



ORIcontrol PLUS

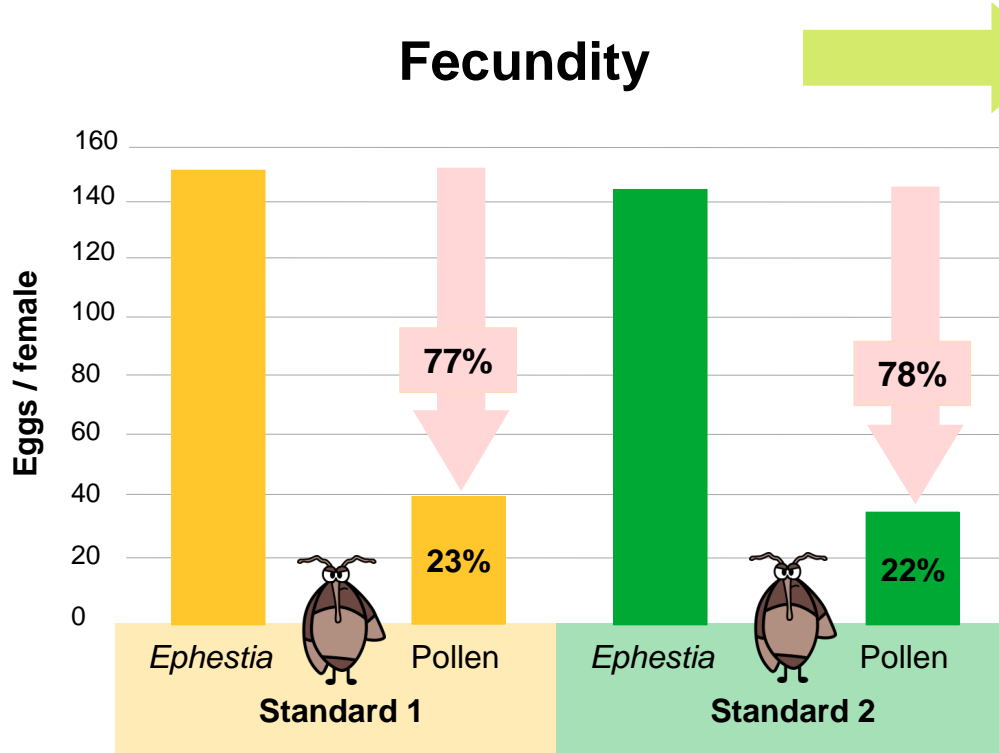
Orius again in the limelight

A paradigm shift in the biological control of thrips.

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



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



Inferior numerical response
Slow reproduction and establishment

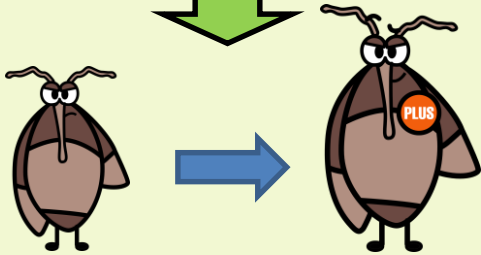




>30 wild populations of
Orius laevigatus



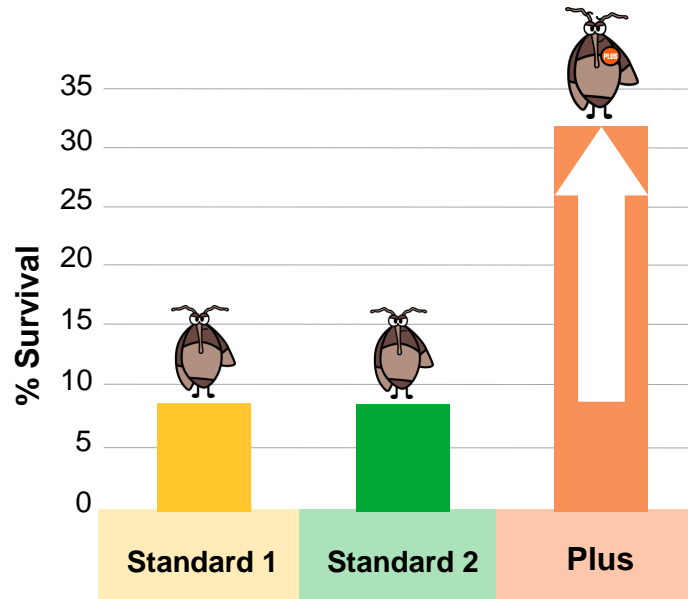
After 10 years of classical
genetic selection



