

IPM Implementations in Greenhouses in Turkey

Çağlar Çiftçi

Marketing Manager

Biobest Antalya

Agricultural Engineer, MBA

Colloquium on The
Use of Biological
Control Agents in
Protected
Cultivation



28 September 2017
Antalya, Turkey



-  **Biobest is a worldwide authority in pollination and biological pest control for protected crops and is developing solutions for the open field.**
-  **Biobest and their partners are committed to help growers to reach their economic and ecological goals.**
-  **We do so by providing sound, effective advice and cost-effective products.**
-  **Biobest is a value-driven company in which trustworthiness and nature are important assets.**



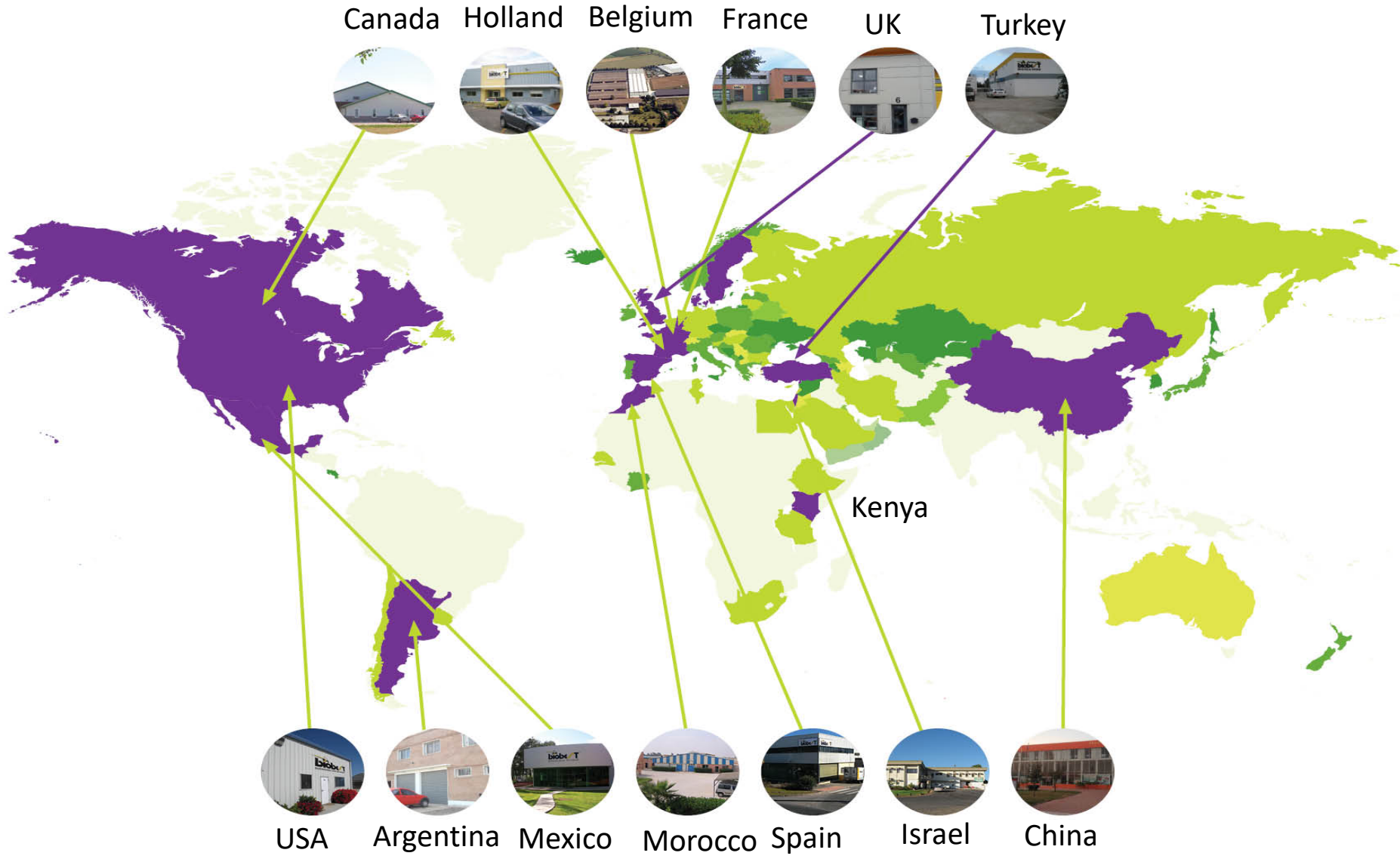
Our Activities

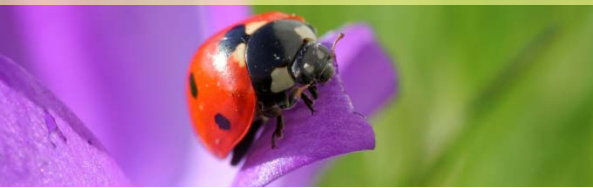
- 🐝 **Production and marketing of beneficial organisms for integrated and biological control**
- 🐝 **Production and marketing of bumblebees for natural pollination**
- 🐝 **Marketing of biopesticides**
- 🐝 **Marketing of monitoring systems**
- 🐝 **Biobest Green-lab (side effect trials)**












