

# Global need for product technical support in the biocontrol industry

Andrew P. Brown, Sarah J. Anderson and  
Mark Howieson

**BECKER** : : : :  
**UNDERWOOD**  
*Inventing the Future*

# Presentation overview

- Introduction to the Becker Underwood product range
- Investment required to maintain staff
- Why is technical support required?
- Influential factors in determining efficacy and reliability of biocontrols?
- Case studies:
  - Nemasys G (*Heterorhabditis bacteriophora*) against garden chafer (*Phylopertha horticola*) in grazing pasture.
  - Nemasys (*Steinernema feltiae*) against western flower thrips (*Frankliniella occidentalis*) in ornamental flowers.
  - Green Guard (*Metarhizium anisopliae*) against locusts.
- Conclusions – forms of technical support

# Introduction to Becker Underwood products



Becker Underwood sells products into more than 50 countries from ten locations located in seven countries on five continents (headquarters in Ames, IA).



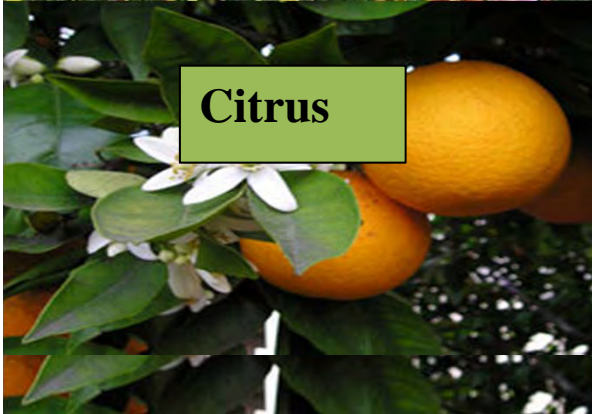
**Protected crops**



**Mushrooms**



**Top Fruit**



**Citrus**



**Vegetables**



**Speciality**



**Turf & Amenity**



**Forestry**

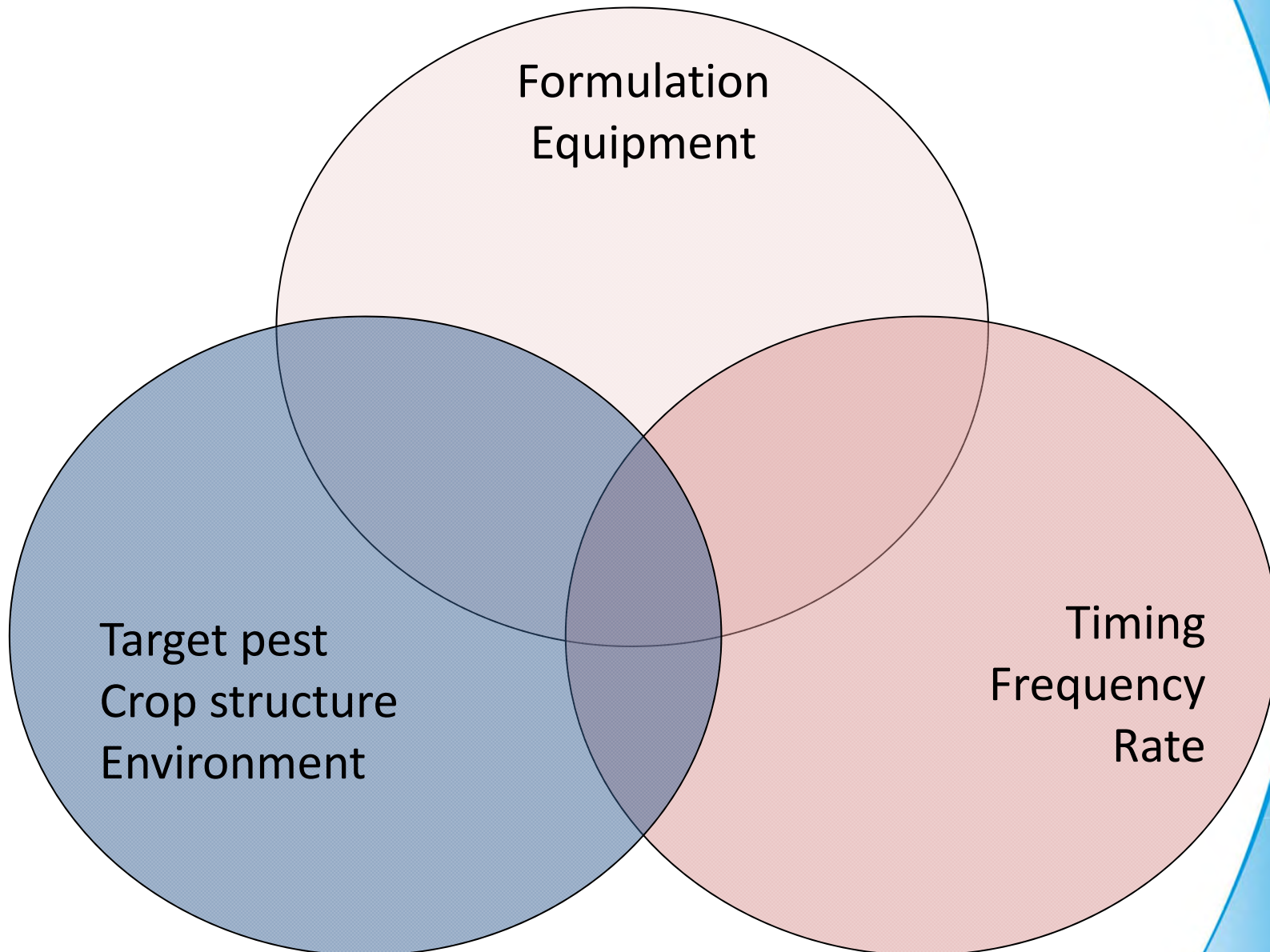


**Home & Garden**

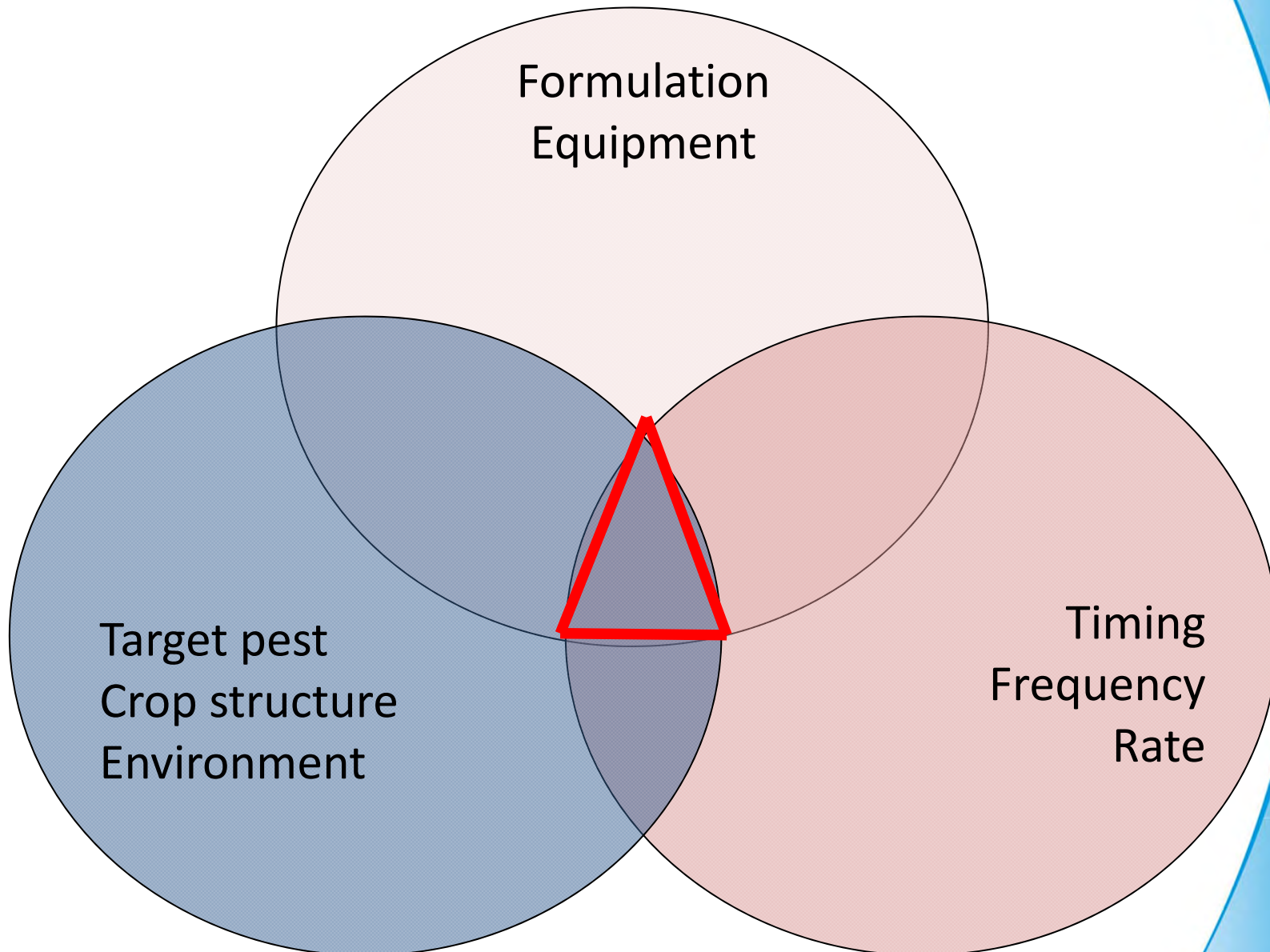
# Why the need for technical support?

