



BIOGARD[®]

biological First.



Isonet[®] T

the key for *T. absoluta* control with mating disruption

ABIM, October 23rd-25th 2017



Tuta absoluta damages

ShinEtsu
PHEROMONES

The tomato leafminer, *Tuta absoluta* (Meyrick), was first recorded in Italy in late 2008

The pest spread rapidly to all tomato-growing areas, both in open field and protected crops



Damage of *Tuta absoluta* in greenhouse and open-field tomato crop

biological First.

ABIM, October 23rd-25th 2017



Tuta absoluta

Control methods

ShinEtsu
PHEROMONES

Control methods

- Chemical control;
- Biological control: natural enemies, *Bacillus thuringiensis*;
- Cultural practices: soil solarization, rotation with non-solanaceous crops, ploughing, destruction of infested plants and post-harvest plant debris, removal of wild host plants, insect-proof nets;
- Semiochemicals: mass trapping, attract & kill, **mating disruption**

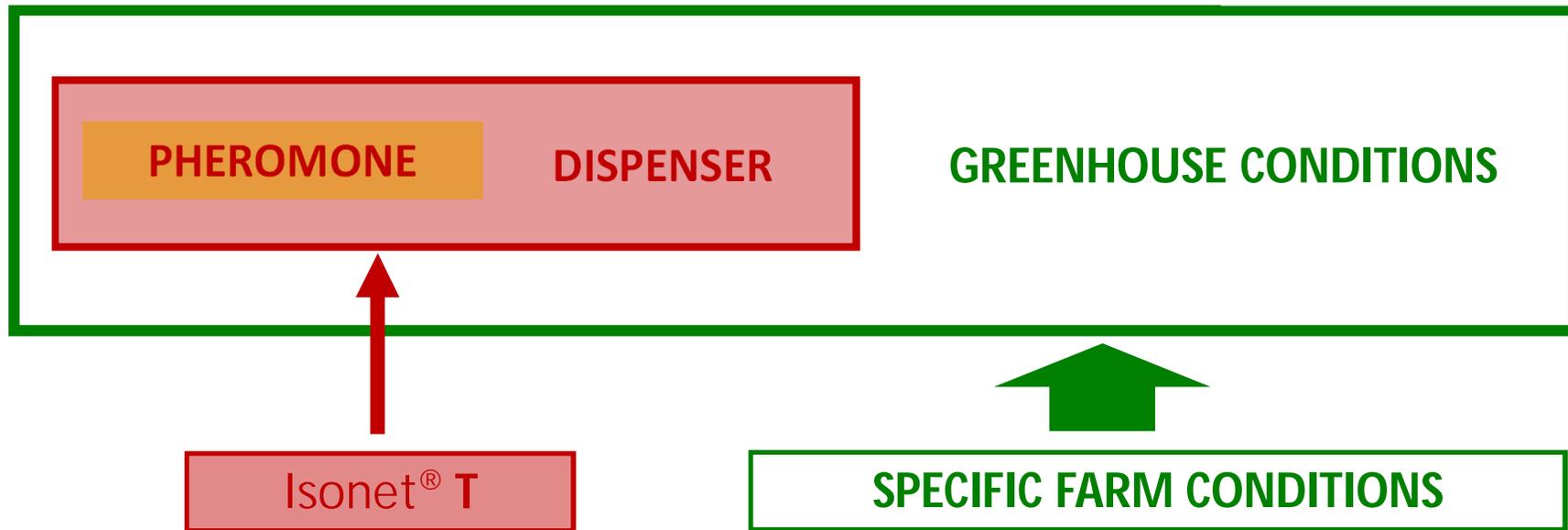
biological First.

ABIM, October 23rd-25th 2017

Tuta absoluta mating disruption factors



ShinEtsu
PHEROMONES



biological First.

ABIM, October 23rd-25th 2017

Tuta absoluta mating disruption factors

pheromone



ShinEtsu
PHEROMONES



biological First.