Biobest Worldwide

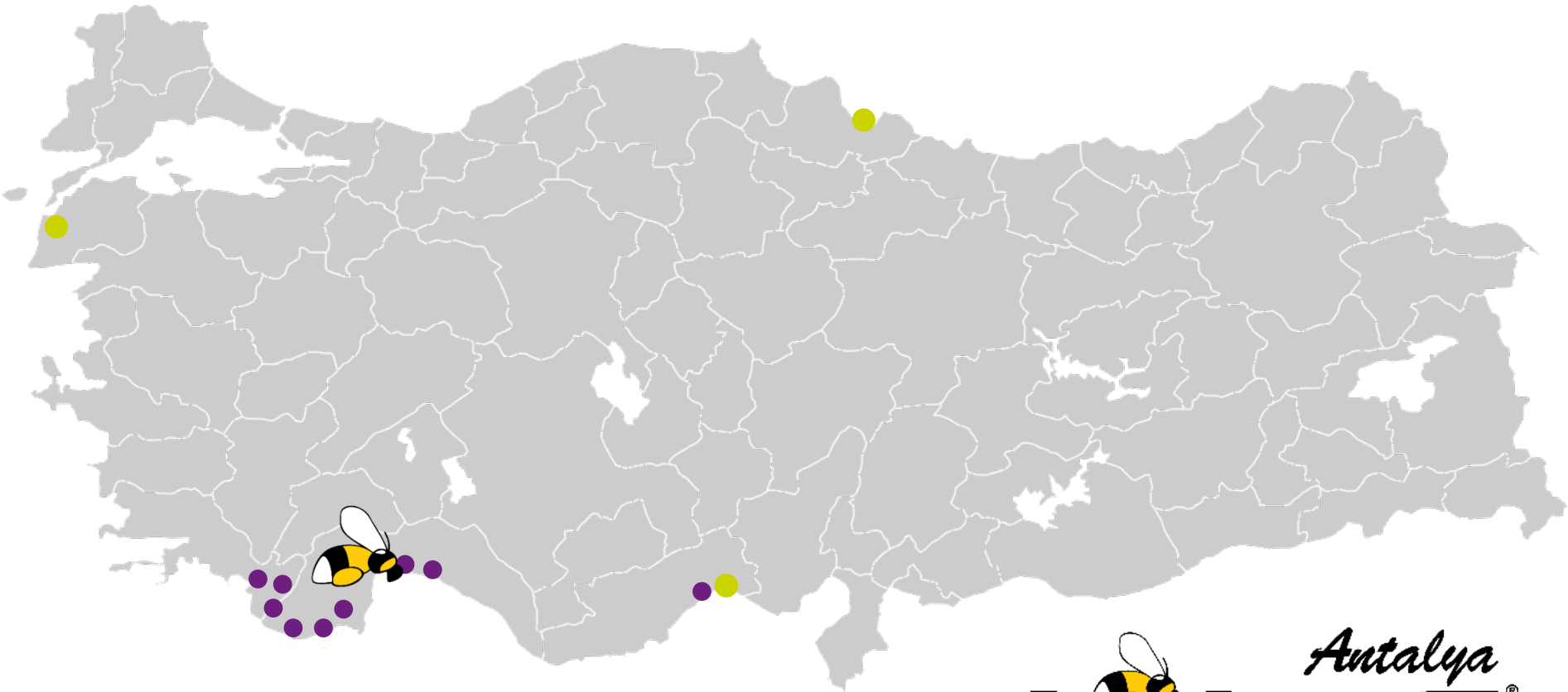




-  **20 years of experience in the market**
-  **Producing bumblebee colonies for Turkish and foreign markets**
-  **1 million queen production for global demand**
-  **Producing beneficial insects**
-  **Technical Support to Growers by 21 Technical Specialists**
-  **Sticky Traps & Pheromones**
-  **100 employees**



Biobest Antalya



 Headquarter & Production

● Branch Offices

● Distributors



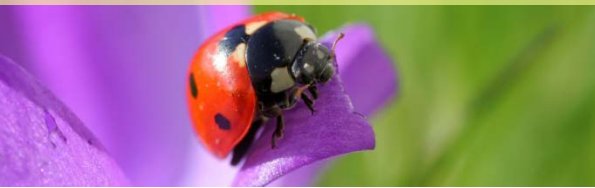


Greenhouse Surfaces in Turkey (ha)

	Turkey	Antalya
Tomato	25.773	16.984
Sweet Pepper	7.067	3.104
Eggplant	3.037	1.409
Cucumber	7.700	3.927
Resource= Turkish Stastical Institute	43.576	25.423