Enhanced fitness when
feeding on pollen

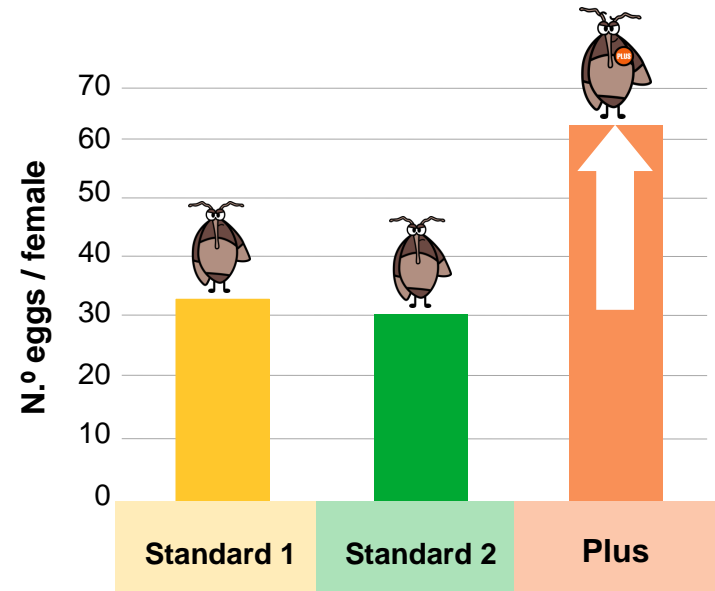
Immature survival

x3.5 more survival



Fecundity

32 eggs more



Prey mites in-crop food

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



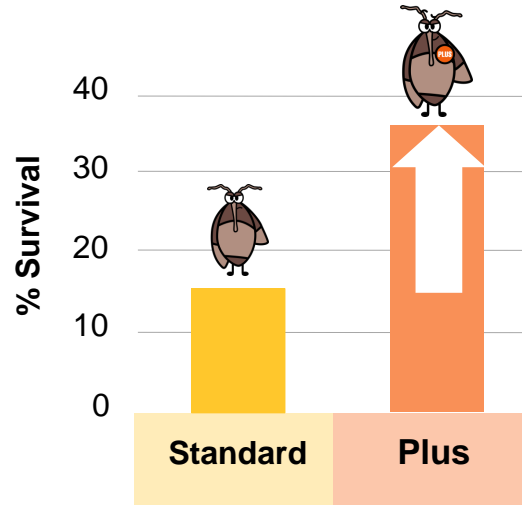
ORicontrol PLUS

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

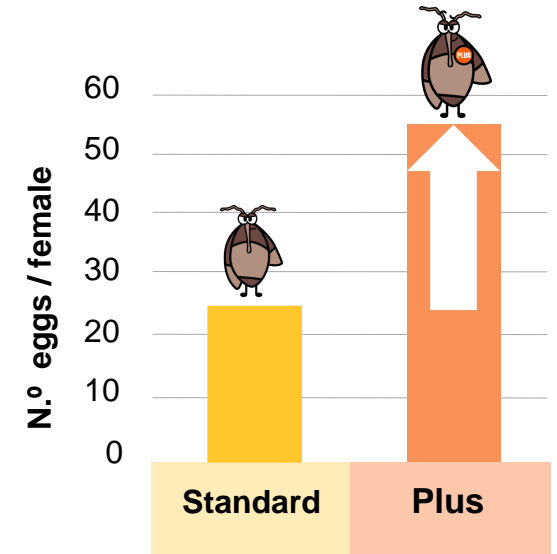


Significant increase of