ABIM, October 23rd-25th 2017

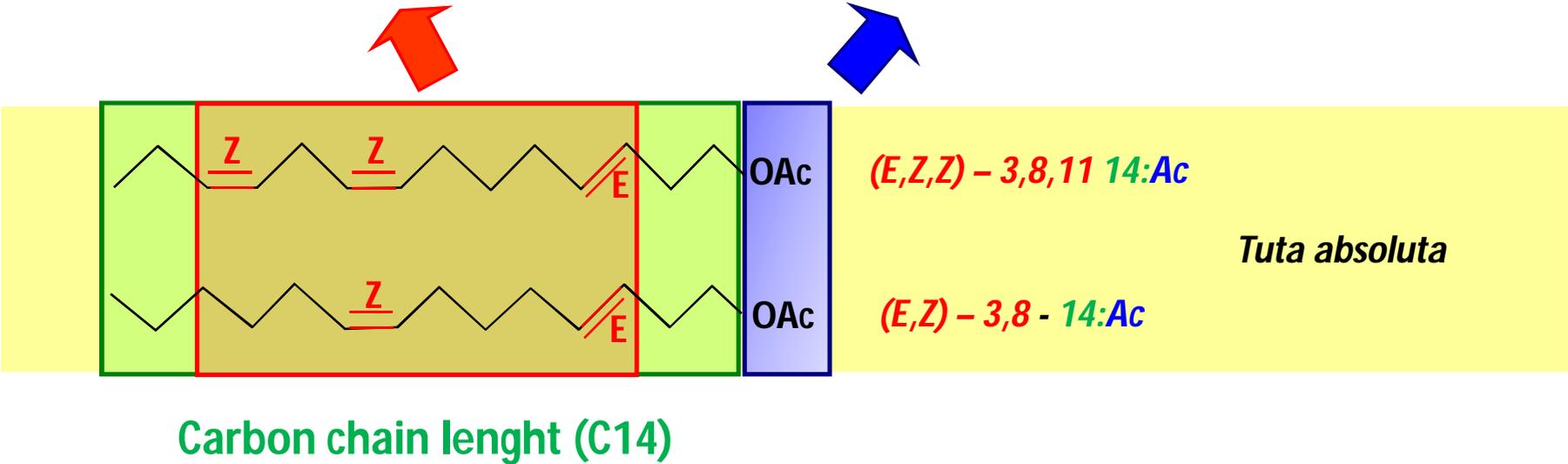
Isonet[®] T
pheromone



ShinEtsu
PHEROMONES

Number and position of the double bonds

Functional group -OAc



biological First.

Tuta absoluta mating disruption factors dispenser



ShinEtsu
PHEROMONES



biological First.

