ORIcontrol PLUS

Orius again in the limelight

A paradigm shift in the biological control of thrips.

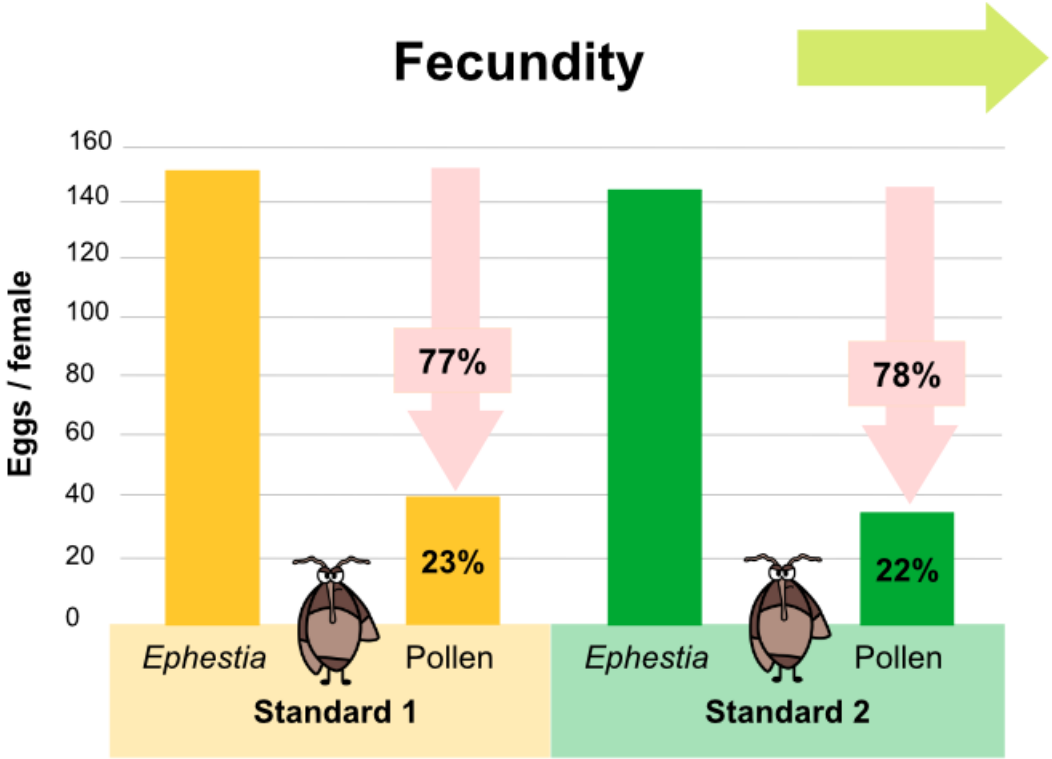
***Enric Vila**, Agrobío S.L. & **Pablo Bielza**, UPCT*

Agrobío

BioControl Selection Lab

Universidad Politécnica de Cartagena

Persistence of predators relies on feeding on pollen… but fitness significantly drops (suboptimal food)



Inferior numerical response

Slow reproduction and establishment

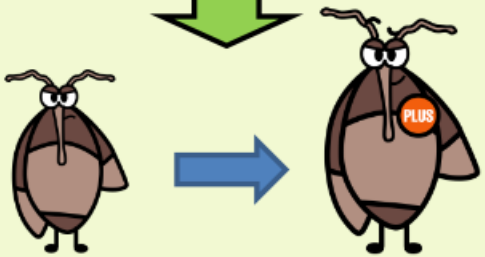
Mendoza *et al.* 2020. Genetic improvement of *Orius laevigatus* for better fitness feeding on pollen. *Journal of Pest Science.*

