economic losses in both agricultural and forestry sectors. The Legislative Decree No. 19/2021 redefined the new national phytosanitary system and established a Network of Laboratories including the National Reference Laboratory, the Official Laboratories and others operating on the national territory in the plant protection sector. The Official Laboratories perform analyses, tests and diagnoses in the context of official controls and other official activities. To ensure highest standard results, these Laboratories must be accredited according to standard EN ISO/IEC 17,025. In this context, the Official Laboratory of Plant Health Service of Lombardy Region performs analyses for detection, identification and characterization of bacteria, fungi and oomycetes, insects and mites, nematodes, viruses, viroids and phytoplasmas. The diagnostic activity encompasses from traditional to advanced molecular techniques. In the era of climate change and globalization, the early detection and the accurate identification of pathogens and pests represents one of the most important goals of Plant Health Service. Therefore, we present our experience as Official Laboratory including the accreditation process, the contribution to development of new standard diagnostic protocols, and the collaboration with national and international research centers.

Development of a new LAMP assay for the fast diagnosis of *Gnomoniopsis castaneae*

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Gnomoniopsis castaneae (syn. *Gnomoniopsis smitholgivyi*) is an emerging fungal pathogen causing nut rot in sweet chestnut (*Castanea sativa*) but also reported as agent of cankers on twigs as well as of necroses on galls and leaves. Nut rot disease was observed in northern Italy since the second half of the nineteenth century, but only recently its incidence and severity was associated with outbreaks of *G. castaneae.* The little knowledge about the disease epidemiology, its almost ubiquitous distribution in chestnut groves and its endophytic occurrence in chestnut organs make it difficult to find valid solutions for its management and control. The possibility of a fast and accurate diagnosis could represent a valuable alternative to monitor pathogen occurrence both in pre- and in post-harvest conditions. Among the strategies today available to counter the disease, molecular detection tools are the most effective for disease diagnosis with high sensitivity and specificity. However, molecular detection often requires a well-equipped laboratory to be applied, limiting the speed and user-friendliness of the diagnosis. The aim of this work was to develop a new LAMP-based tool to be applied directly on site for the early detection of *G. castaneae*. The assay, optimized on the portable instrument Genie III (Optigene, UK) and based on the Ef1-α target region, can recognize the pathogen with a high level of specificity and sensitivity in about 20 min. Application of this method in chestnut orchards and in the subsequent processing steps of the fruit and derived products (e.g. chestnut flour) might provide a new, intriguing perspective for disease prevention and control directly in the field and in the chestnut processing chain.

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Trichoderma application for reducing copper-based fungicides use and controlling phytopathogens

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Copper (Cu)-based agricultural products are widely used as antimicrobial compounds in different pathosystems. However, their frequent applications can cause indiscriminate Cu accumulation in soil and water sources, negatively impacting micro- and macro-organisms. On 22th June 2022, European Commission proposed a 50% reduction in Cu pesticide applications by 2030, as part of its mandate for sustainability and biodiversity preservation. The development of effective alternative products which can contribute in minimizing pollutant release in the agroecosystem is needed. The present research was aimed at testing the efficacy of *Trichoderma*