

## **Liothrips oleae: emerging pest in South Italy**

Gregorio Vono<sup>1</sup>, Carmelo Peter Bonsignore<sup>2</sup>, Rita Marullo<sup>1</sup>

<sup>1</sup> Department of Agriculture, Mediterranean University of Reggio Calabria, Italy; <sup>2</sup> LEEA Laboratory, Department of Heritage-Architecture-Urbanism (PAU), Mediterranean University of Reggio Calabria, Italy

Olive growing has always been one of the main productive sectors of the Calabrian agricultural sector. The systematic use of pesticides and the current climate changes are the main causes that trigger the alteration of biological balances within complex agroecosystems, including olive groves. Due to its low population density, the olive thrips, known as a secondary pest, never required ad hoc interventions for its containment. Since 2016, however, in Calabria, the olive groves of the Ionian coast were affected by massive infestations of the thrips species, which led to significant production losses due to the damage caused to the vegetative-productive apparatus of the plants. Field monitoring and evaluation of symptoms, in relation to different phytosanitary management systems, can provide useful information relating to the life cycle of the species, as well as the appropriate tools useful for implementing the best economically sustainable defence strategies and environmental. The study was conducted in the 2018-2019 period, through the sampling of fruits and sprouts, in olive-growing plots characterized by different phytosanitary management (Organic and IPM). The evaluation of the infestations was performed through a visual analysis and counts of the damage caused by the species. The estimate of some biometric parameters such as drupe diameters and the number of symptomatic leaves have been related to the damage comparison model adopted. The level of damage counted as the number of bites on fruits was greater in the fields where phytosanitary management is biological. For both years of study, the diameter of drupes is greater in integrated management olive groves. The results also show that the olive thrips is able to damaging leaves and fruits independently, in conditions of high populations density. These preliminary results highlight how a species considered as a secondary pest can become a key-pest for the olive crops in some Mediterranean areas. Further investigations will be necessary in order to understand the eco-biological factors behind this emergence.

**KEY WORDS:** *Liothrips oleae*, secondary pest, damage, phytosanitary management.