

COLPOS' contributions to greening project



Diaphorina citri adult



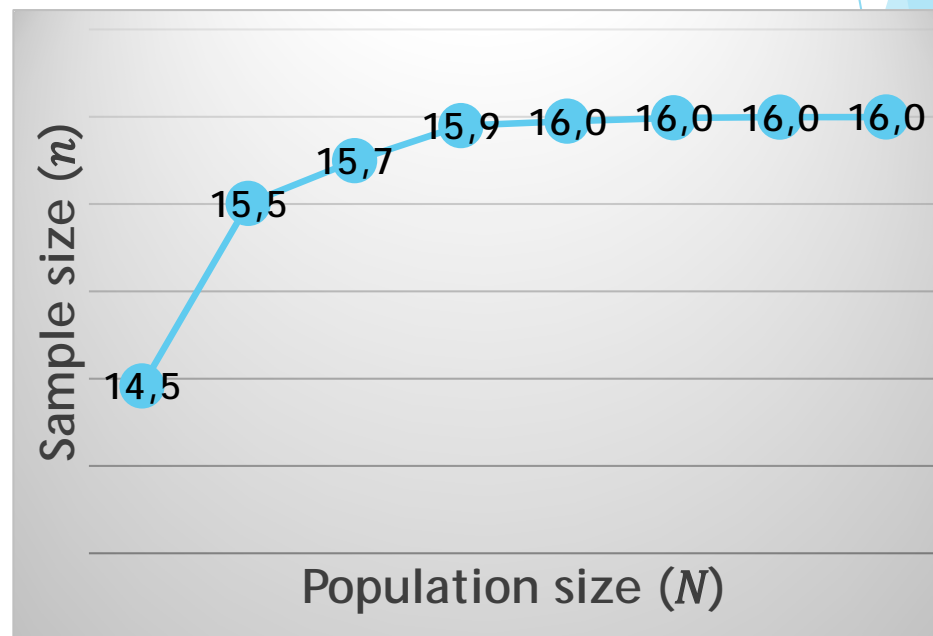
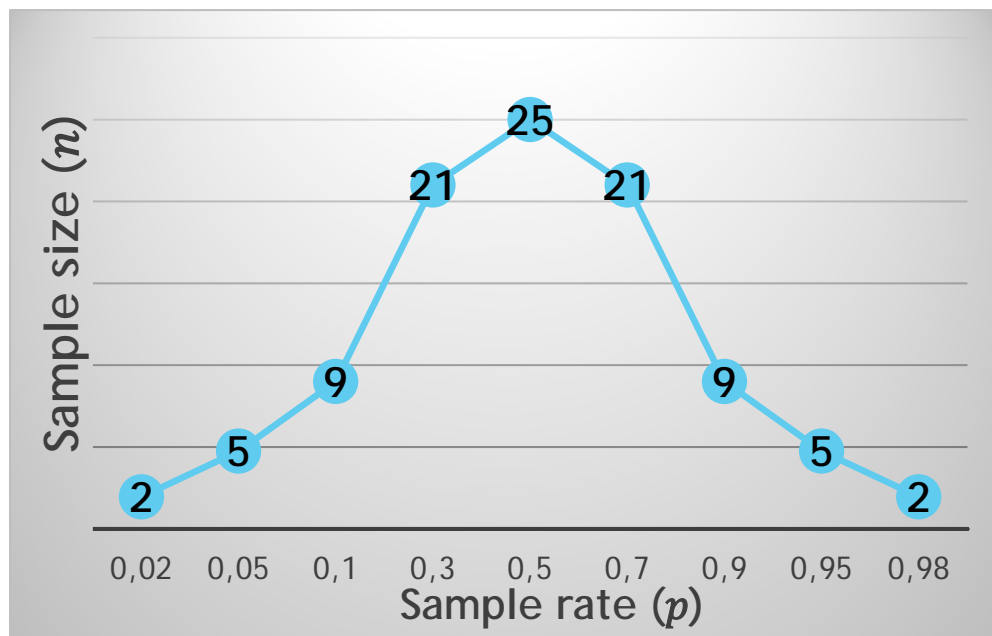