- The vast majority of cases of lower than expected levels of pest control are due to product poor application.
- Relatively new technology.
- Fear of the unknown from growers.
- Higher level of knowledge required by growers for using living organisms.
- End users quick to blame and disregard biocontrol after bad result.
- Use of living organisms introduces a lot more variables to a pest control system so giving potentially more variable effect.

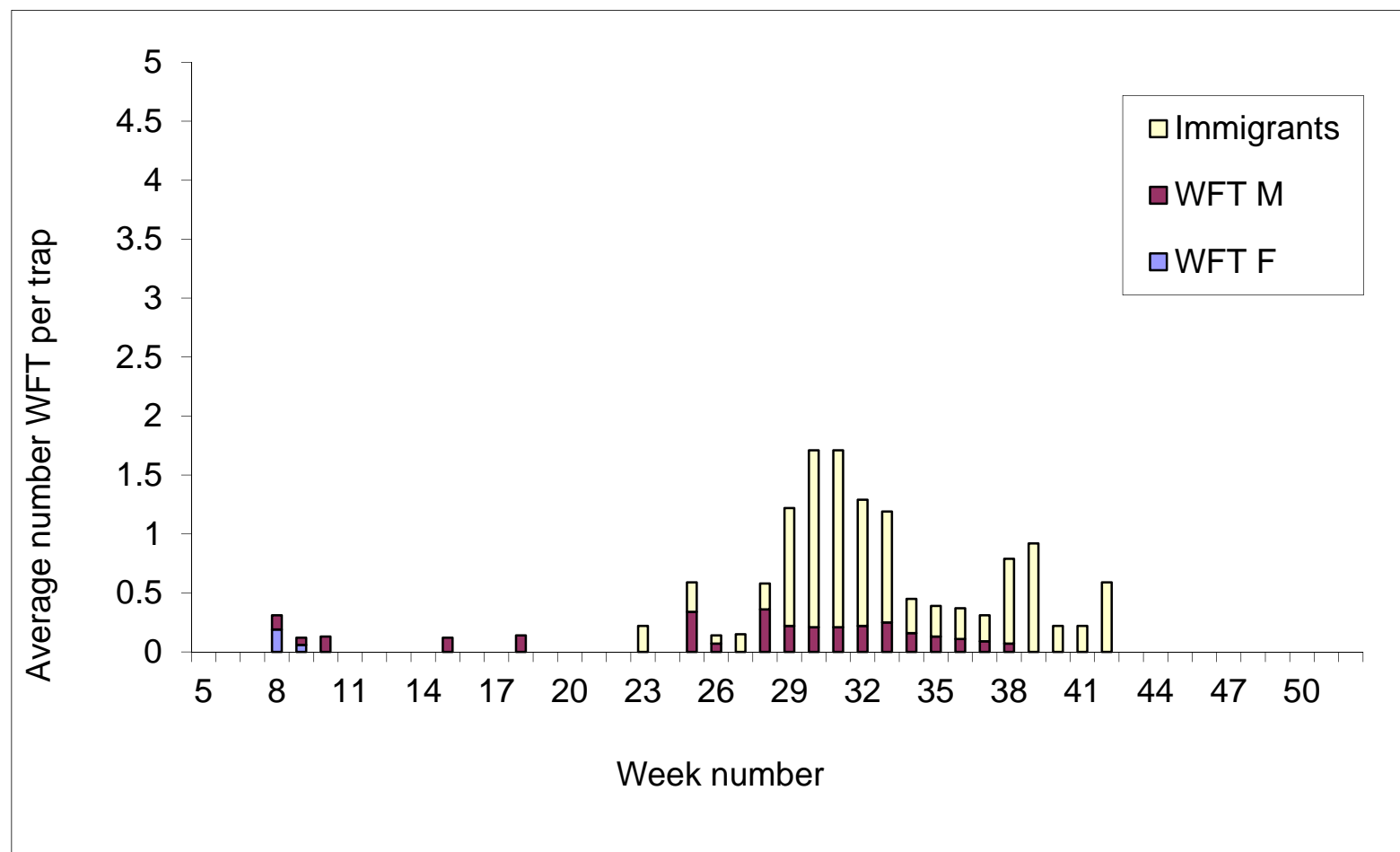
# Influential factors affecting efficacy



