Bois noir disease incidence is reduced by grafting of shoots from recovered grapevines

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Bois noir (BN), the most widespread disease of the grapevine yellows complex, is associated with '*Candidatus* Phytoplasma solani' (CaPsol). Due to its multifaceted ecology, BN control is extremely difficult. Several studies showed that BN recovery can be elicited by abiotic stresses and treatment with resistance inducers. In this study, field trials along with molecular analyses have been conducted to evaluate if grafting of shoots from recovered grapevine plants can increase the BN recovery rate in symptomatic grapevines and decrease the new CaPsol infection rate on asymptomatic grapevines. Field trials were performed in two BN-affected vineyards (cv. Chardonnay/Kober 5BB) in Franciacorta (Lombardy Region, northern Italy). Grafting effects were evaluated for three consecutive years by symptom observation and CaPsol detection by nested-PCR amplification of *stamp* gene and compared with non-grafted control vines. Obtained data showed that BN incidence was lower in grafted plants, mainly due to a statistically significant increase of recovery rate, four times higher than in non-grafted plants. These data indicated that grafting of recovered shoots can efficiently induce BN recovery, opening an interesting scenario for its utilization in sustainable strategies of vineyard management.

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