IMPACT OF *Xylella fastidiosa* subsp. *fastidiosa* INFECTION ON SELECTED GRAPEVINE VARIETIES RELEVANT TO APULIAN VITICULTURE

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In recent years, an emerging phytosanitary threat has increasingly affected Apulia, targeting one of the most strategic sectors of regional and national agriculture: table grape production. In 2024, *Xylella fastidiosa* subsp. *fastidiosa*, the causal agent of Pierce's disease (PD) of grapevine, was detected for the first time in the municipalities of Triggiano and Noicattaro (Province of Bari), within one of Italy's main table grape districts. The presence of the bacterium in such a highly specialized production area is epidemiologically significant, given the susceptibility of *Vitis vinifera* and the potential consequences in terms of vine decline, yield losses, and economic sustainability. Within the NOVIXGEN project, an experimental assessment was conducted to evaluate the response of *V. vinifera* varieties cultivated in Apulia to infection by *X. fastidiosa* subsp. *fastidiosa*. As the pathogen is currently not established in the region rather in the process of being eradicated, experiments were carried out in the Balearic Islands, which are infected zones, at the Consejería de Agricultura, Pesca y Medio Natural (Palma). Trials were performed over two consecutive years (2024–2025). A total of 12 cultivars were tested, including 8 wine and 4 table grape varieties. In 2024, plants were inoculated with strains XYL 2055/17 and XYL 2177/18; in 2025, strains XYL 1734 and V4 were used. All cultivars proved susceptible, though with variable symptom severity and bacterial colonization. Symptoms were consistent with PD and included marginal leaf necrosis, lamina abscission with petiole retention, incomplete shoot lignification with green islands, reduced vigor, and berry shriveling. Among wine cultivars, Primitivo showed the highest symptom severity and bacterial load (TaqMan qPCR). Among table grapes, Baresana and Italia exhibited more severe symptoms, whereas Victoria and Baresana showed higher bacterial concentrations. No linear correlation emerged between bacterial load and symptom severity, suggesting that disease expression is influenced not only by xylem colonization but also by host physiological and defense responses. In our assays table grape variety Crimson seedless showed the lowest symptom severity, while the bacterial load was similar to those found in the other varieties. The symptom severity and bacterial loads of the same plants inoculated in the previous year will be evaluated in the next year in order to assess the effect of the prolonged infection.