ABIM, October 23rd-25th 2017

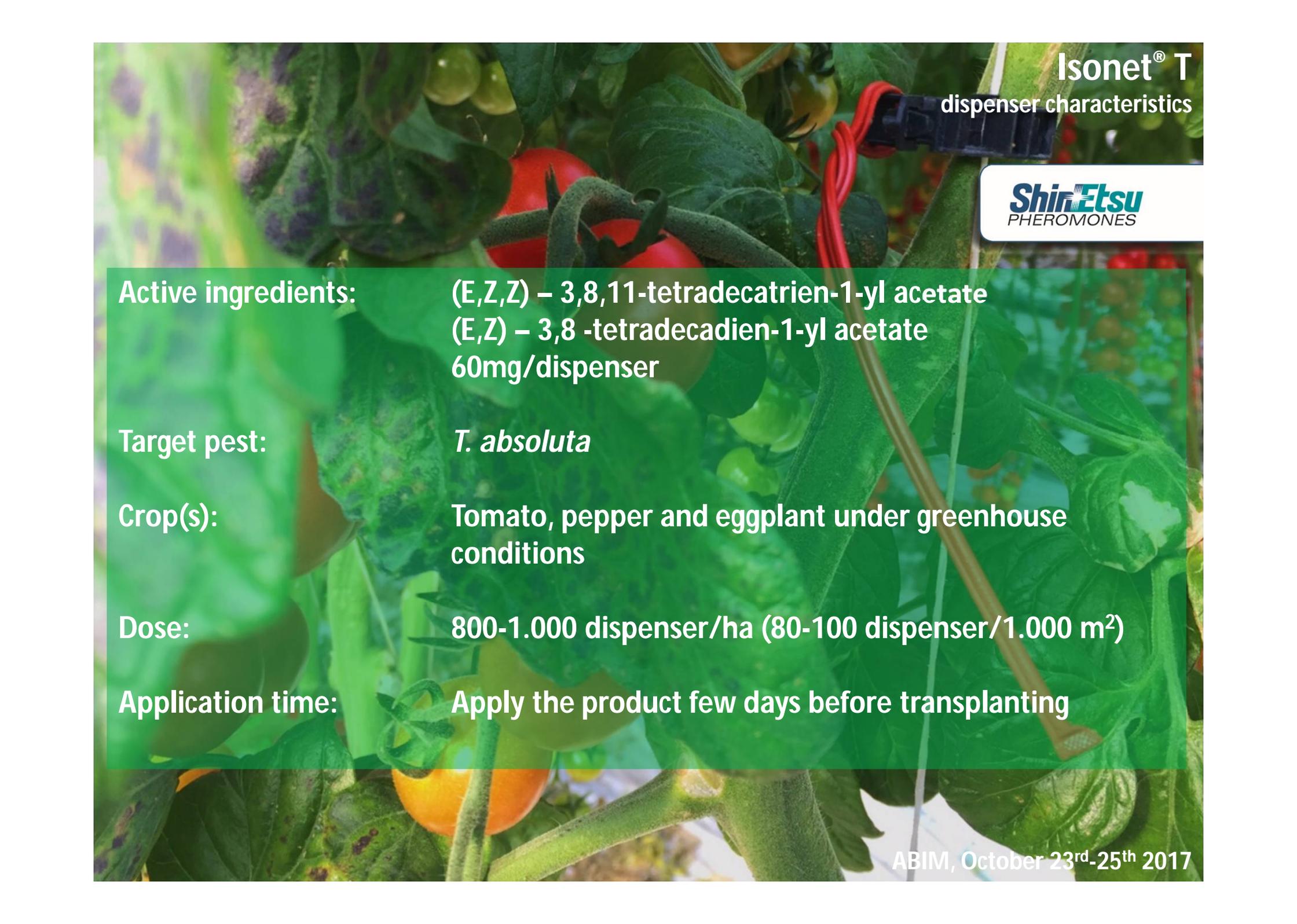
Isonet[®] T
dispenser characteristics

ShinEtsu
PHEROMONES

Dispenser shape: CAPILLARY
keep constantly impregnated the tube wall in all its length