ORIcontrol PLUS

Strain better adapted to feeding on pollen

>30 wild populations of *Orius laevigatus*

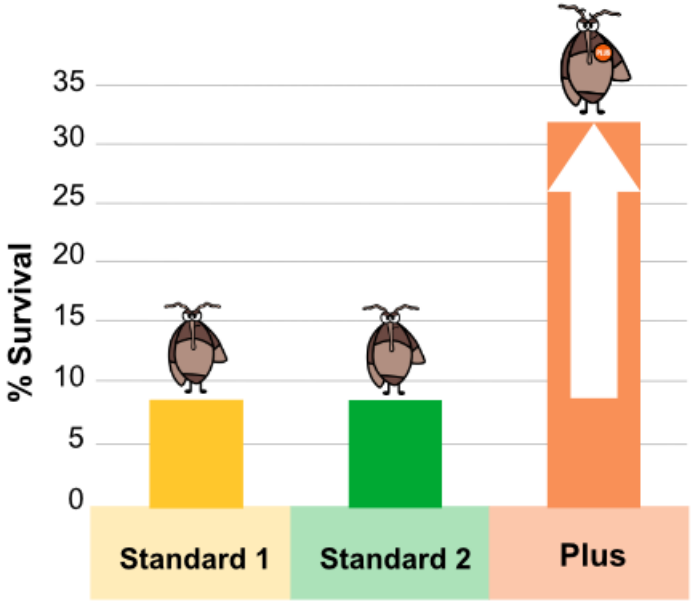
After 10 years of classical genetic selection



Enhanced fitness when feeding on pollen

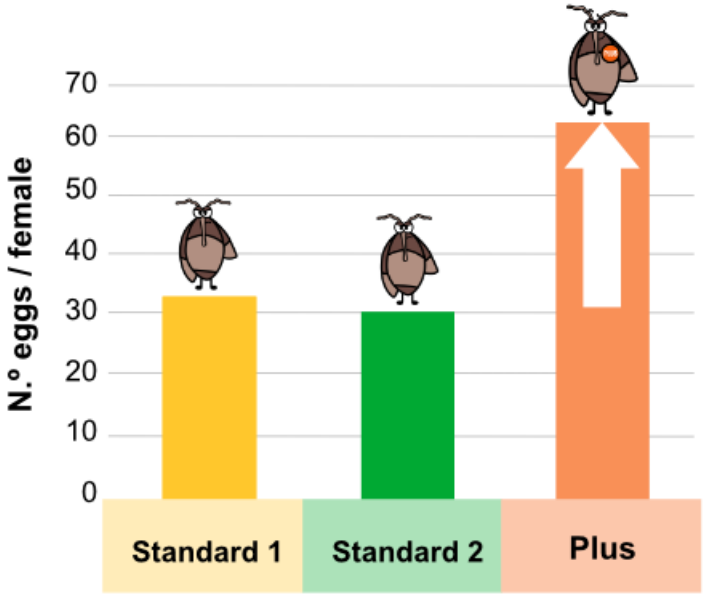
Immature survival

x3.5 more survival



Fecundity

32 eggs more



Mendoza *et al.* 2020. Genetic improvement of *Orius laevigatus* for better fitness feeding on pollen. *Journal of Pest Science.*

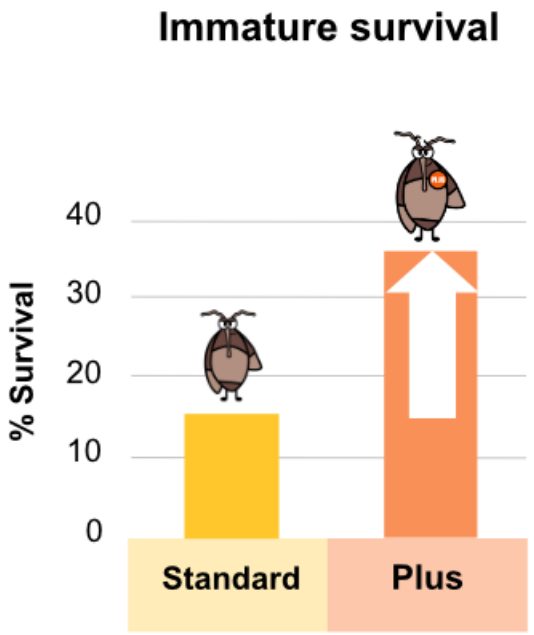
Prey mites in-crop food

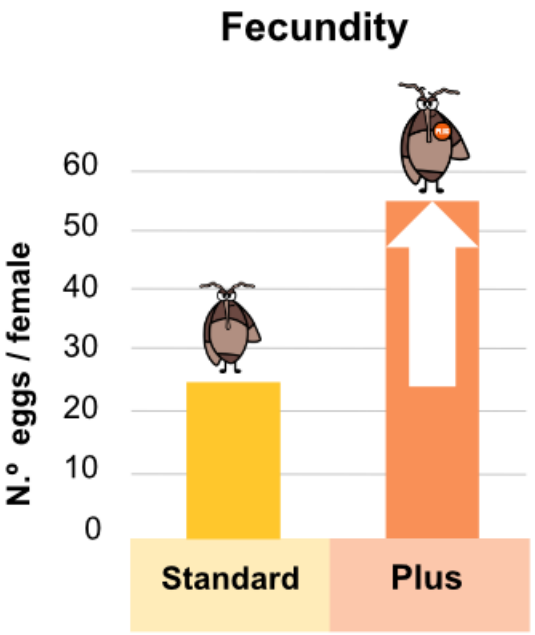
- ***T. montdorensis*** with **Powerfood**
- ***A. swirskii*** with **Powermite**