Average Greenhouse Surface : 2.326 m² = 0,23 ha

Surface per Grower : 5.771 m² = 0,58 ha



IPM Implemented Crops in GH



Tomato



Sweet Pepper



Eggplant



Cucumber

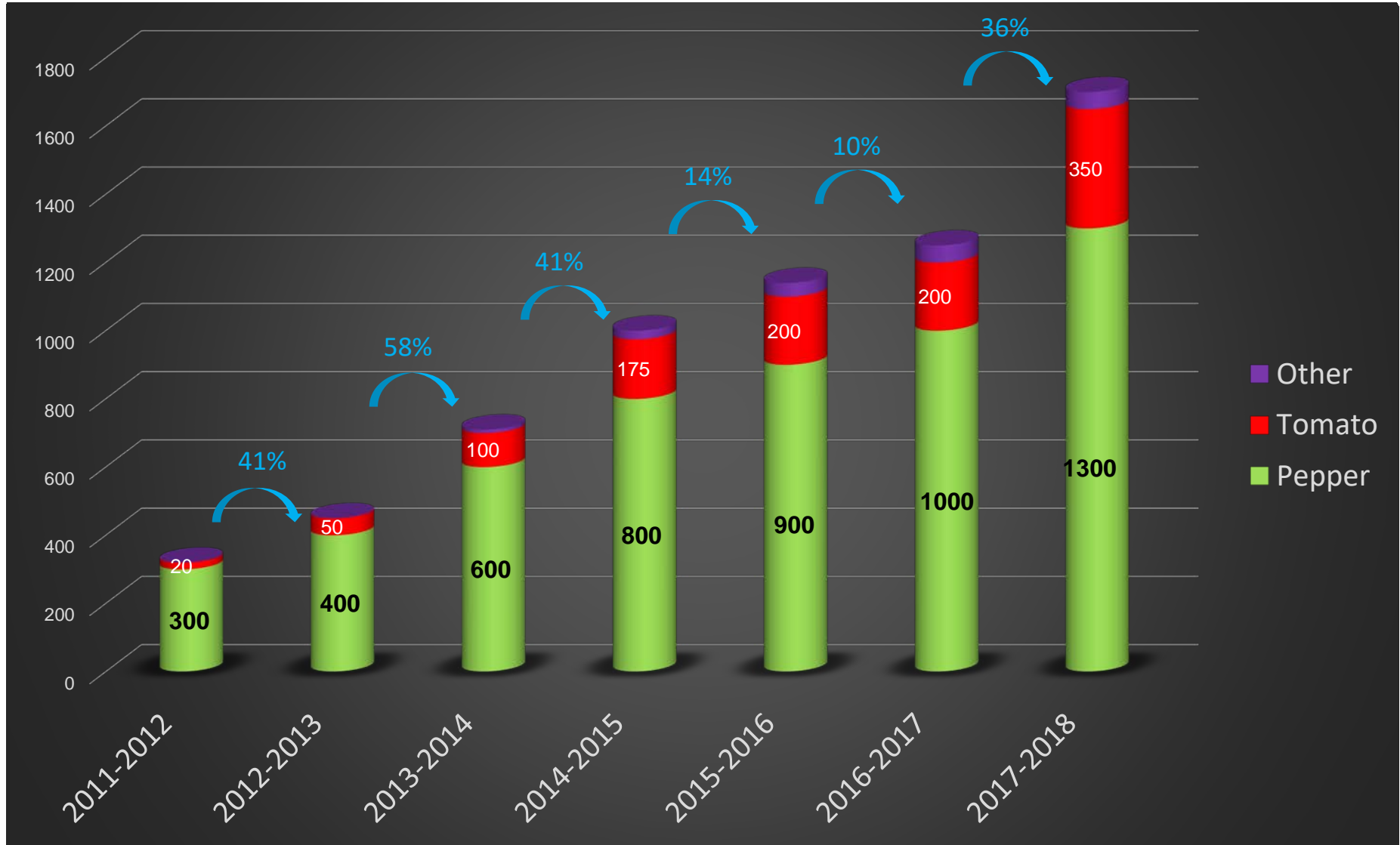


Strawberry

Melon, Rose, Squash



IPM Implemented GH Surfaces (ha)