# Influential factors affecting efficacy



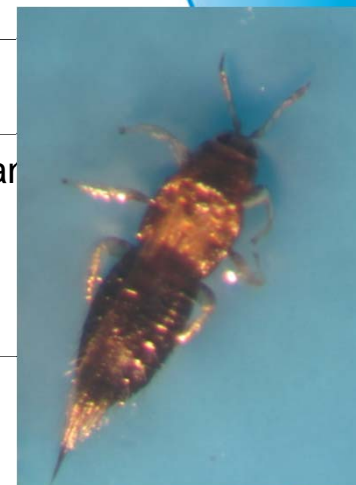
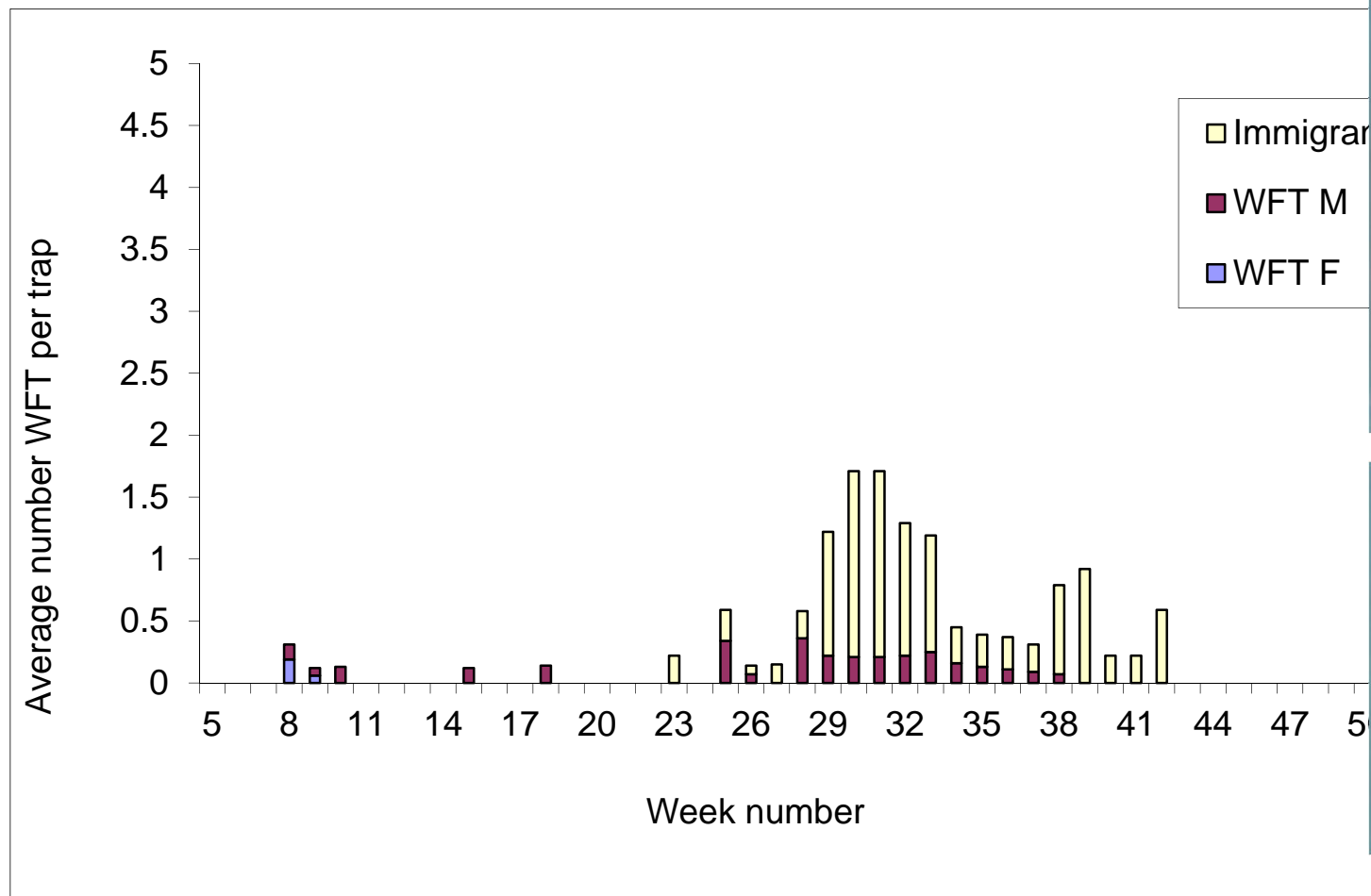
## Case study 1: WFT in cut chrysanthemum