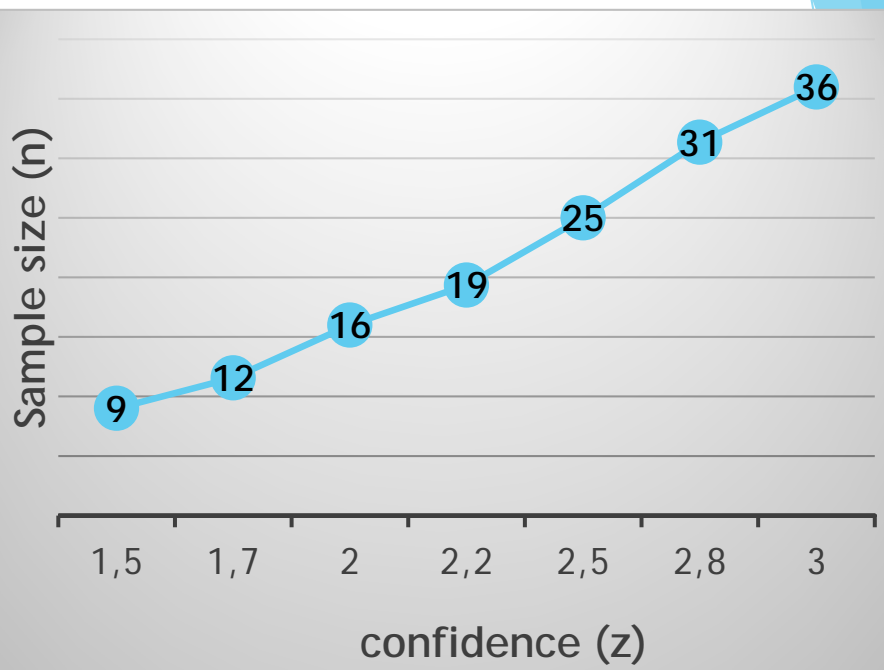
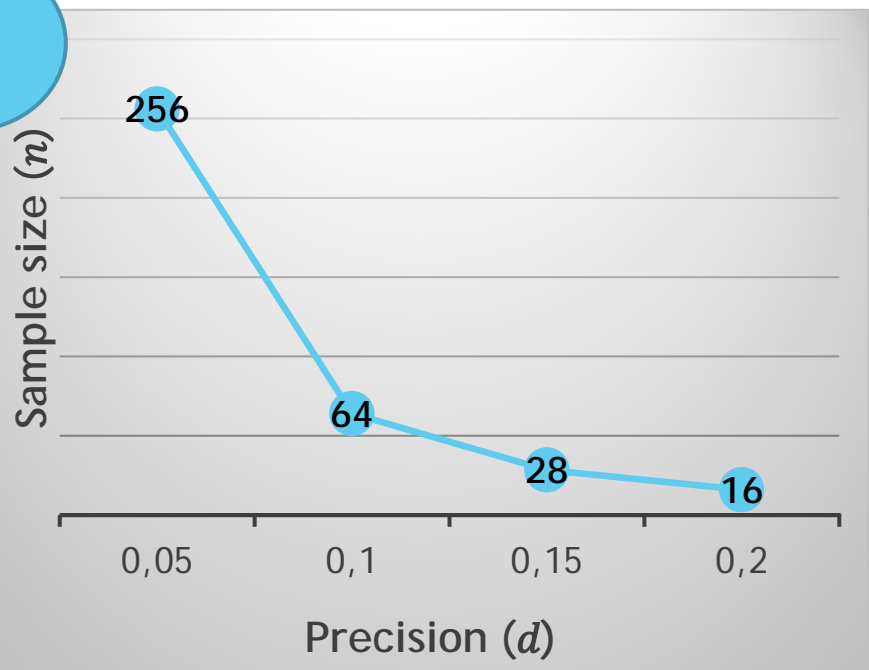
HLB Symptoms in orange lives
(Image from SENASICA, México)