ORIcontrol PLUS

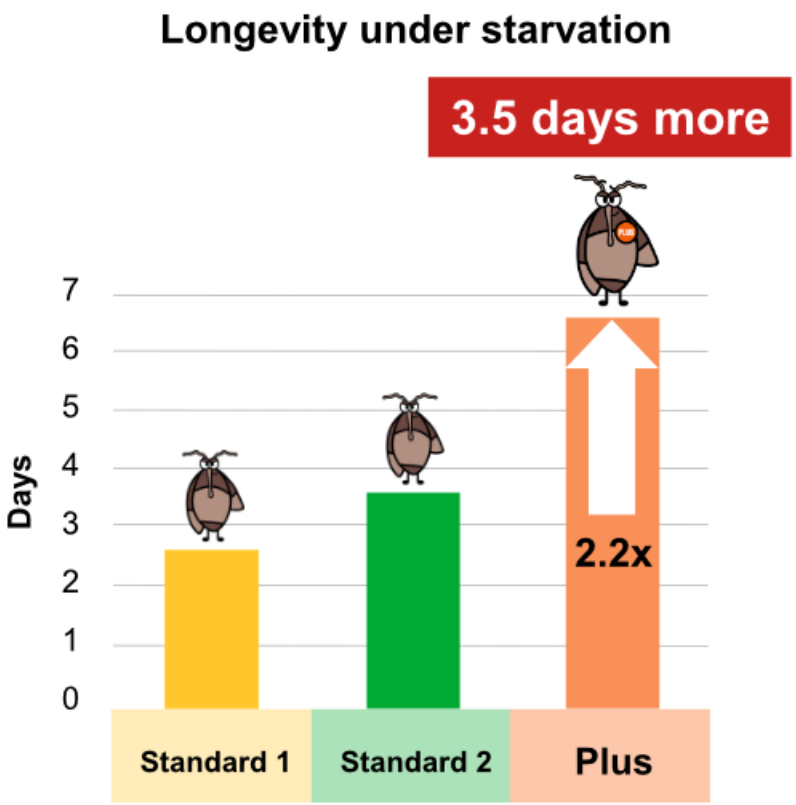
Surprisingly also better performance feeding other suboptimal food (prey mites)

Significant increase of fitness when feeding on prey mites





Any trade-offs?
What happens if they do not find any food?