fitness when feeding
on prey mites

Immature survival



Fecundity

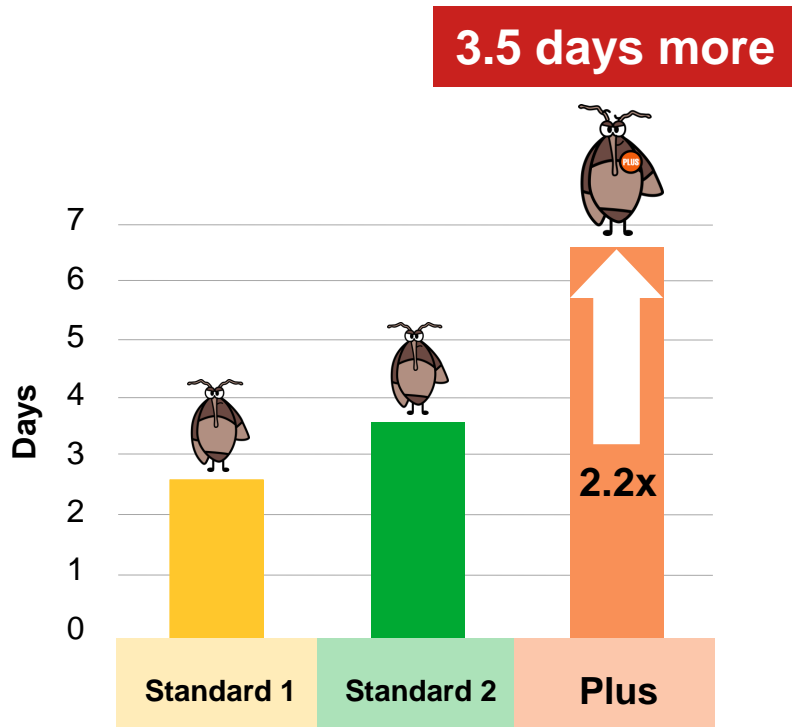


Any trade-offs?

What happens if they do not find any food?



Longevity under starvation

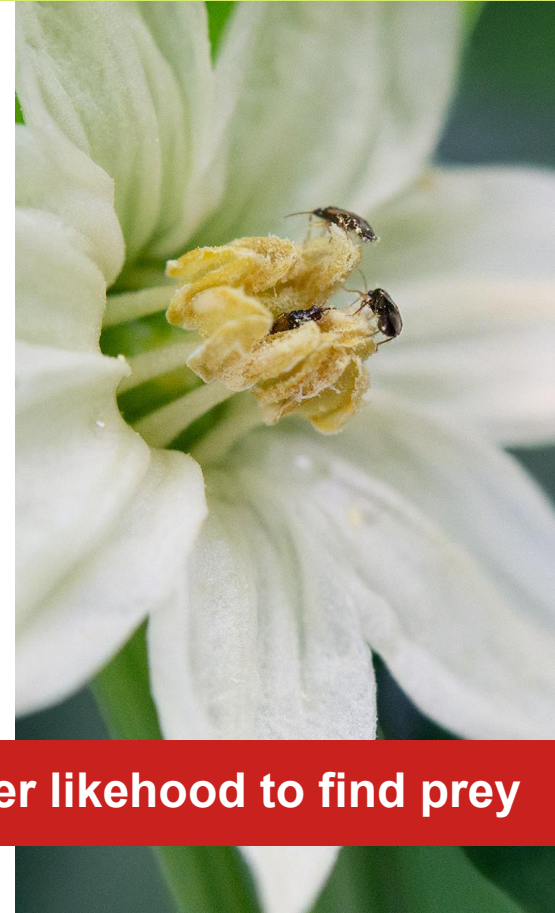


Enhanced RESILIENCE



Higher capacity to overcome critical periods

Survival increase → higher likelihood to find prey

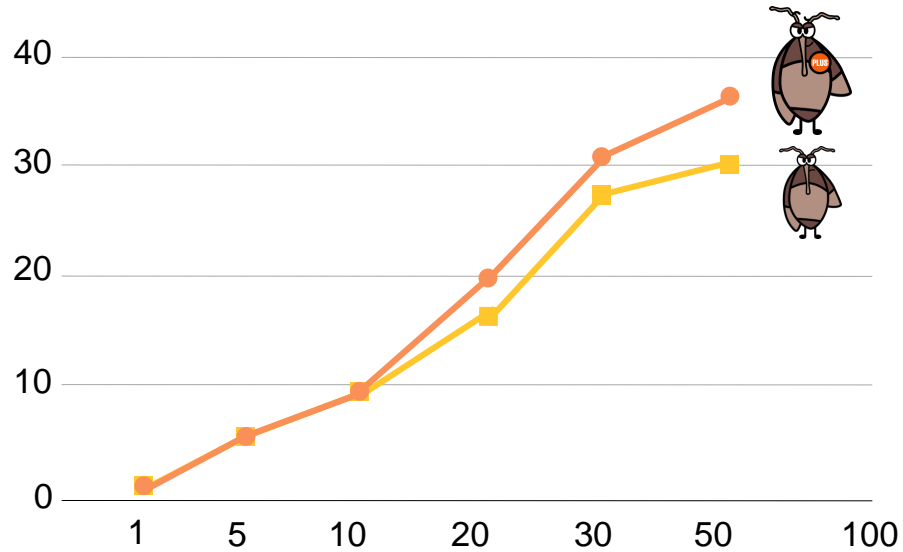


Any trade-offs?