Alejandro Perez Panduro (CP), Salvador Garibay,
Claudia Daniel, Hans-Jakob Schärer (FiBL), Carlos
Castillejos (UNAM), Marco Salazar (Citrex)

Issues addressed

- 1.- A simple method for growers sampling *Diaphorina citri*
- 2.- Discerning the convenience of using Barrier® for controlling *D. citri* in organic orange orchards
- 3.- Screening phytosanitary inputs against *Diaphorina citri*
- 4.- Exploring compatibility of the biological fungicide Serenade® ASO and the entomopathogenic fungus *M. anisopliae*.
- 5.- Studying the potential impact of *M. anisopliae* on a *D. citri* predator, *Chrysoperla* sp. and the potential of it for controlling *D. citri* nymphs in field.

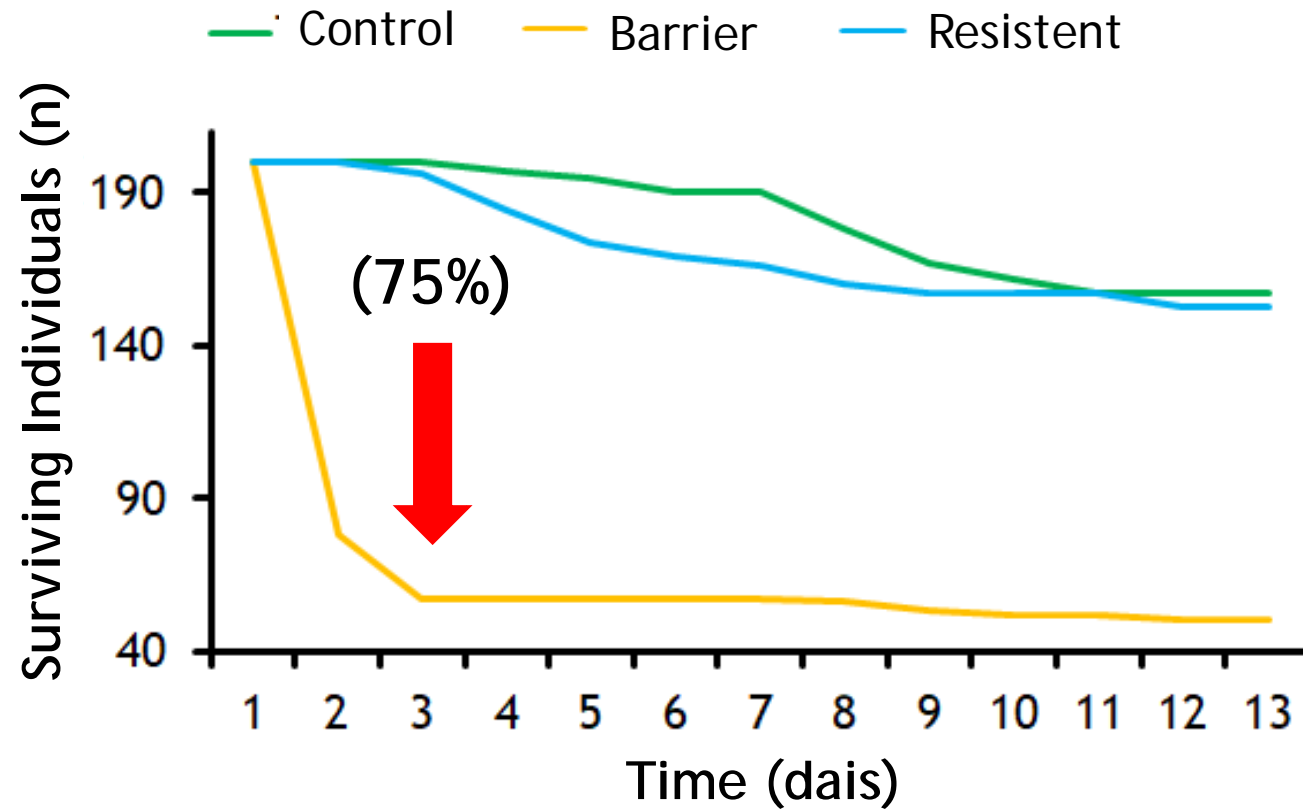
1



- Each week, during trees sprouting, check out a sample of 50 sprouts in orchards up to 5 ha, and:

if ≥ 3 sprouts result infested, take immediate control actions.

