

Tropical basil effect on *Tuta absoluta* Meyrick (Lepidoptera: Gelechiidae) oviposition response

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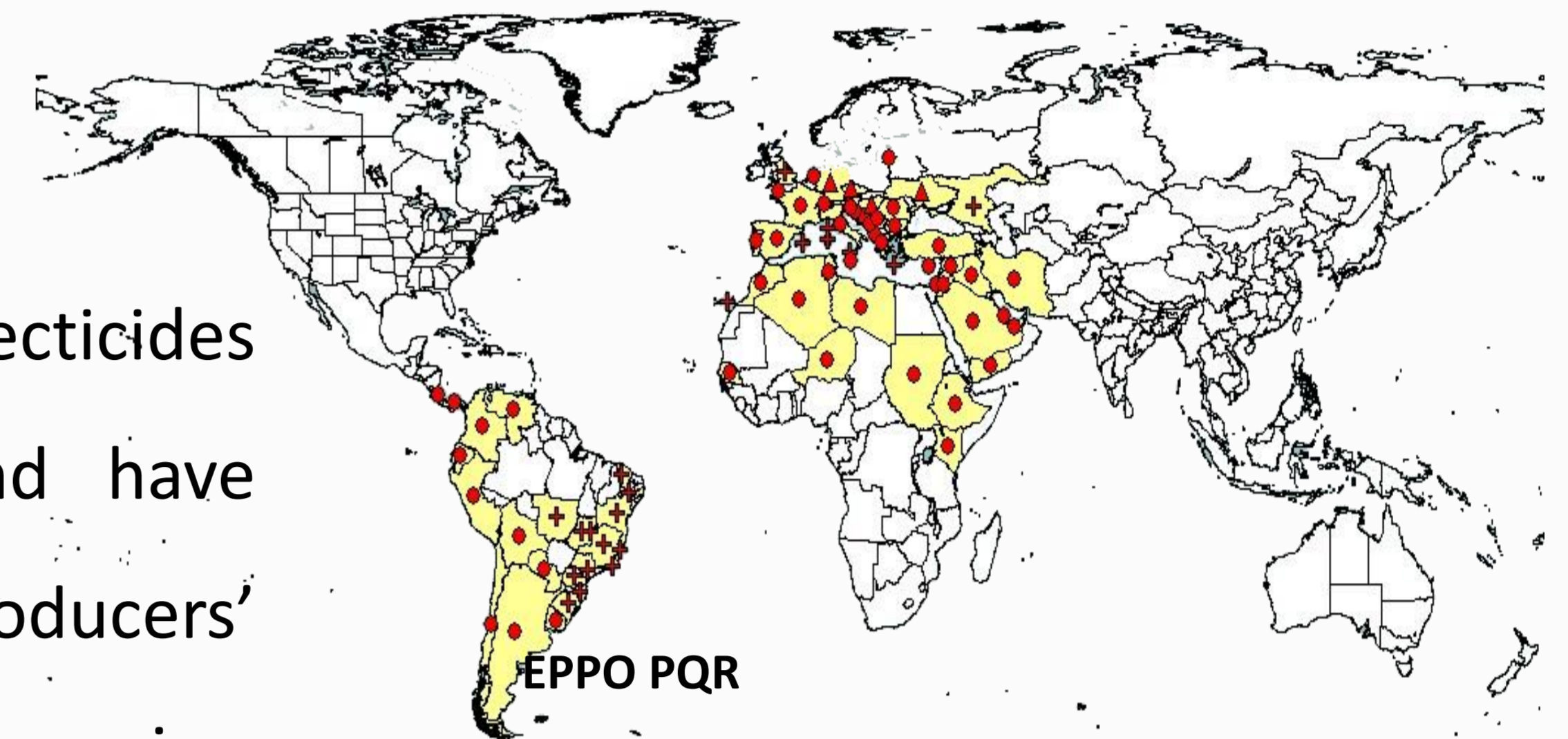
Problematic

The tomato leafminer, *Tuta absoluta* is one of the most important pests of tomato in several countries around the world. The larvae can destroy all aerial parts of plants resulting in severe yield losses.