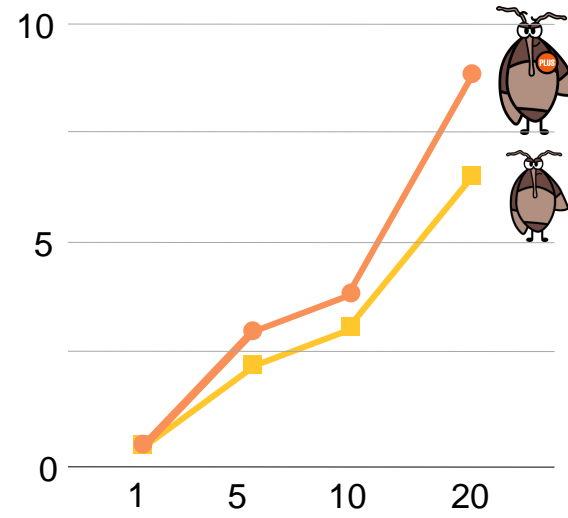
If better adapted to plant food, what about predation?



Predation rate on thrips larvae



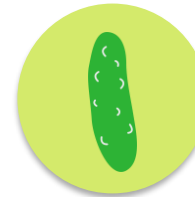
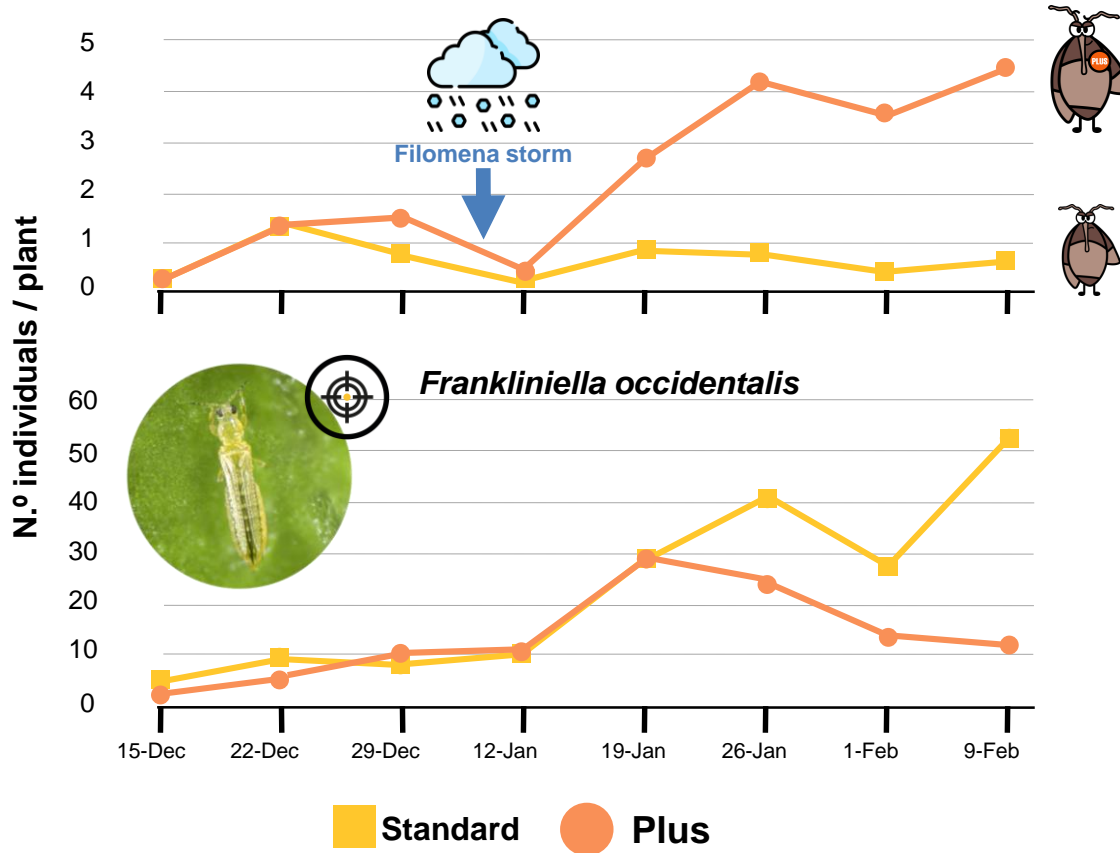
Predation rate on thrips adults



