



POSTER COMMUNICATION

Effectiveness of “curettage” and rootstock over-grafting in the control of esca

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ABSTRACT

Context and purpose of the study - The grapevine domestication requested the need of pruning, which expose the vines to trunk pathogens, leading to the spread of vine trunk diseases. (GTD). Among these, Esca disease, primarily caused by *Phaeoconiella chlamydospora*, *Phaeoacremonium aleophilum*, and *Fomitiporia mediterranea*, bring significant challenges to European viticulture. Nowadays, no curative techniques are available to counteract the development of GTD. The possibility to adopt surgical techniques such as “curettage” to remove unhealthy wood from the grapevine tissues has been reevaluated as a promising technique to recover plants after Esca infection. A long-term experiment have been set up in different vineyards to examine the effects of curettage and rootstock over-grafting as potential methods for containing Esca.

Materials and method – Three trials were carried out in Italy (two in Tuscany and one in Veneto regions, respectively). For each site, a completely randomized block design was set, with 4 replicates of 150-200 vines each. For several years, symptomatic vines were treated with curettage (removal of decayed wood) or over-grafting, and the manifestation of symptoms, recurrence, and mortality rates were compared with untreated controls. A GIS database was created to store data collected during field visits. Furthermore, survival curves (Kaplan-Meier) were created, updating the year of symptom onset to year zero, and then observing the number of death events over time. These curves were compared using the statistical test of logarithmic ranks.

Results - The results revealed that both techniques reduced the symptoms of Esca. The survival analysis showed that the treated vines had a significantly higher probability of survival compared to the untreated ones. While curettage aim to reduce the fungal inoculum of *F. mediterranea*, maintaining the vigor and productivity of the plant, the effectiveness of overgrafting varied depending on the health status of the rootstock. Overall, both methods offer promising but conditionally effective alternatives for managing GTD, suggesting the need for integrated and site-specific approaches in vineyard disease control.