Larvae damage on tomato leaves (a) stems (b), fruits (c)

Because synthetic insecticides lead to resistance and have adverse effects on producers' health and natural enemies, there is a need for alternatives.

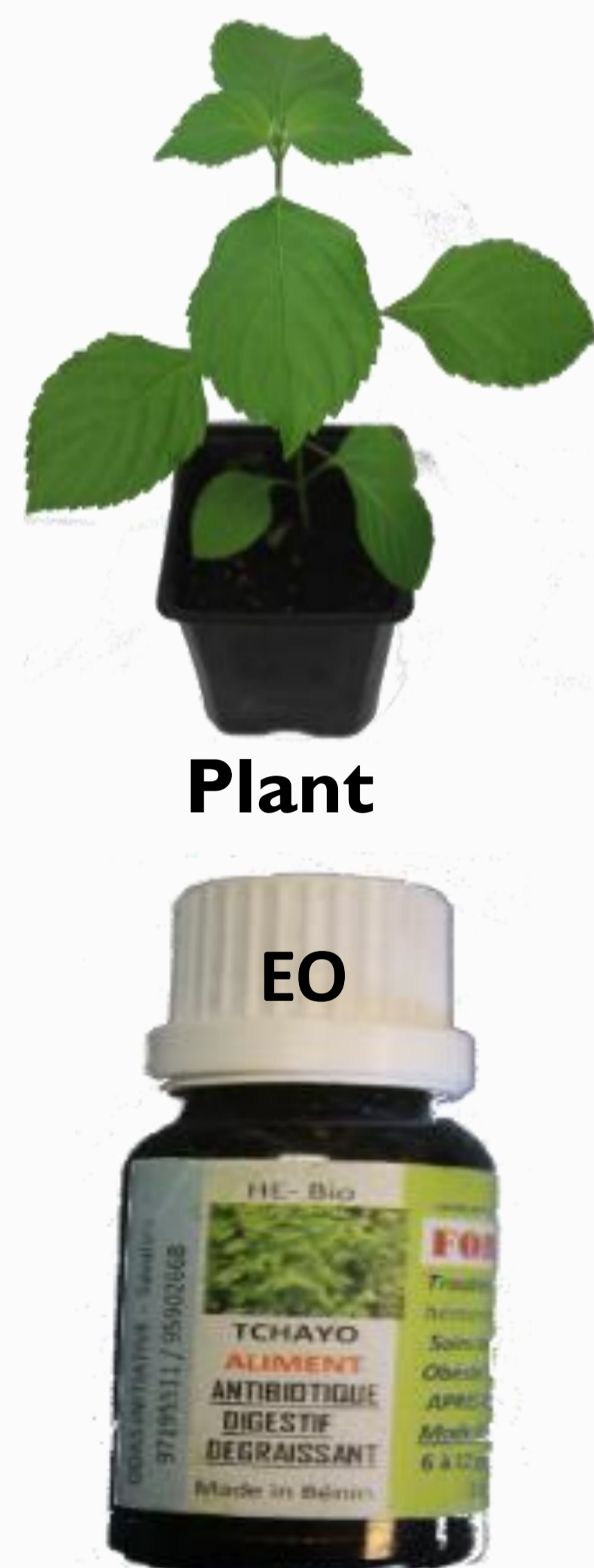


worldwide distribution

In this study, we assess the oviposition deterring effect of tropical basil (*Ocimum gratissimum*) on this tomato leafminer.

Methodology and results

Plants volatiles and essential oil (EO) analyse



Plants volatiles were collected with the solid-phase micro-extraction method.