Control efficiency of Barrier®



Female:male ratio reduction: 41%

Inconveniences of Barrier®

- It increases egg laying (40%)
- It increases insect size (wing and thorax 10% wider)
- Disminish the time for sexual machurity (25%)

Screening phytosanitary inputs

23 phytosanitary inputs were screened

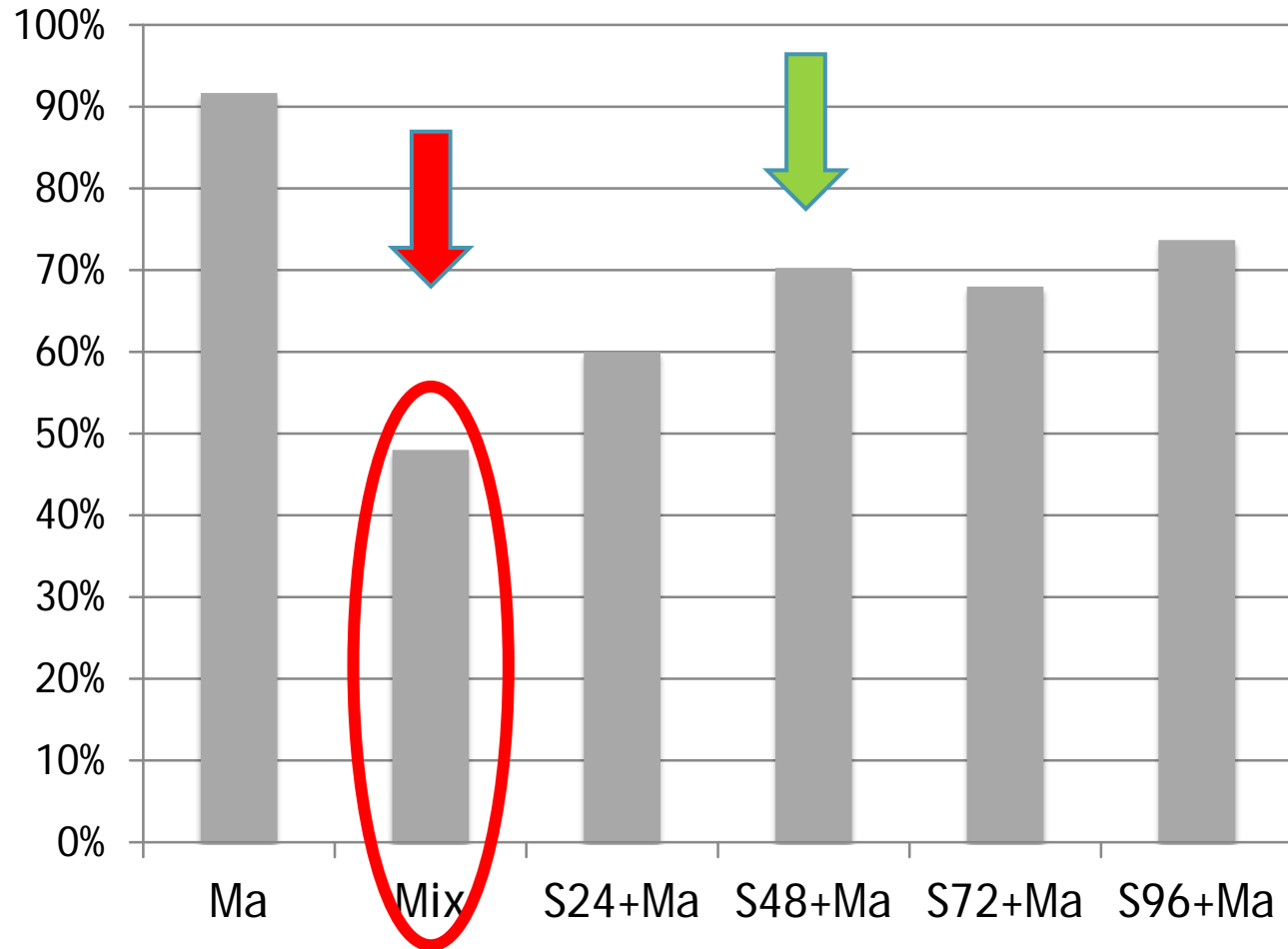
- 1) Efficiency to control the *D. citri*
- 2) The inconveniences they may have for controlling *D. citri* in the long term