Enhanced RESILIENCE

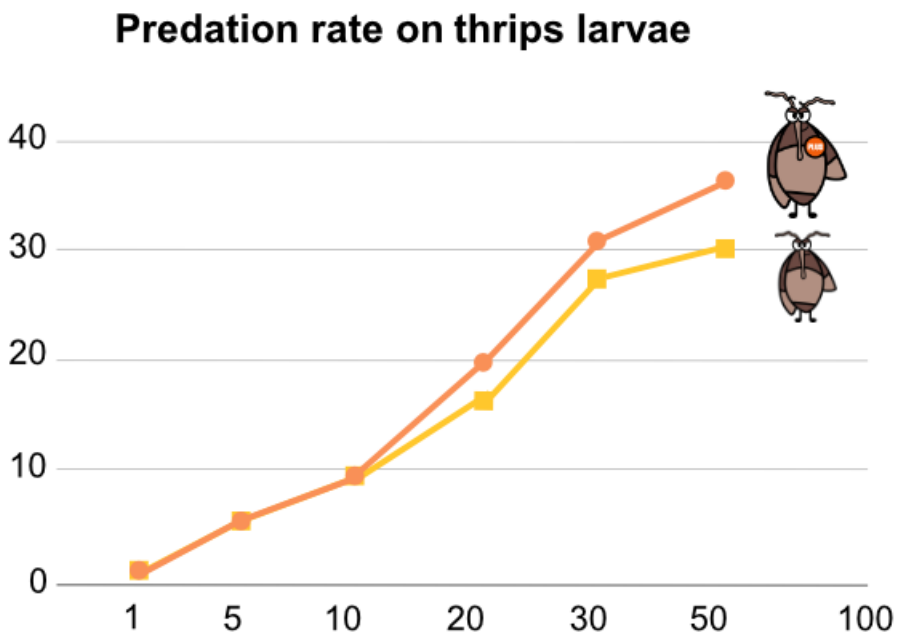
↓

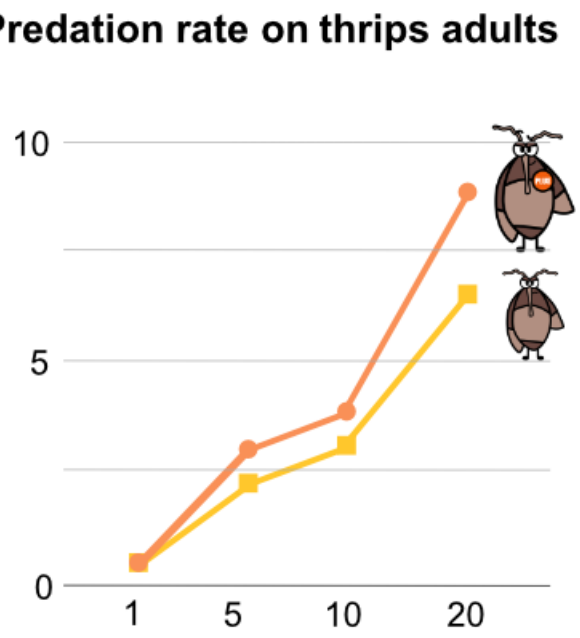
Higher capacity to overcome critical periods

Survival increase → higher likehood to find prey

Any trade-offs?

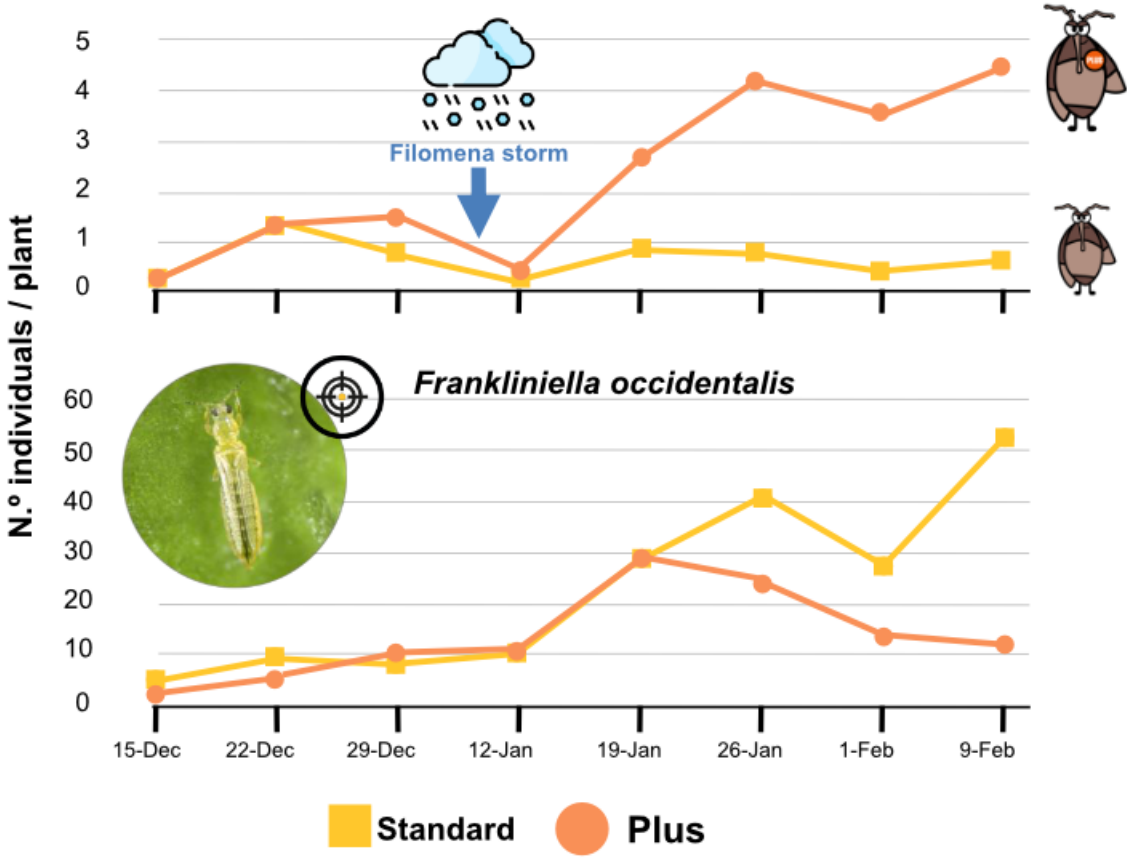
If better adapted to plant food, what about predation?