Ministry Subsidy in IPM

***Ministry Subsidy for Growers
introducing biological control agents
in greenhouses***

3500 TL / ha = 853 €

***Ministry Subsidy for Growers
using sticky traps & pheromones
in greenhouses***

1100 TL / ha = 268 €



Natural Pollination



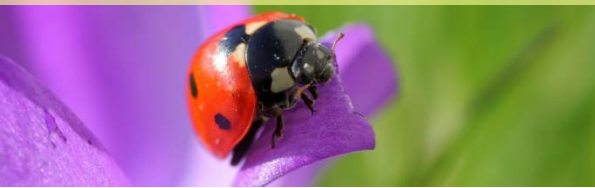
**Hormones
Prohibited!**



White Fly Control

Bemisia tabaci, *Trialeurodes vaporariorum*





White Fly Control



Nesidiocoris tenuis

Crops: Tomato, Eggplant



Amblyseius swirskii

Crops: Sweet Pepper, Eggplant
Cucumber



Tuta absoluta Control



Tuta absoluta



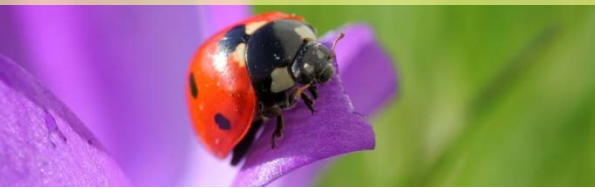


Tuta absoluta Control



Nesidiocoris tenuis

Crops: Tomato



Thrips Control





Thrips Control

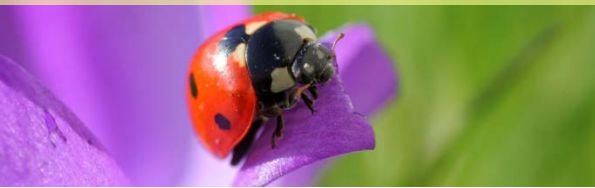


Amblyseius swirskii



Orius laevigatus

