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Review paper

Review of symptoms, epidemiology and preventive measures that minimize the spread of flavescence dorée in uninfected areas

Abstract

Flavescence dorée is one of the most important grapevine diseases in Europe with potential to cause significant damage, and therefore indexed on the A2 EPPO Quarantine List (Directive 2000/29/EC). The vector that epidemically spreads the phytoplasma among vines is *Scaphoideus titanus*. Major damage caused by flavescence dorée is the reduction of yield and the decline of infected plants. In cases when necessary measures of suppression are not applied, the disease can spread epidemically and within a few years the vineyard can become completely infected and unproductive. In case of suspected infection, it is necessary to ascertain whether there are at least three different symptoms typical for the disease, such as atypical leaves discoloration, absence of shoot lignification, and berry shriveling or grape desiccation. However, described symptoms are not reliable indicators of flavescence dorée infection, so potential presence of the phytoplasma has to be confirmed by laboratory analysis. In the regions where the disease has not yet been established, it is extremely important to conduct detailed vineyard monitoring *s* in order to prevent introduction and eventual occurrence of the epidemic spread of flavescence dorée. Some of the key measures that should be applied in a vineyard region, prior flavescence dorée introduction, include: monitoring of *S. titanus* distribution and population but without implementation of vector control strategies when the vector population is low or not known; while in situations where the vector is present in high population it is advised to implement vector control strategies and thoroughly monitor all vineyards (productive and abandoned) in order to promptly determine flavescence dorée symptoms when they first appear. In this paper we present a brief review of flavescence dorée symptoms, its primary vector *S. titanus*, host plants and their mutual relationship, as well as an overview of measures recommended to implement in order to prevent the spread of the disease in uninfected areas.

Keywords: *Ca. Phytoplasma vitis*, flavescence dorée, *Scaphoideus titanus*, monitoring, management.