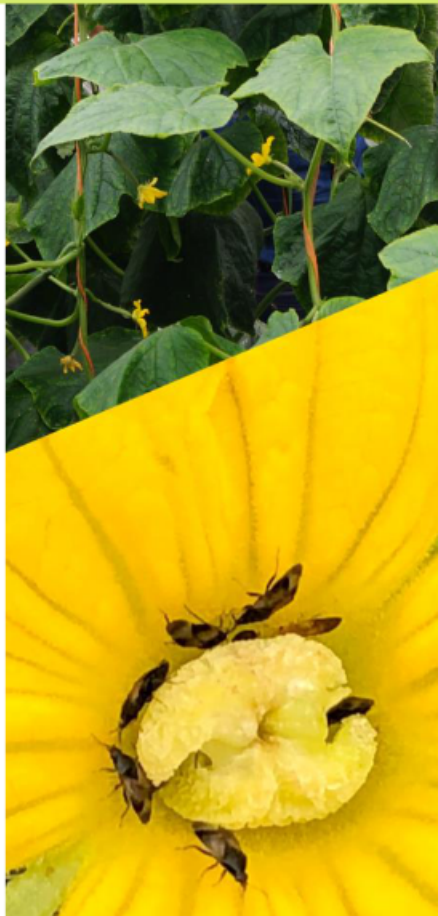




Standard Plus

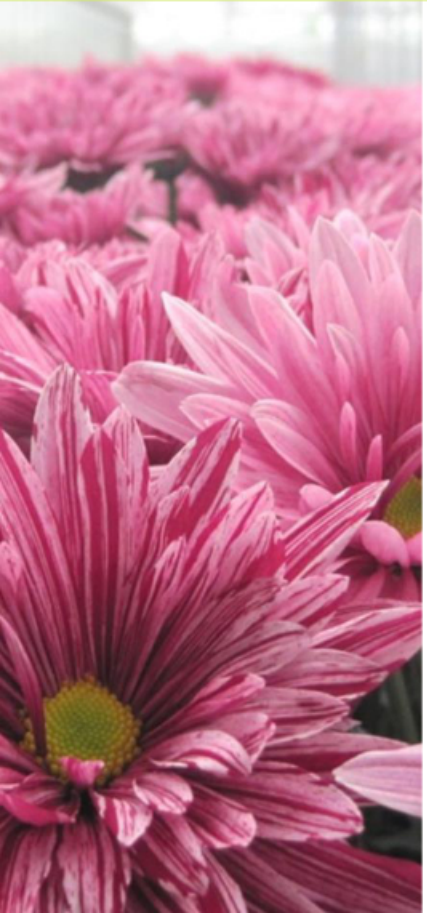
Field performance on plants without pollen

