

Olive volatile compounds as possible attractants of olive moth (*Prays oleae* Bern.)

Ana Bego¹, Filipa Burul¹, Marijana Popović¹, Maja Jukić Špika¹, Tonka Ninčević Runjić¹, Marija Mandušić¹, Jakša Rošin¹, Maja Veršić Bratinčević¹, Elda Vitanović¹

¹Institut za jadranske kulture i melioraciju krša, Put Duilova 11, Split, Hrvatska (Ana.Bego@krs.hr)



INTRODUCTION

Olive moth, *Prays oleae* (Bern.) is one of the most important olive pests, causing damages every year. For years, the use of pesticides was the main method for *P. oleae* controlling, which intensive use had a negative effect on the environment. Therefore, the EU is seeking to reduce pesticide use by 50% by 2030 and 100% by 2050. Due to all the above, it is necessary to find new solutions that would be effective in *P. oleae* controlling and in the same time environmentally friendly.

Current knowledge suggests that different insect species are attracted to the host plants volatiles.

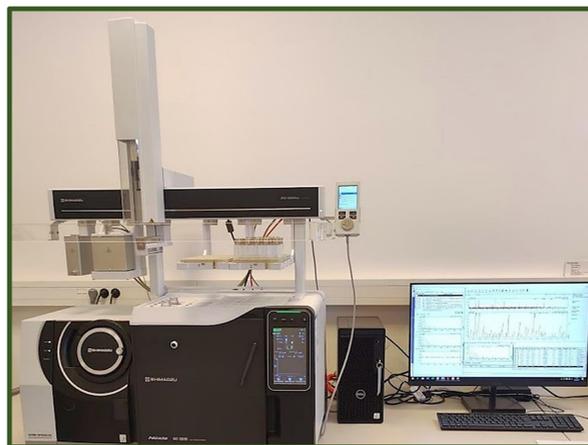
Since the interaction between olive tree and olive moth has not been investigated yet,

the aim of the study was to identify the olive tree volatiles that could be responsible for *P. oleae* attracting and to test them in olive groves. This study is part of the project „New methods in olive pests controlling using plant volatiles” KK.01.1.1.04.0002

MATERIAL AND METHODS



1. Plant material was sampled on selected olive cultivars



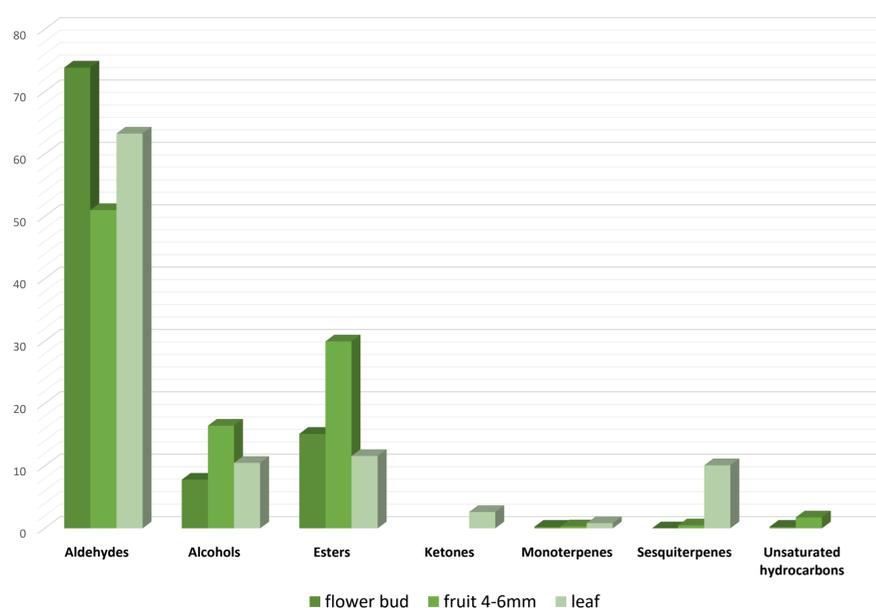
2. Volatiles were identified using HS-SPME-GC-MS



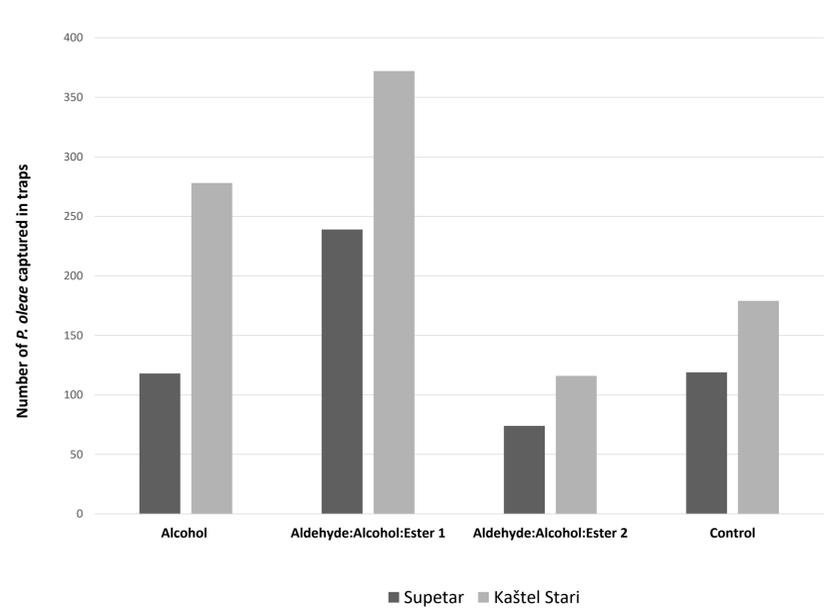
3. Selected volatiles were tested individually and in blends using delta traps

RESULTS

Groups of volatile compounds identified in olive plant materials



Number of *P.oleae* in traps containing selected volatile compounds in different olive orchards



During investigation, around **70 different volatiles** were identified, among which two aldehydes, two alcohols and an ester were selected. They were tested, individually and in blends, in selected olive groves, using delta (RAG) traps. The results of this study showed that alcohol and the blend of aldehyde:alcohol:ester, attached to traps that contained pheromone, attracted a much larger amount of *P. oleae* than traps containing only the pheromone.

This discovery may lead to the development and improvement of new attractants, that could be a useful tool for monitoring and/or controlling of *Prays oleae* in the future.

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