ABIM, October 23rd-25th 2017



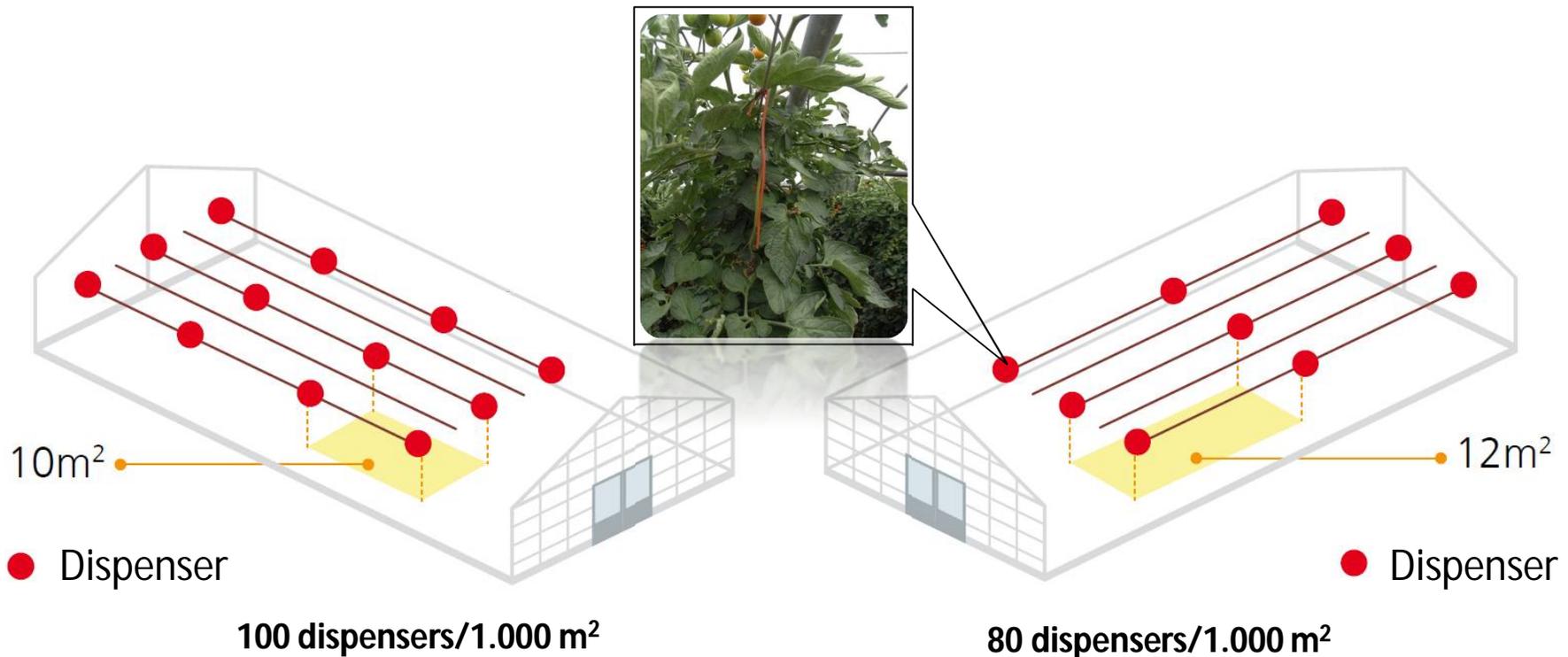
Isonet® T
dispenser characteristics

ShirEtsu
PHEROMONES

- Active ingredients:** (E,Z,Z) – 3,8,11-tetradecatrien-1-yl acetate
(E,Z) – 3,8 -tetradecadien-1-yl acetate
60mg/dispenser
- Target pest:** *T. absoluta*
- Crop(s):** Tomato, pepper and eggplant under greenhouse conditions
- Dose:** 800-1.000 dispenser/ha (80-100 dispenser/1.000 m²)
- Application time:** Apply the product few days before transplanting



Evenly distribute the dispensers inside the greenhouse.
Twist loosely the dispensers on the support wires

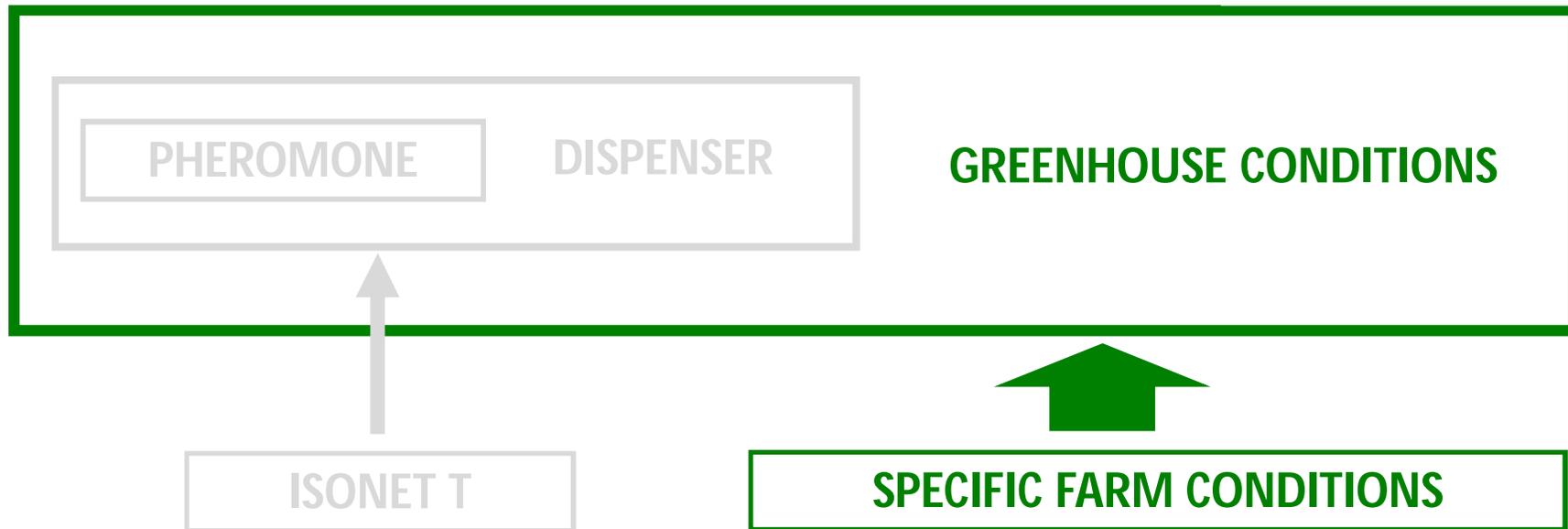


Tuta absoluta mating disruption factors

greenhouse conditions



ShinEtsu
PHEROMONES



biological First.

ABIM, October 23rd-25th 2017

Isonet® T

preventive measures (anti-insect net)



17 FEB 2010

ABIM, October 23rd-25th 2017

Isonet® T
preventive measures (double doors)



ABIM, October 23rd-25th 2017



Removal of crop residue at the end of the cultivation





Removal of the leaves during cultivation cycle



biological First.