Crops: Sweet Pepper, Eggplant, Cucumber, Strawberry



Spider Mite Control





Spider Mite Control



Phytoseiulus persimilis

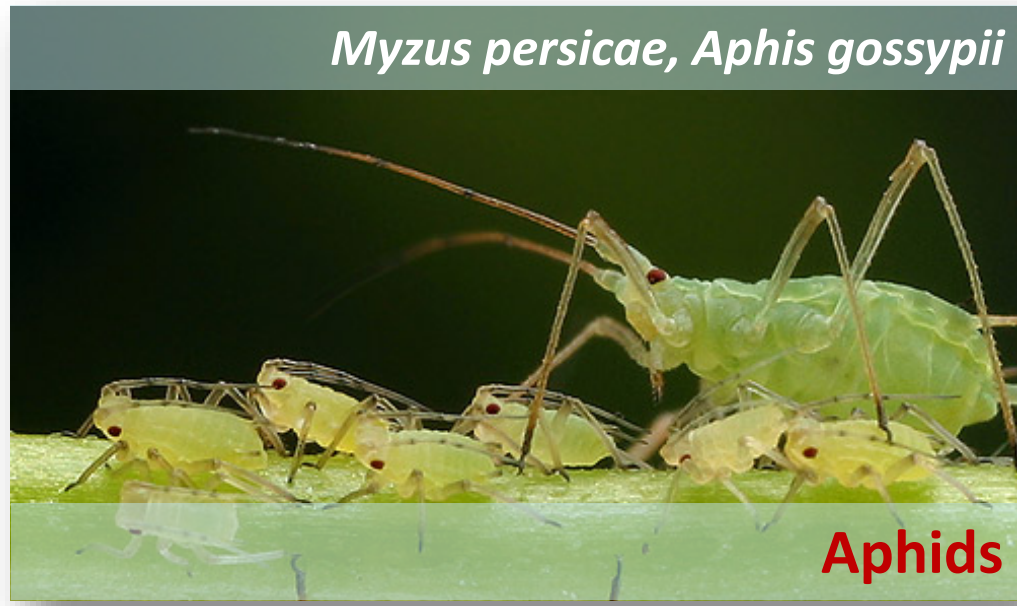


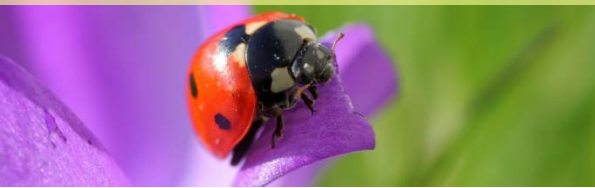
Amblyseius californicus

Crops: Sweet Pepper, Eggplant, Cucumber, Strawberry



Aphid Control





Aphid Control



Aphidius colemani



Aphidoletes aphidimyza

Crops: Sweet Pepper, Eggplant, Cucumber, Strawberry

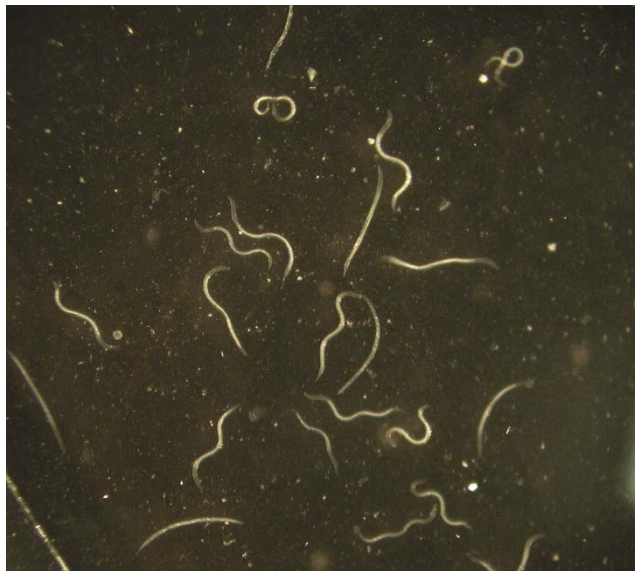


IPM on Mushroom

Sciaridae



Sciarid Fly



Steinernema feltiae



Hypoaspis miles



Under registration



Sticky Traps

A yellow sticky trap with a grid of dashed lines. It is covered with small, dark insects.

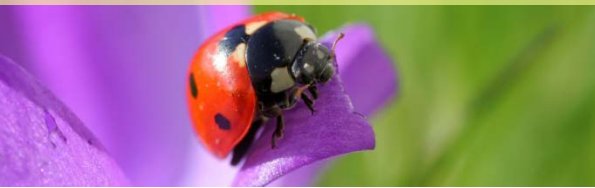
Aphids
Leaf hoppers
Mirids
Sciarids
Leaf miner
Thrips
Whiteflies
...

