoever for any damage resulting from the use of this document or its contents.

Person responsible for Bio.Bulletin
Kris Fivez