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USE OF TWO ODORANTS TO CONTROL *BACTROCERA OLEAE* AND *CERATITIS CAPITATA*

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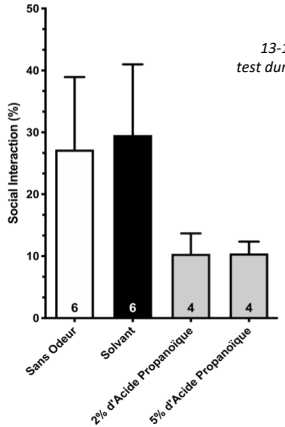
Recently we discovered an innovative solution to control *Drosophila suzukii* behavior[1]. Using this knowledge, we started to investigate the possibility to apply this strategy to insects considered as pests, like *Bactrocera oleae* (olive fruit fly) and *Ceratitis capitata* (Mediterranean fruit fly) to modify their social behavior.

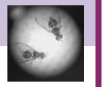
1. Social interaction

13-19 days old
test during 10 min

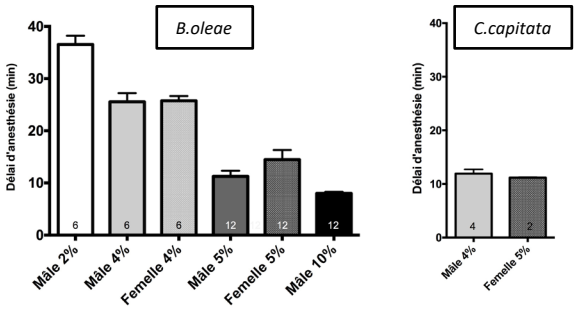


B.oleae males show less interactions towards females if there is propanoic acid.

2. Reversible anesthesia

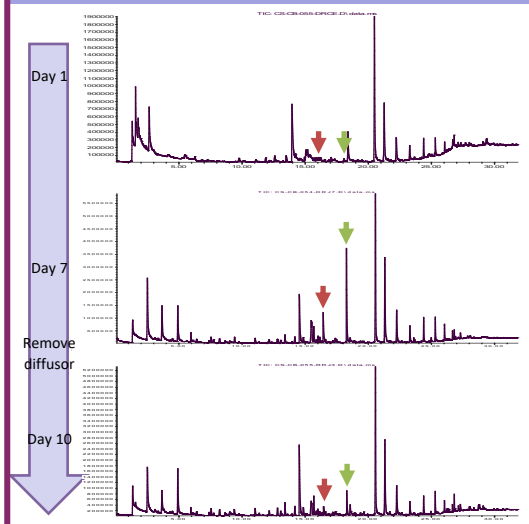


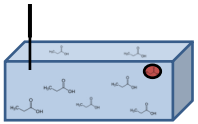
3-9 days old



The time to anesthesia decrease with the increase of concentration of propanoic acid .
C.capitata are more sensitive than *B.oleae*.

3. Diffusion and persistance of the odor





GC-MS using SPME fiber
Exposure time : 10 min
10% of each acid

In a closed environment, the diffusor release slowly the odor.
After removing the diffusor, acids are still detected.

This new technology[2] could be interesting to avoid infestation of fruits by limiting egg laying and population propagation while respecting the environment.

References :

[1]Poster «*BIOCONTROL OF DROSOPHILA SUZUKII BY TWO FATTY ACIDS*», Berthelot-Grosjean, in this meeting.
[2]Patent n° PCT/EP2020/075386.

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