A blue sticky trap with a grid of dashed lines. It is covered with small, dark insects.

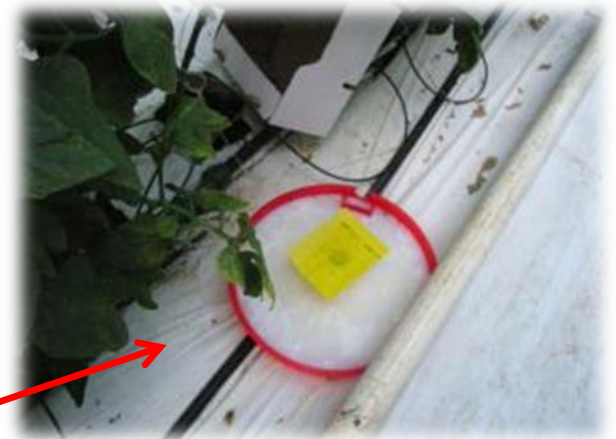
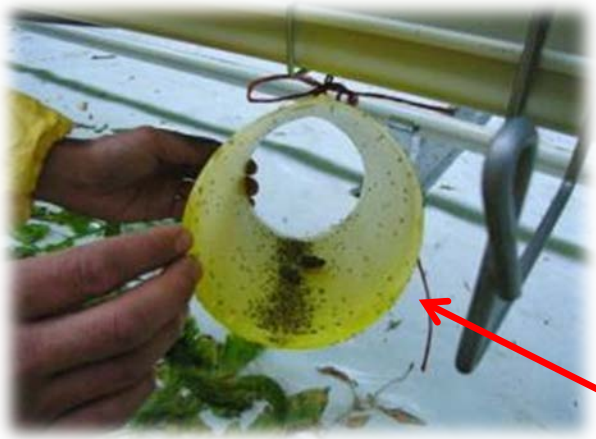
Thrips
Sciarids
Mirids
Shore fly (Scatella)
...

A black sticky trap with a grid of dashed lines. It is covered with a dense layer of small, dark insects.

Tuta absoluta



Pheromone traps





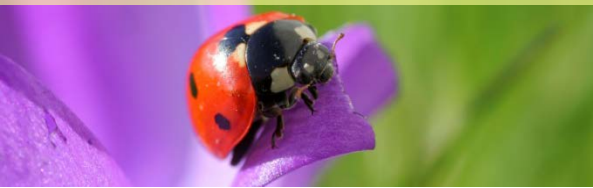
Technical Support





Grower Meetings & Field Days





Turkish Growers' Opinion about IPM



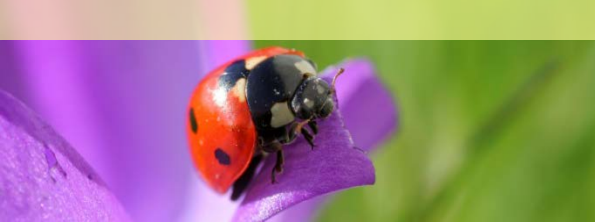
- ✓ Healthy production
- ✓ Export possibilities
- ✓ Pests' immunity on chemicals
- ✓ Time&labour saving





Exhibitions & Fairs





IPM Certificates

CERTIFICATE

BIOLOGICAL CONTROL CERTIFICATE

In 2017 agricultural production season;
on 2 hectares of production greenhouses located in AFYON / SANDIKLI owned by CAMSER TAR. GIDA HAY. İNŞ. TAH. İHR. İTH. İML. SAN. TİC. LTD. ŞTİ., biological control applications within the context of Integrated Pest Management are executed by BİOBEST ANTALYA A.Ş.



BİOBEST ANTALYA A.Ş.