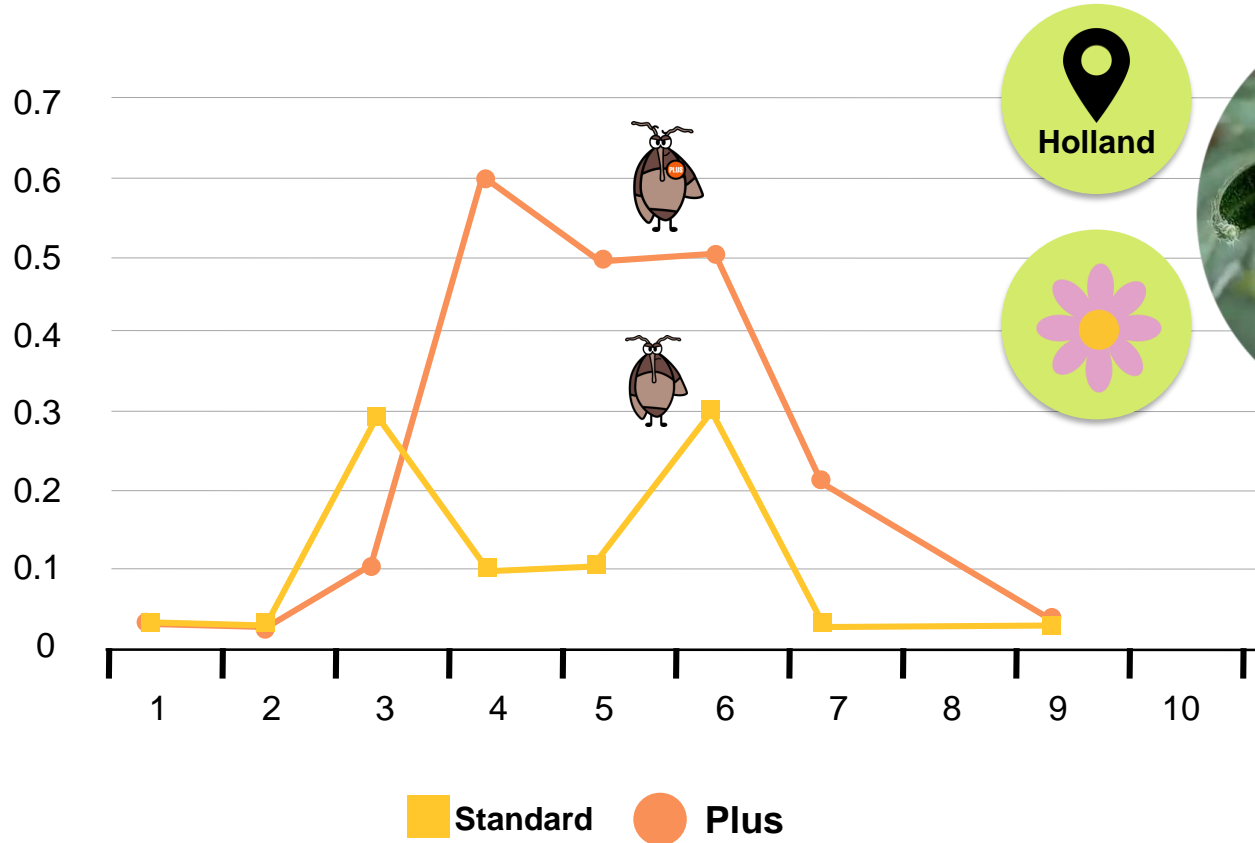
Standard Plus



Field performance on plants without pollen



Field performance on plants without pollen



Take-home messages



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



Universidad
Politécnica
de Cartagena

