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"Flavescence dorée" (FD) phytoplasma is responsible for an epidemic quarantine disease of grapevine in Europe and control methods are mandatory. Nevertheless, the disease still progress, and alternative control methods are needed implying a better knowledge of the plant-FD phytoplasma interactions. It is known that grapevine have various susceptibilities to "flavescence dorée" in terms of percentage of infected plants, symptoms severity and phytoplasma titers, with all the *Vitis vinifera* being susceptible although at different degrees. This was shown in vineyard and in controlled conditions, for example for Tocai friulano, Nebbiolo and Merlot (Ripamonti *et al*., 2021; Eveillard *et al*., 2016).

Omics studies were then undertaken to determine the mechanism of response of the plant to the FD phytoplasma infection. Highly and poorly susceptible varieties were studied to identify resistance or susceptibility factors. Indeed, transcriptomic changes were observed in infected plants for several genes in various pathways (Casarin *et al*., 2023; Bodin *et al*., 2023). Metabolomic changes were also observed between healthy and infected grapevine, but also between highly and poorly susceptible cultivars (Deborde *et al*., 2023; Teixeira *et al*., 2020, 2023; Davosir *et a*l., 2023). Moreover, these changes could be linked to genes overexpression or repression. In addition to poorly and highly susceptible cultivars, transcriptomic analysis were also done on recovered grapevine showing specificities (Pacifico *et al*., 2018). In parallel to these researches concerning the plant response, effectors secreted by phytoplasmas have been shown to interfere with host plant physiology, presumably in favor of phytoplasma multiplication or dissemination. Most of the recent studies of phytoplasma effectors have focused on a few proteins that are not encoded in the "flavescence dorée" genome but one (Debonneville *et al*., 2023). These researches aim to identify grapevine genes, metabolites or pathways associated to FD resistance or susceptibility that could be used as biomarkers or targets to inactivate or enhanced to help the plant fighting against the disease.

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