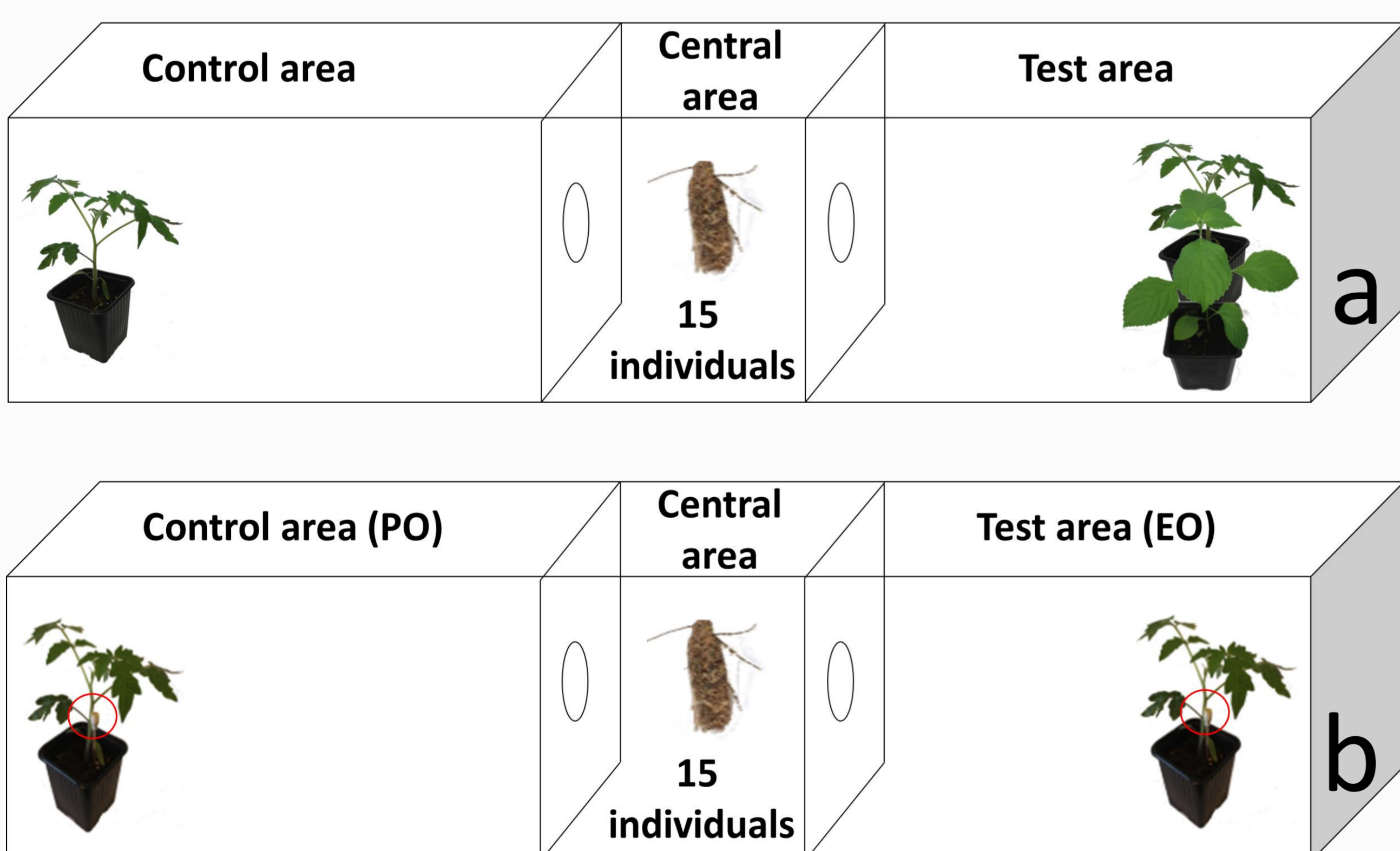
Apparatus of GC-MS analyses

Eighteen and 20 constituents were identify respectively in plants volatiles and EO.