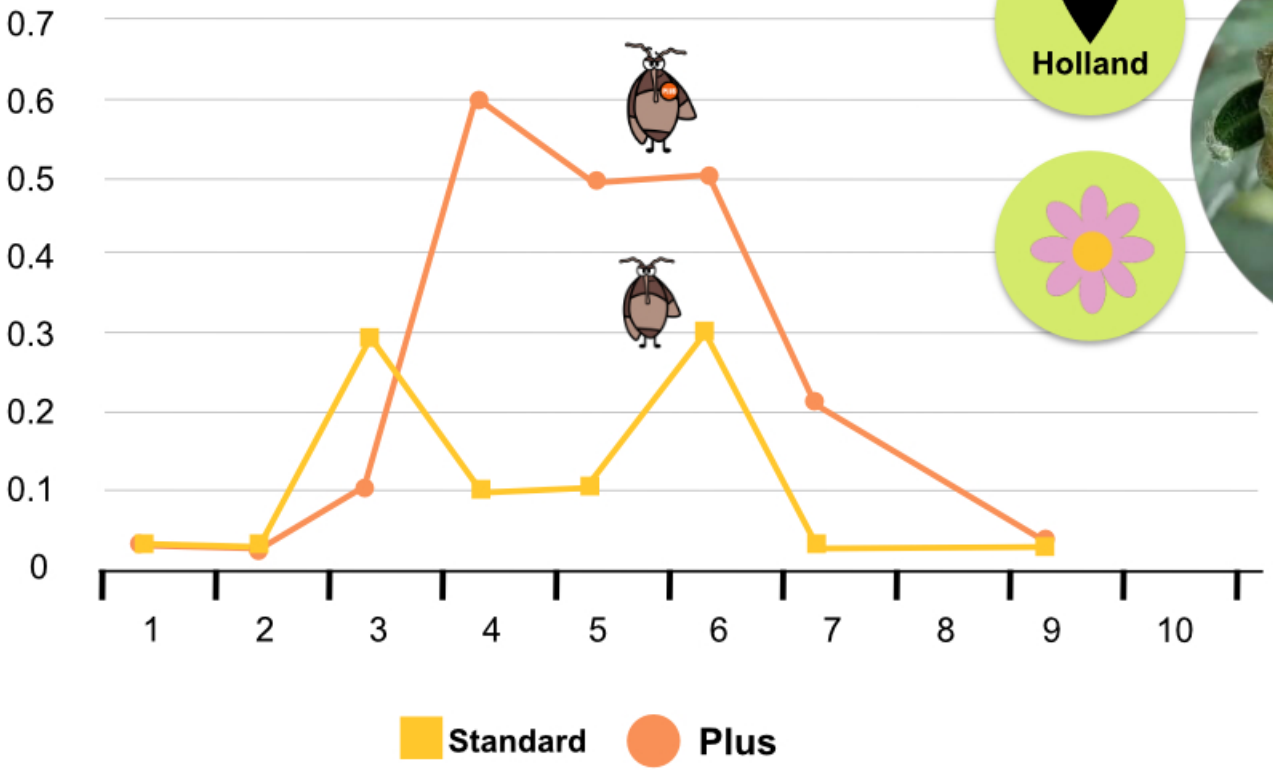




Agrobío

Field performance on plants without pollen





Take-home messages

Agrobío

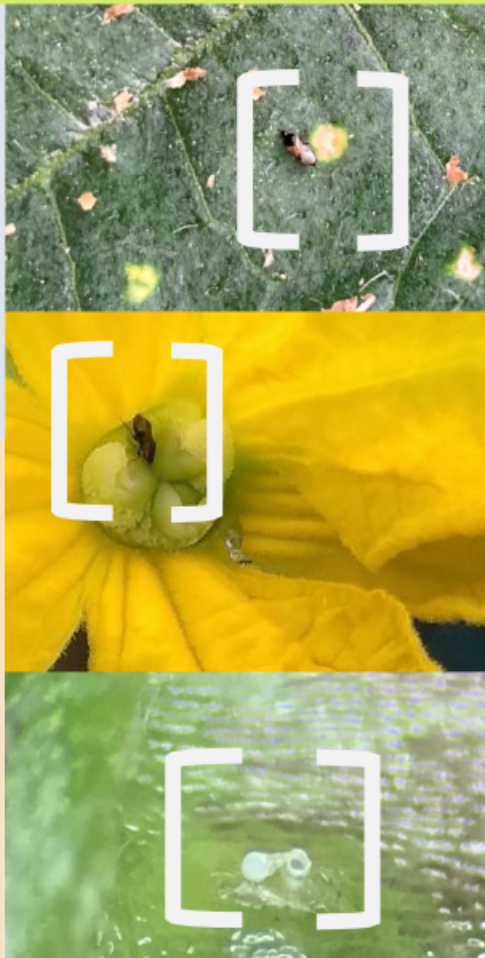
NEW,
Unique &
Scientific value

- First genetic selection of IBCA giving a successful commercial product.
- It improves the control of thrips.
- A robust & more resilient preventive strategy can be settled.

MARKET placement &
Coming uptake of biocontrol

Preventively used with an affordable in-crop feeding strategy in:

- vegetable crops without pollen (cucumbers, seedless pepper varieties…)
- ornamental crops without flowers (chrysanthemums, roses, pot plants…)
- open field crops (onions, orchards…).



BERNARD BLUM AWARD 2022

Many thanks for your attention!

Enric Vila · evila@agrobio.es · **agrobio.es**
Pablo Bielza · pablo.bielza@upct.es

Agrobío

BioControl Selection Lab

Universidad Politécnica de Cartagena