As part of a biocontrol program the grower is monitoring the crop. Week 29 the grower has a sudden increase in number of thrips caught.



# Case study 1: WFT in cut chrysanthemum



Examination of the species on the sticky trap shows they are not WFT.  
An effect of using a more specific biocontrol product.

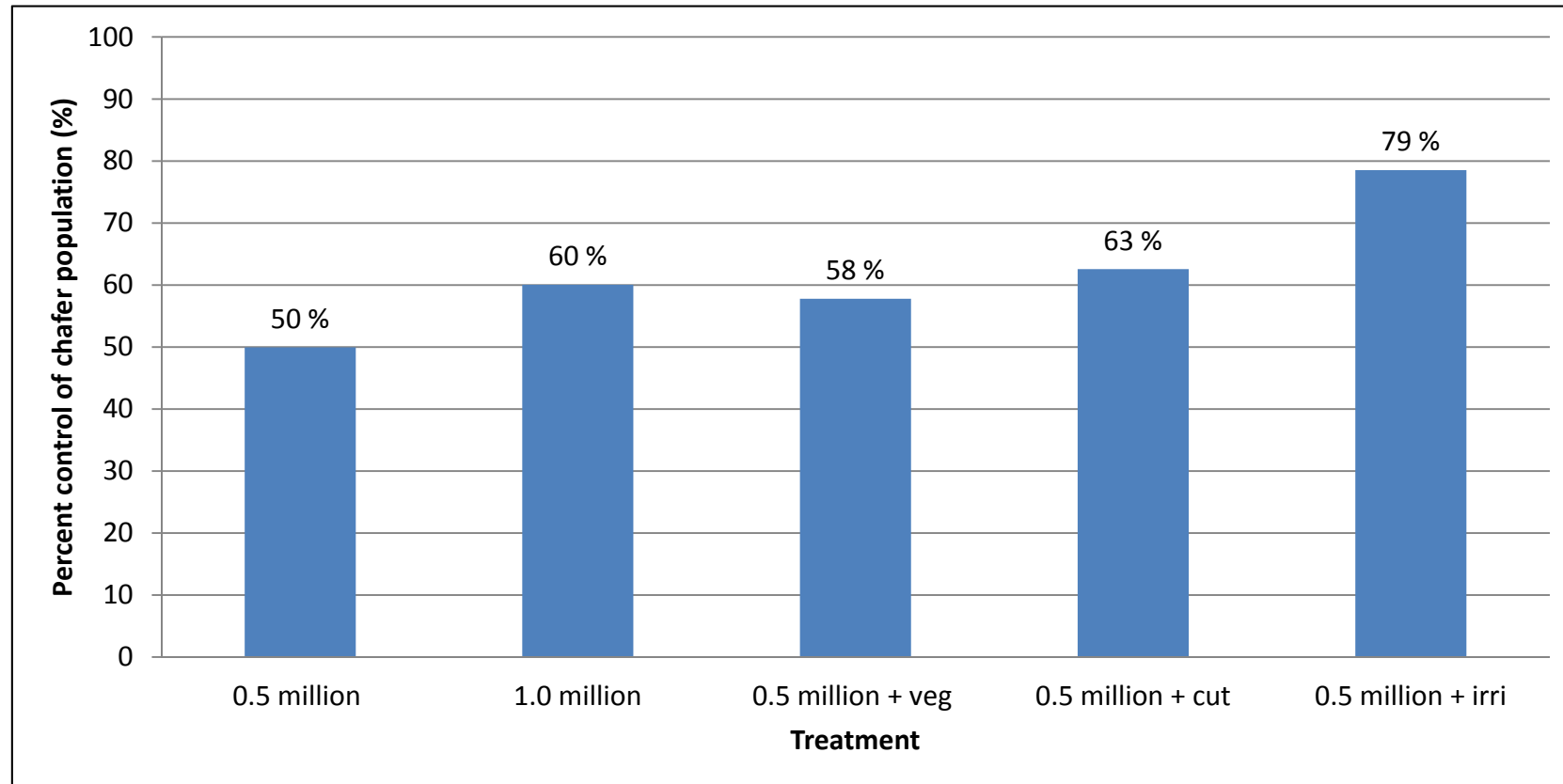
# Case study 2: Nemasy's G against turf chafers