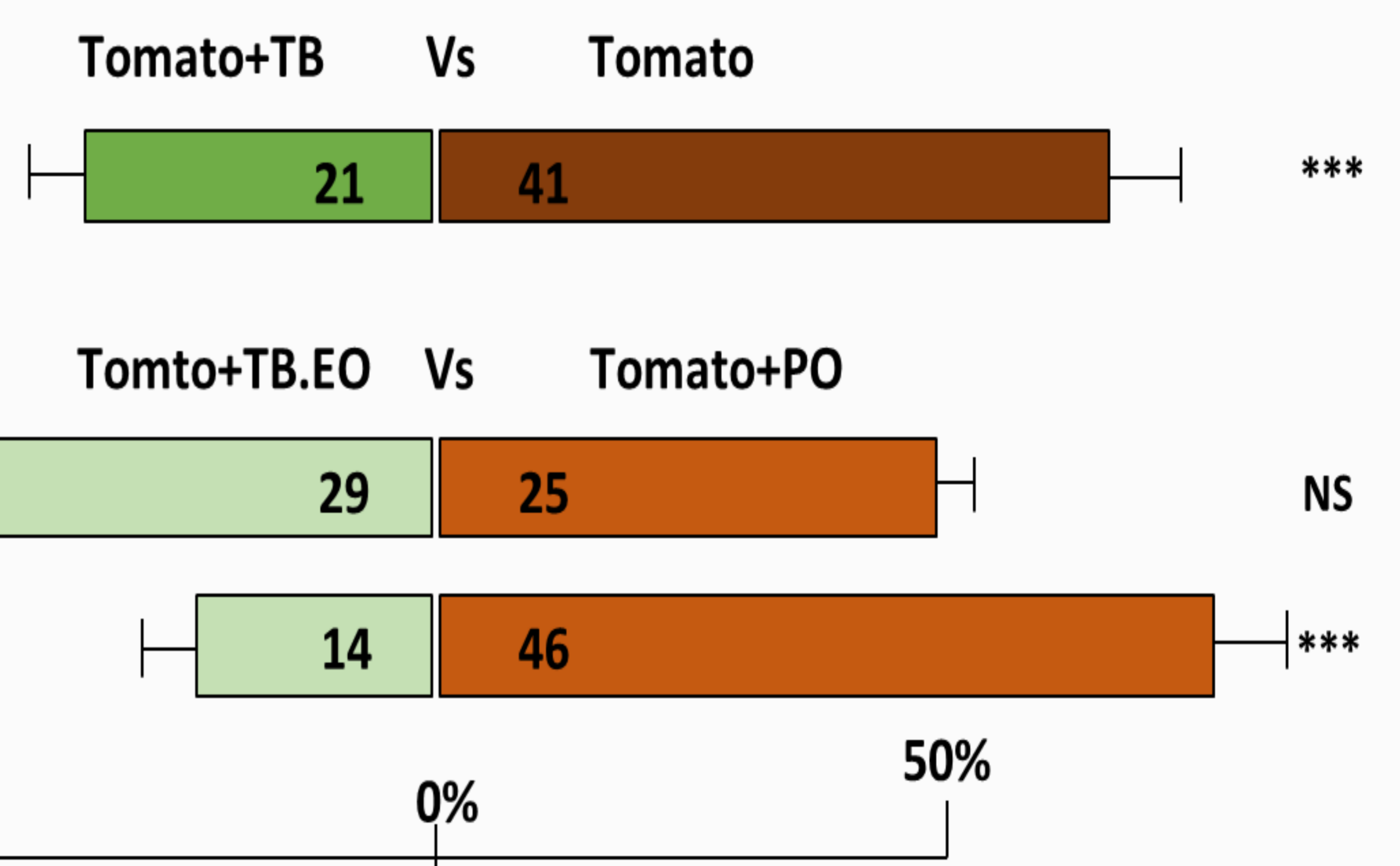
Major compound identified for plants VOC and EO

Compounds	Plants (%)	EO (%)
Thymol	-	33,3
p-cymene	33,5	20,4
γ-terpinene	23,6	16,9
Myrcene	-	3,9
α-terpinene	7,2	-
α-thujene	6,7	-

Behavioral assays



Dual-choice behavioral assays performed in flight tunnels (230 × 45 × 45 cm) with plants (a) and EO (b). PO: Paraffin oil



Average number of eggs laid by *T. absoluta* females on tomato plant after 48h (Mean of 6 replicates). TB: Tropical basil, PO: Paraffin oil

Conclusion

These results suggest a valuable potential of topical basil and associated essential oils as a component of integrated management strategies against the tomato leafminer.

Acknowledgments