➤ Check the sanitary status of the seedling

Isonet[®] T
crop residue management



ABIM, October 23rd-25th 2017



Isonet[®] T
greenhouse condition

ShinEtsu
PHEROMONES

Elimination of wild solanaceous plants both inside and outside of greenhouses



biological First.

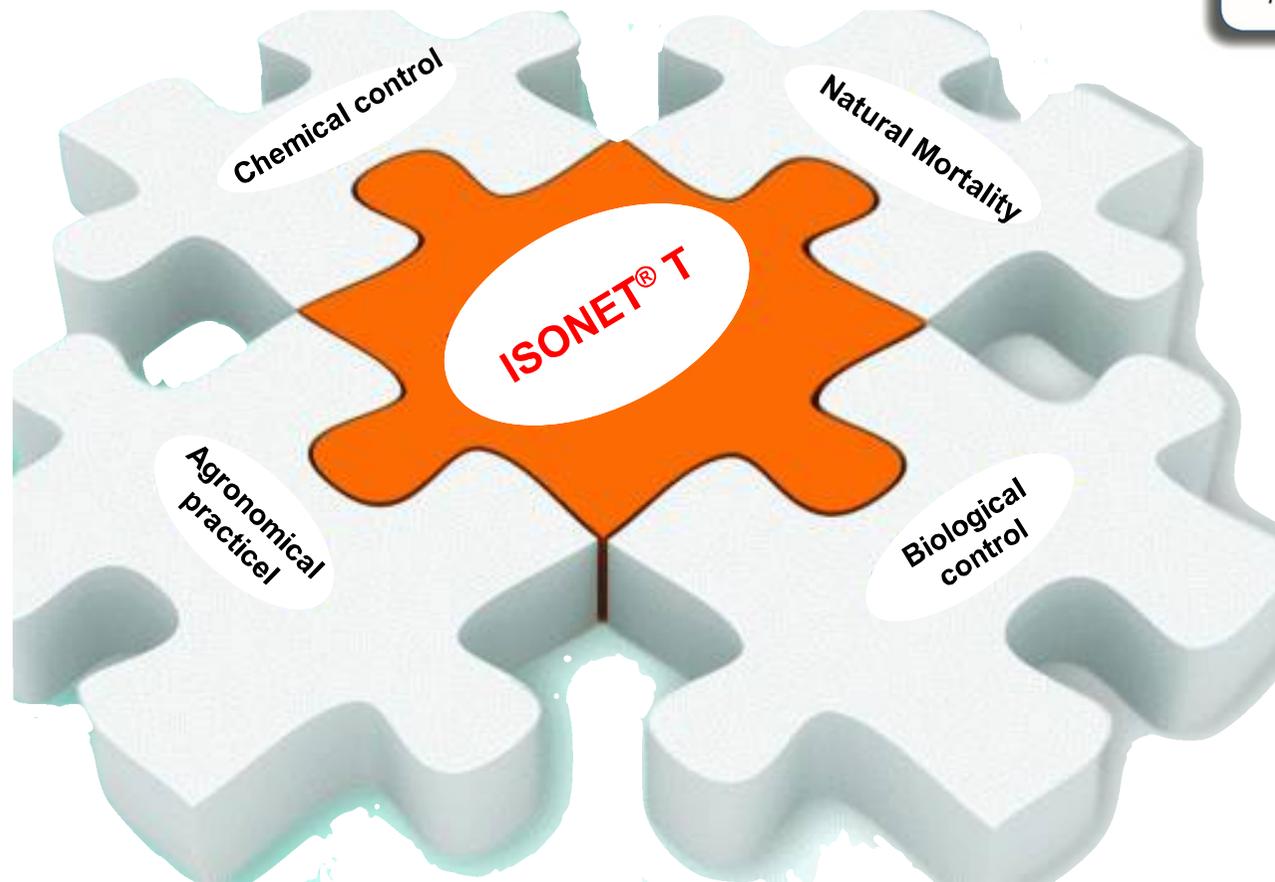
ABIM, October 23rd-25th 2017



Tuta absoluta

Integrative approach control

ShinEtsu
PHEROMONES



biological First.

ABIM, October 23rd-25th 2017



Isonet[®] T

regulatory status

ShinEtsu
PHEROMONES



-  ongoing
-  obtained

biological First.

ABIM, October 23rd-25th 2017



THANK YOU for your attention !!!