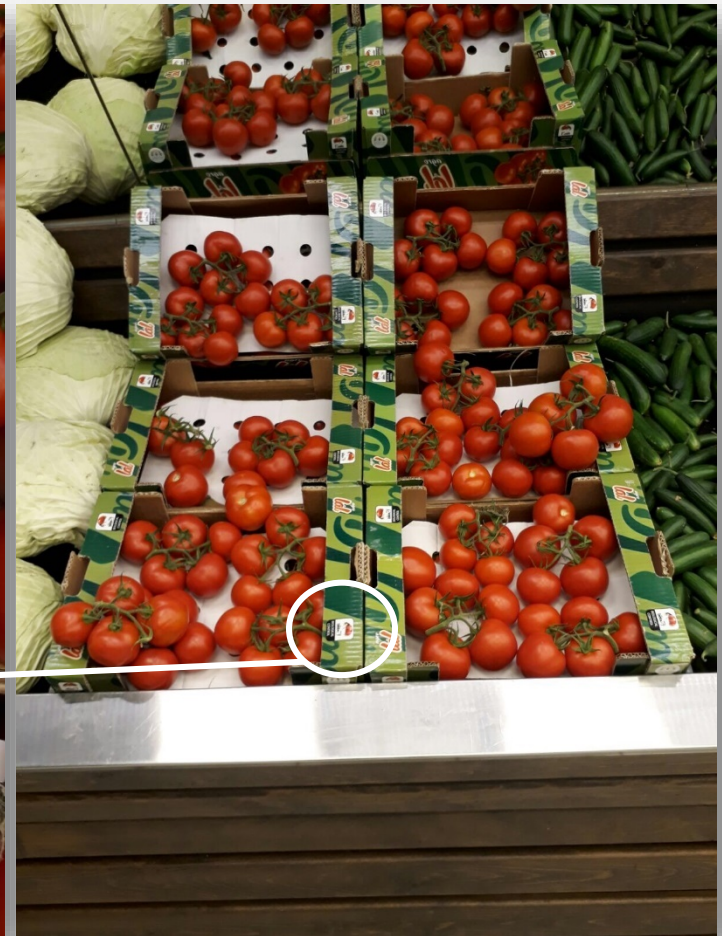
02.Jan.2017

Consumer Marketing





Consumer Marketing



Side Effects E-Manual



Yan Etkiler Kılavuzu

Aktif madde **Ticari ürün** **Faydalı Organizma**

Filtrele Seçimi temizle Filtrele Seçimi temizle

2.4.D
 abamectin
 acephate
 acequinocyl
 acetamiprid
 acrinathrin
 Adoxophyes orana Granulose Virus
 alachlor
 aldicarb
 alphacypermethrin
 amitraz
 atrazine
 azadirachtin

Amblyseius californicus
 Amblyseius cucumeris
 Amblyseius degenerans
 Amblyseius swirskii
 Anthocoris nemoralis
 Aphidius spp.
 Aphidoletes aphidimyza
 Bombus spp.
 Chrysopa carnea
 Coleoptera
 Dacnusa sibirica
 Diglyphus isaea
 Encarsia formosa

Açıklama

Doğal düşmanlar üzerine zehirlilik

Sınıf	Zehirlilik	Ölüm oranı
1	Zehirli değil	< 25%
1a	1 ile 2 arasındaki değerler	
2	Kısmen zehirli	25-50%
2a	2 ile 3 arasındaki değerler	
3	Orta seviyede zehirli	50-75%
3a	3 ile 4 arasındaki değerler	
4	Zehirli	>75%

Bombus arıları üzerine zehirlilik

Uygulama metodu

Kalıcılık kodu

Greenlab

Bize yardımcı olun!

Available in English, Spanish, French, Dutch, Russian, Turkish, Chinese



www.biobestgroup.com





Teşekkürler!

Thank You

Maake Asante Shukria Dhanyavadagalu
Vinaka Kiosos Manana Dankon
감사합니다 Kam Sah Hammida ار كاش Mauruuru Biyan
Dank Je Dankscheen Спасибо köszönöm
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Ua Tsaug Rau Koj Dakujem Gracjas cam on ban Tingki
Děkuji Nirringrazzjak Hvala Gratias Tibi
Suksama Rahmat 谢谢 Di Ou Mèsi Kia Ora Kop Khun Khap Paldies Obrigado
Misaotra Matur Nuwun 谢 Xbajala Welalin Djere Dieuf
Merci Go Raibh Maith Agat Tuke Eskerrik Asko
Salamat ขอขอบคุณคุณคุณ Najis Tuke