## Case study 2: Nemasys G against turf chafers

Grazing pasture is not the traditional market for Nemasys G.

Technical support was offered to the customer to demonstrate product efficacy.



Manipulating the environment and application resulted in up to 58% improvement in efficacy.

Altering the application was as effective as doubling the dose of Nemasys G.

# Case study 4: Green Guard against locusts

Use of Green Guard (*Metarhizium anisopliae*) to control locusts and grasshoppers.

- Concerns from the user that it had not worked after 2-3 days.
  - Depending on temperature insect death takes 7-21 days – feeding stops before this.
  - Variation in time to control due to biological activity of living organism.



# Forms of technical support

- Must be understandable by the target audience
- Website – easily accessible, quick to update.

**Nemasys<sup>®</sup>Pro**

language

BECKER : : : :  
UNDERWOOD  
Smarter the Future

Products Pests Quality About Contact Home search : SEARCH

**Nemasys<sup>®</sup>Pro**  
Welcome to our new website aimed to support the professional users of the Nemasys and Nemaslug beneficial nematode products...

**Nemasys L**  
Why take the risk of ineffective vine weevil control?

**Nemasys C**  
76% reduction in pest damage and an increase yield of 13.4

**Nemasys Pro**

Nemasys<sup>®</sup>Pro is the dedicated website for Nemasys<sup>®</sup> and Nemaslug<sup>®</sup> brands of beneficial nematodes produced by Becker Underwood and distributed in Europe.

The Nemasys<sup>®</sup>Pro website is for our professional users, for information on our products for amateur use in the home and garden market please visit our website [www.nemasysinfo.com](http://www.nemasysinfo.com)

Becker Underwood is the world's largest producer of **beneficial nematodes**, on this website you can find all the information to help you chose the best product to control your pest problems, find detailed information on the pest and when and how to make the most effective applications.

Nemasys<sup>®</sup>Pro will be updated regularly with the latest information on our products please check the site frequently for the latest updates or sign up for our newsletter.

**NEMASYS NAVIGATOR**

Please select ...

**AMATEUR GARDENER?**

NemasysPro.co.uk contains advice and products for **commercial growers** and gardeners, if you are a **home/amateur** or **allotment gardener** please visit [www.nemasysinfo.com/](http://www.nemasysinfo.com/)



Please select a region...  

