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

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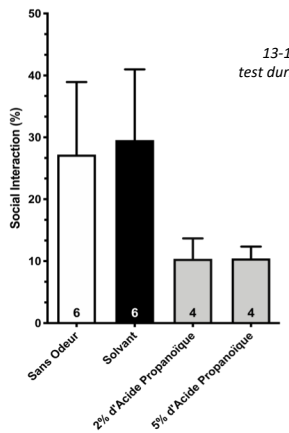
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Recently we discovered an innovative solution to control *Drosophila suzukii* behavior<sup>1</sup>. Using this knowledge, we started to investigate the possibility to apply this strategy to insects considered as pests, like *Bactrocera oleae* (olive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

## 1. Social interaction



13-19 days old  
test during 10 min

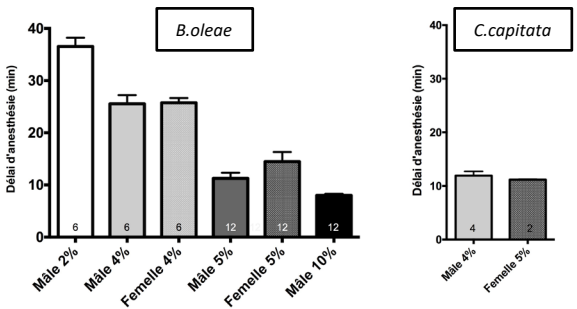


*B.oleae* males show less interactions towards females if there is propanoic acid.

## 2. Reversible anesthesia

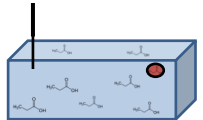
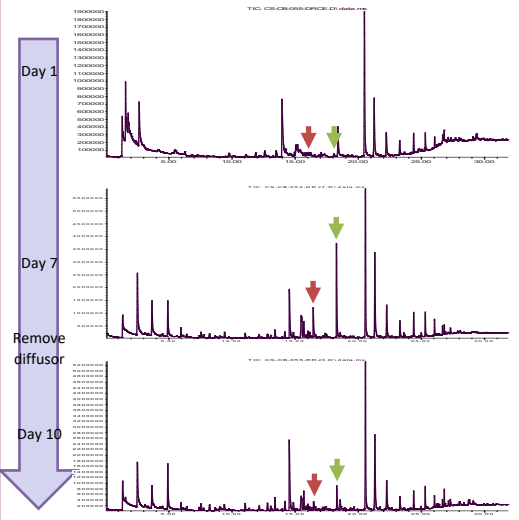


3-9 days old



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

## 3. Diffusion and persistence 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<sup>2</sup> could be interesting to avoid infestation of fruits by limiting egg laying and population propagation while respecting the environment.

### References :

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