

VIII Incontro Nazionale sui Fitoplasmi e le Malattie da Fitoplasmi

Catania, 14-15 Ottobre 2021



V I I I Incontro Nazionale sui Fitoplasmi
e Malattie da Fitoplasmi

BOOK OF ABSTRACTS

Patrocinato da:



Three-year monitoring of potential insect vectors of “flavescence dorée” in Trentino vineyards through use of chromotropic traps.

A. Gelmetti, F. Ghidoni, L. Zapponi, V. Mazzoni, M. Bottura
Fondazione E. Mach, S. Michele all'Adige (Trento) Italy

Since the appearance of “flavescence dorée” (FD) in the Trentino vineyards in 2001, the Technological Transfer Center of the E. Mach Foundation, on behalf of the Phytosanitary Office of the Autonomous Province of Trento, has carried out annual monitoring activities to evaluate the spread in the viticulture areas of the main insect vector of the disease: the leafhopper *Scaphoideus titanus*. From 2015 the presence of other leafhoppers/ planthoppers of interest for viticulture has also been evaluated by the use of adhesive chromotropic traps (model “Glutor yello” by Biogard®, 10x25 cm, positioned vertically in the center of the vineyard, exposed from the beginning of July until the beginning of November and replaced every 14 days). In this first year of the survey other potential vectors of FD were found: *Orientus ishidae*, *Dictyophara europaea* and *Phlogotettix cyclops* and other species more or less relevant for viticulture were identified, including: *Fieberiella florii*, *Hishimonus* cfr *hamatus*, *Hyalesthes obsoletus*, *Neoliturus fenestratus* and *Philaenus spumarius*. However, the discovery of *Erasmoneura vulnerata* in the traps only began since 2017. The monitoring network is composed of 101 stations distributed in all the main provincial vineyard areas across 39 municipalities. The vineyards, located between 82 and 669 meters above sea level, belong to private farms, in the 86% of the cases the training system is “pergola” and the variety most represented are Chardonnay (39% of sites) and Pinot Gris (28%). This work summarizes the results of the last three years of monitoring, from 2018 to 2020, a period during which the insecticide defense was carried out in all the vineyards according to the indications given annually by the mandatory control for FD and its vector: in 72% of cases with active substances that can be used in IPM strategies and the remainder with pyrethrum-based insecticides; in 2018 and in 2019 generally with a single insecticide treatment in the post-flowering period of the vine, while in 2020 with two insecticide treatments, both in organic and integrated viticulture. The survey shows that the main insect vector of FD, *S. titanus*, is present in almost all the monitored sites, and the population densities are generally significant: the portion of the sites that recorded more than 10 catches per season was, in three years, on average 77%, while those more than 100 were 23%. The flight of the insect had a similar trend in the three years of observation, with a peak detected in the period between 5th and 18th August, the month in which 50% of total annual catches are recorded. The observations showed that in the Trentino environment, the presence of adults is very prolonged and in some cases it can last up to the phase immediately preceding the fall of the leaves of the vines, with a duration of the flight, therefore, of about 18 weeks. As for the other potential FD vector species, in general, low density populations were found and a fairly limited spread in the vineyards. More relevant levels of catches were recorded for *O. ishidae* (23% of the sites); the insect is confirmed to have a biological cycle very similar to *S. titanus*, although earlier in the season. For *D. europaea* and *P. cyclops* most of the findings consist of single and sporadic catches which took place during the season in a limited number of locations (10%) scattered throughout the various wine-growing districts of the province.