Please remember my settings

ISO 9001 REGISTERED

### Beneficial Nematodes®

- Nemasys® - Fungus Gnat & WFT
- Nemasys® M - Mushroom Sciarids
- Nemasys® L - Vine Weevil
- Nemasys® G - Chafer Grub
- Nemasys® C
- Nemaslug® - Slug
- Chemical Compatibility Guide [125KB]
- Products for Homeowner Use

### Beneficial Nematodes



Becker Underwood is the world leading manufacturer of bio-control products used in many sectors

Navigation bar of Windows Internet Explorer showing the URL: [http://www.beckerunderwood.com/library/Nematodes\\_Chemical\\_Compatibilty\\_05%2007%202008.pdf](http://www.beckerunderwood.com/library/Nematodes_Chemical_Compatibilty_05%2007%202008.pdf). The interface includes standard browser controls like back, forward, and search, as well as a toolbar with icons for printing, zooming (set to 220%), and finding.



## CHEMICAL COMPAT

		<i>Steinernema feltiae</i> (Nemasys F, Nemasys, Nemasys M)		<i>Steinernema carpocapsae</i> (Millenium, Nematac C)	
		Tank mix	Spray interval	Tank mix	Spray interval
<b>FUNGICIDES</b>					
anilazine	Dyrene	--		x	7
azoxystrobin	Amistar/Abound	✓		--	
<i>Bacillus subtilis</i>	Serenade	✓		--	
benomyl	Benlate	✓		--	
boscalid/pyraclostrobin	Signum	✓		--	
bupirimate	Nimrod	✓		--	
chlorothalonil	Bravo/Daconil/Repulse	✓		--	
cinnamaldehyde	Cinnamate	x		--	
copper hydroxide		✓		--	



# Forms of technical support

- Must be understandable by the target audience
  - Website – easily accessible, quick to update.
  - Email connection – to answer immediate problems.

Untitled

Message Insert Options Format Text

Cut Copy Paste Format Painter Clipboard

11 A A

B I U ab A

Address Book Check Names Attach File Attach Item

Send

To... andrew.brown@beckerunderwood.com

Cc...

Account Subject: New pest - black headed fly

Hi Andy,

I have an urgent question for you.  
I have some Begonias and they are being eaten by this fly that I have not seen before, Black he  
Do you know if Nemays will kill it?

Please help.

Jorge,

# Forms of technical support

- Must be understandable by the target audience
  - Website – easily accessible, quick to update.
  - Email connection – to answer immediate problems.
  - Circulating Technical Notes on current issues/recent trials.

# Forms of technical support: Technical notes

Technical knowledge allows off-label recommendations for specific situations, for example monthly programs in Portugal

Technical note (F19)



## Monthly applications of Nemasys<sup>®</sup> P to control RPW

### Introduction

The red palm weevil (*Rhynchophorus ferrugineus*) (RPW) is a destructive pest of more than 20 different species of palms. In the Mediterranean region the most destruction is seen on ornamental canary date palms (*Phoenix canariensis*). Hundreds of RPW can be found feeding on one palm. Unless the pest is controlled early in the infestation a palm may not recover from the damage. Once the feeding larvae have attacked the palm meristem (the point from where the palm grows) in the crown, the palm is unable to grow.

### Use Guidelines: Crown drench

**Product:** Nemasys P (*Steinernema carpocapsae*)

**Nematode application rate:** 17 million nematodes/palm

**Application Volume:** Minimum 20 l/palm

**Application regularity:** Every 4 weeks

**Application conditions:**

- Nemasys P is applied as a crown drench to the growing point of the palm.
- Palms smaller than 2m can have water volume reduced, but require the same number

# Forms of technical support

- Must be understandable by the target audience
  - Website – easily accessible, quick to update.
  - Email connection – to answer immediate problems.
  - Circulating Technical Notes on current issues/recent trials.
  - Site visits



# Forms of technical support

- Must be understandable by the target audience
  - Website – easily accessible, quick to update.
  - Email connection – to answer immediate problems.
  - Circulating Technical Notes on current issues/recent trials.

- Site visits



- Online networks:

- Facebook
- Twitter
- YouTube
- Blogging



# Acknowledgments

- David Cary – Session organizer
- IBMA – conference organiser

Assistance given by Becker Underwood distributors and growers, without whom trials for continuous improvement of biocontrol would not be possible



# Global need for product technical support in the biocontrol industry

Andrew P. Brown, Sarah J. Anderson and  
Mark Howieson

[andrew.brown@beckerunderwood.com](mailto:andrew.brown@beckerunderwood.com)  
[requests@beckerunderwood.com](mailto:requests@beckerunderwood.com)