Screening of 23 phytosanitary inputs

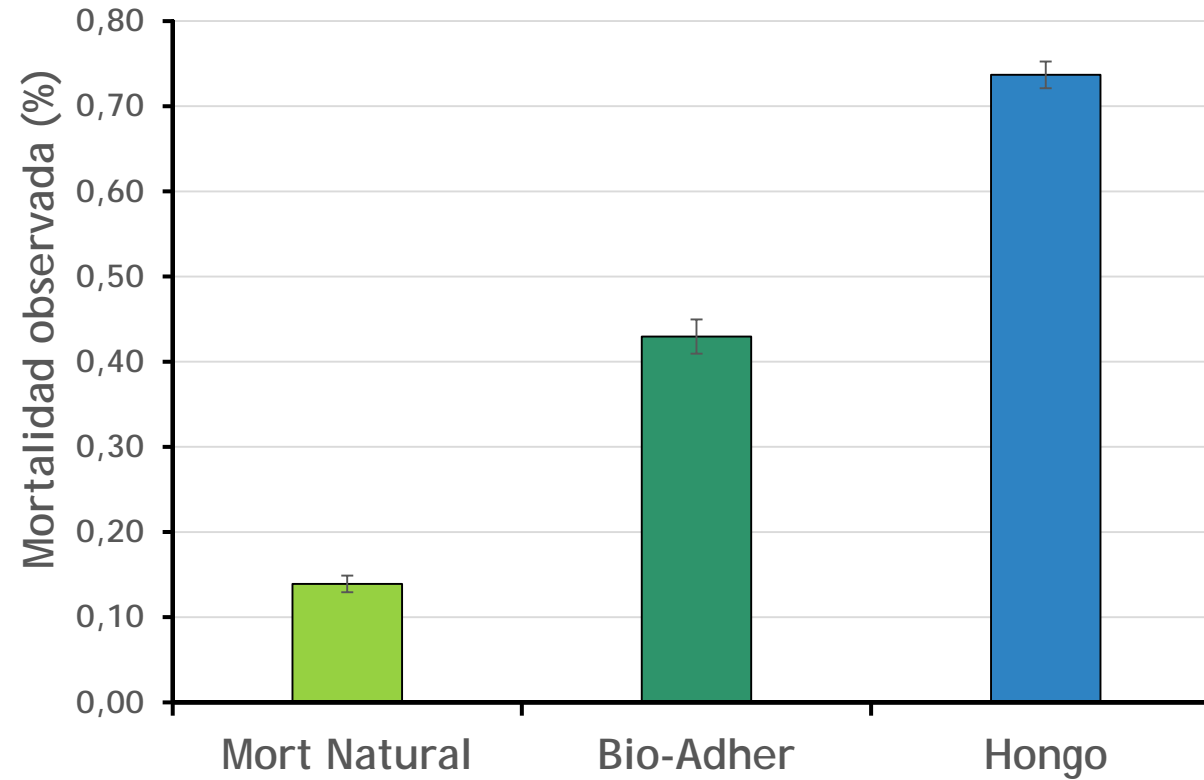
Parameter evaluated	Products						
	Cit	Imp	Nim	M. an	Pir	Spi	Control
Egg survival	2	1	1	3	1	3	0
Embrionary development	1	0	1	0	0	0	0
Thirth instar nymph survival	2	2	2	3	1	3	0
Thirth instar nymph development	0	0	0	0	0	0	0
Fiveth instar nymph survival	4	4	1	4	2	3	0
Size	-1	-1	-1	0	-1	-1	0
Female : male ratio	0	0	1	1	0	1	0
Adult fecundity	2	2	1	2	1	3	0
Sum	10	8	6	13	4	12	0

Cit, Citrol; Imp, Impide; Nim, Nimicide; M an, *M. anisopliae*; Pir, piretro; Spi, Spintor; Tes, Testigo.

Serenade[®] *M. anisopliae* compatibility



M. anisopliae bioassay on chrysopa larvae



Gracias a

FiBL



**COLEGIO DE
POSTGRADUADOS**

This project is supported by the
Coop Sustainability Fund.

