



**NATURE LED INNOVATION**

# About us

We are a customer-oriented company with over 10 years of experience in developing, producing and supplying safe green solutions for agriculture. We specialize in supplying Baculoviruses semi-chemical lures and traps to monitor insect pests and promote sustainable Integrated Pest Management (IPM) within agricultural, horticultural, storage and urban setting. Our goal is to promote a more effective, economical and environmentally friendly approach to pest management by incorporating sound IPM principles and science in the monitoring systems that we offer. We are also able to offer our customers help with pest identification, advice on suitable control strategies and effective practices that can be carried out to minimize outbreaks.

We are able to offer our customers the full package required to carry out an efficient pest monitoring program. In addition to our wide range of pheromone lures and Baculoviruses, we offer the most suitable traps for each pest species and supply our customer with all the relevant information, advice and documentation needed to manage their pest problems. Management decisions are only as good as the data that they are based upon. If a well- designed monitoring program is carried out the information recovered will be accurate and the decision on when to time a spray to catch exposed pests, for example, will be correct



# Why use our products?

All the products that we offer are based upon research, trial results, and customer feedback. We are constantly striving to develop products and solutions for new and emerging pests while also improving upon our current range when the opportunity arises. As we begin to see more evidence of regional that we remain abreast of those knowledges and offer the most suitable lure for a species in a particular region to the benefit of our customers. We use feedback and trials from across the globe to determine the best solution for a particular pest.

	<b>Conventional pesticides</b>	<b>Gronic solutions</b>
 Safety	Poisonous & possibly toxic, a human health concerns.	Completely nontoxic; safe for humans pets and environment.
 Residue	Spray 100% of crop high residue risk	Contacts < 1% of crop –zero residue risk
 Approach	Reactive – chasing after pests	Proactive – control pests before they become a problem
 Collateral damage	Kills beneficial insects (e.g. bees, ladybugs)	Species-specific –only affects target pest
 Environmental footprint	Risk to soil & water systems	Soil & water systems unaffected
 Efficacy	Short field life, high of resistance	Long field life, no risk of resistance.



# ATTRASAFE



Attractants play a huge role in preventing the establishment and invasion of various problematic pests. Pests and even wild animals usually are lured by special attractants because of their need for mating and reproduction. If there are pheromones in the air, they are easily drawn to the source, which pest control experts use to their advantage to seize and eliminate them.

# Section 3- Mass Trapping

## Trapping & Monitoring for Smarter Pest Management

Before deploying any integrated pest management system, you must first gain a strong understanding of the population dynamics of the insects affecting your crops.

Gronic's insect Trapping & Monitoring systems can help you assess insect activity and gain population estimates so you can which identify trap and semiochemicals formulation to use, where to position traps and how many to use in a specific area



## How Does Mass Trapping Works?

This technique is based on strategically placing number of traps. Each one contains an attractant and/or pheromone specific to the species to be controlled, but also a small dose of insecticide which, located inside the trap, acts on the pest in a way that is safe for the crops.

This way, the crop can be protected by eliminating a high proportion of individuals using an environmentally-friendly method without adverse effects on the health of the producer or the end consumer.

Both the design and colour are principle factors that determine how well a trap functions. Manu insect are attracted by certain colours, so colour can be an important choice. The range of traps that we offer have been chosen based upon research, our own trials and feedback from our customers and will therefore maximise capture rates. There may be more than one suitable trap for a number of insect pests and many of our customers have a personal preference based upon our experience  
Benefits of Mass trapping



### Target the Right Insects

Learn exactly which species of insects are living among your crops.



### Get Population Estimates

Gather information on population density and distribution.



### Know When to Deploy Solutions

Understand what times in the season insects are most actively targeting your crops—and the effect the control measure had on the population.



### Safe for humans & the environment

Environmentally-friendly method without adverse effects on the health of the producer or the end consumer

# Our Mass trapping Products

## Sticky Traps

We offer both dry and wet sticky boards in the colors yellow, white, blue and orange with a grid design either as polyethylene (PE) coated card or high impact polystyrene (HIPS)

The available sizes are:

10x24.5 cm, 20x24.5 cm, 40x24.5 cm.



## Delta Traps

Our delta traps are available in the colors yellow, white, red and green. Our delta traps come flat packed and are heat welded to ensure durability. A textile tie is provided for hanging and an optional lure cage is also available for a small additional cost on request.



## McPhail Trap

Our durable trap consists of two parts; a lid containing a lure cage and a lower bucket with funnel entrance. Liquid lures can be used in this trap and a wide range of colors are available



## Unitrap

This is the original Unitrap, designed and manufactured by us at IPS. The funnel entrance is positioned at the top beneath a covering lid. These traps are a better option than the delta trap when trapping in dusty conditions and when the moth pests are particularly large (e.g. Spodoptera species).



## Water Trap

Our water traps are available in blue or red. These traps are designed with a wide base and a lure cage located in the centre, with easy access. Water traps are a useful option for some micro moths such as Tuta absoluta as well as thrip species. We do not offer a light option with our water traps. We believe that, unless used in a completely contained area, by-catch of a wide range of insect species will occur. For example, most nocturnal parasitic wasps, important natural control agents, are attracted to lights.



## ConeTrap

Our ConeTrap is Ease of use as assembling takes 10 to 15 seconds per trap. When folded, transport volume (200 units per package) and transport costs are reduced. Moreover, it's ideal to be used with dry attractants.

This trap can be supplied assembled, with the attractant and the insecticide inside (3 Components fruit fly Lure). This will reduce the costs of placement in the field (take the fly trap out of the box and hang it directly on the tree) and avoids handling of the diffusers.



## PalmTrap

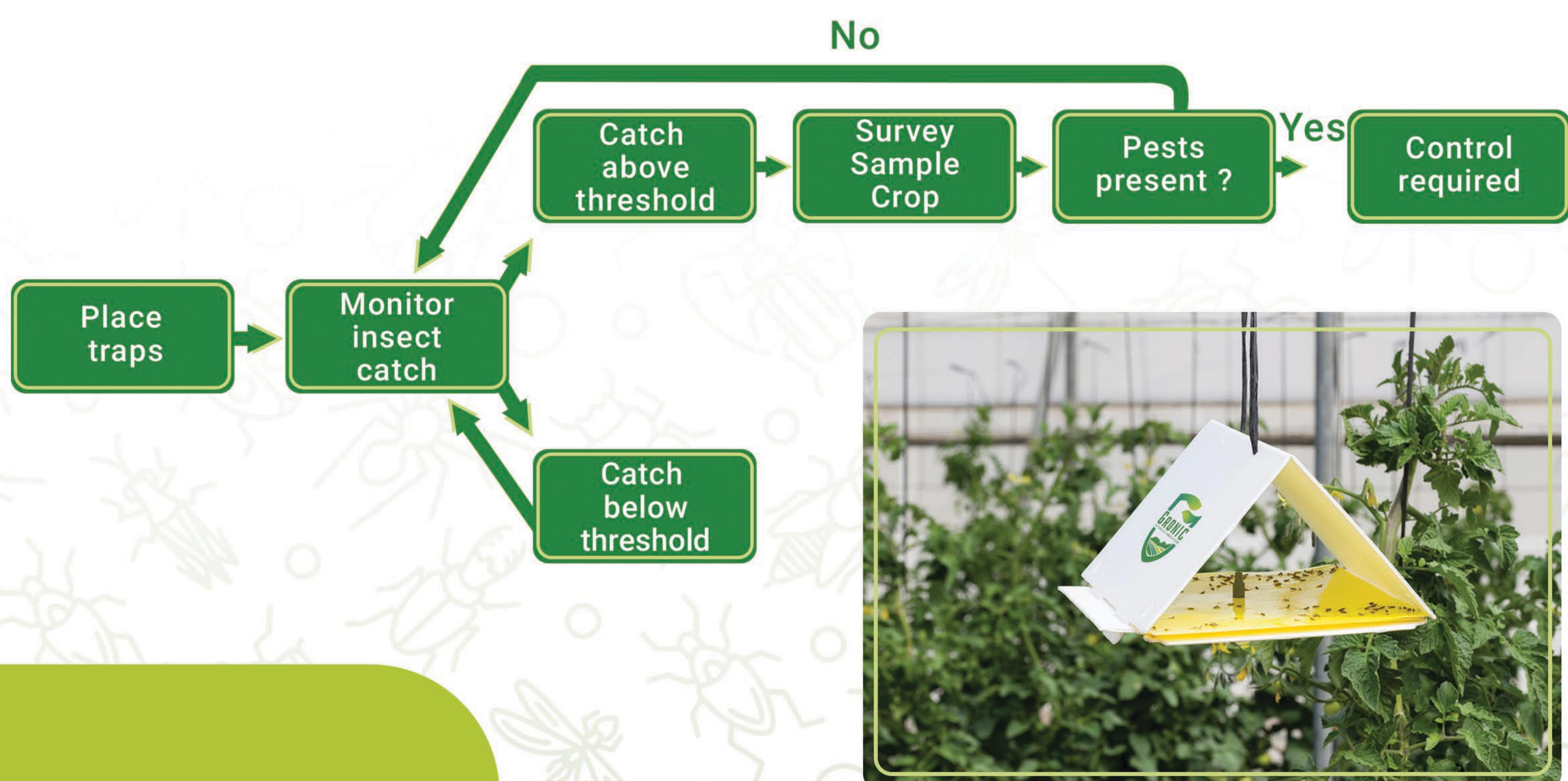
This trap is specially designed for monitoring and mass trapping of the Red Palm Weevil Rhynchophorus ferrugineus.

This lure trap also known as bucket trap is a proven method to trap and kill the beetles. It is a specially designed bucket trap, which is supplied along with a lure. The lure is placed inside a lure holder attached to the lid of the bucket.



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# Products key table

The tables on the following section list the pest species that we are able to offer products for and are categorized by crop attacked. The tables list the semiochemicals type offered and the recommended traps and dispensers that we offer the pest. We are always happy to discuss alternative with our customers so please feel free to contact us regarding alternative dispensers or traps. equally, if there is a pest not included in the lists below please contact us as we may well be able to offer a product or solution

## Attractant type

- FA** Food Attractant
- P** Pheromone
- K** Kairomone
- P-P** Parapheromone

## Lures

- ABS** Ammonium Bicarbonate
- PVS** Poly Vial
- RS** Rubber Septum
- WS** Wet lure

## Traps

- D** Delta Trap
- LB** McPhail Trap
- SB** Sticky Board
- U** UniTrap
- W** Water Trap
- C** ConeTrap
- PL** Palm Trap



# Agricultural Pests – Moths

PEST	COMMON NAME	ATTRACTANT TYPE	LURE	TRAP
<i>Agrotis ipsilon</i>	Black cutworm	P	RS	D, U
<i>Autographa gamma</i>	Silver Y	P	RS	D, U
<i>Etiella zinckenella</i>	Lima Bean Pod Borer	P	RS	D, U
<i>Liriomyza trifolii</i>	vegetable leafminer	P	RS	D
<i>Helicoverpa armigera</i>	Cotton Boll Worm	P	RS, PVS	U
<i>Helicoverpa zea</i>	Corn Ear Worm	P	RS, PVS	U
<i>Spodoptera exigue</i>	Beet Army Worm	P	RS	U
<i>Bactrocera cucurbitae</i>	Melon Fly	P-P	PVS	D
<i>Phthorimaea operculella</i>	Potato Tuber Moth	P	RS, PVS	---
<i>Spodoptera littoralis</i>	Egyptian Cotton Leaf Moth	P	RS, PVS	U
<i>Tuta absoluta</i>	Tomato Leaf Miner	P	RS, PVS	D, W, SB
<i>Franklinella occidentalis</i>	Western lower Thrip	P	RS	D, W, SB

# Horticultural Pests – Others

PEST	COMMON NAME	ATTRACTANT TYPE	LURE	TRAP
<i>Bactrocera cucurbatae</i>	Melon Fly	P-P	WPL	D, LB
<i>Ceratitis capitata</i>	Mediterranean Fruit Fly	P-P	RS, WPS	D, H
Gravid female <i>Ceratitis capitata</i>	Mediterranean Fruit Fly	K	WS	C, LB



# Palm Pests – Moths & Others

PEST	COMMON NAME	ATTRACTANT TYPE	LURE	TRAP
Rhynchophorus ferrugineus	Red Date Palm Weevil	P	WPL	BU
Batrachedra amydraula	Lesser Palm moth	P	PVS	D

# Olive and Vine Pests – Moths

PEST	COMMON NAME	ATTRACTANT TYPE	LURE	TRAP
Cryptoblabes genidiella	Christmas Berry Moth	P	RS	D
zeuzera pyrina	Leopard moth	P	PVS	D,U
Lobesia botrana	European Grapevine Moth	P	RS, PVS	D, U
Palpita unionalis	Jasmine Moth	P	RS	D
Prays oleae	Olive Moth	P	RS, PVS	D,U
Bactrocera Oleae	Olive Fruit Fly	P, P+FA	PVS, PVS+ABS	LB, SBC

# Orchard and Citrus fruit Pests – Moths

PEST	COMMON NAME	ATTRACTANT TYPE	LURE	TRAP
Prays citri	Citrus Flower Moth	P	RS	D
Phyllocnistis citrella	Citrus leafminer	P	RS	D
Bactrocera cucurbutae	Melon Fly	P-P	WPL	D, LB,C
Bactocera zonata	Peach Fruit Fly	P-P	WPL,L	D,LB,C
Ceratitis capitata	Mediterranean Fruit Fly	P-P	WPL,L	D,LB,C

# Stored Products Pests – Moth

PEST	COMMON NAME	ATTRACTANT TYPE	LURE	TRAP
<i>Plodia interpunctella</i>	Indianmeal moth	P	RS	D,U
<i>Lasioderma serricorne</i>	Cigarette Beetles	P	RS	D,U





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