PhD Thesis Defense

On **Friday February 14th 2025 at 11.00 am** in the classroom **G,** Via Santa Sofia 100

Claudio Cannata (XXXVII cycle)

Doctor Europaeus Candidate

Will discuss his PhD theses titled

Innovative Approaches to Enhance the Agronomic and Quality Traits of Mediterranean Vegetables

Thesis Abstract

Tomato (*Solanum lycopersicum* L.) and carrot (*Daucus carota* L.) are among the most important vegetable crops in terms of economic value on a global scale, concurrently representing key vegetables for the human diet. In recent years, these crops have shown significant biological innovations. This trend has led to the introduction and diffusion of novel genotypes characterized by important differences not only in terms of agronomic performances, but also in their quality traits (e.g. appearance, flavour, nutritional value). For this reason, the present doctoral thesis aims to: i) expand the body of knowledge related the adaptability of recently introduced tomato and carrot cultivars to the Mediterranean conditions (specifically South Italy); ii) asses the effectiveness of agronomical practices (i.e. biofortification and biostimulation foliar sprays) to improve the crop agronomic performances and the overall quality of the products; and iii) evaluate how the main quality attributes of the chosen cultivars (tomato and carrot) evolve during postharvest under refrigerated storage. The results underscore the central role of the genetic background on yield performance and quality attributes of the products at harvest and during their postharvest life. The application of biofortification and biostimulation foliar sprays, either alone or combined, positively affected the yield performances and/or several quality attributes (e.g. mineral, carotenoids and phenols content) of the tested novel cultivars. These results provide important information to those farmers seeking to diversify their production, and to consumers looking for high-quality vegetables. Nonetheless, since in several cases, a genotype-depended response was observed, additional studies are required to improve the predictability of these results in relation to different cultivars, agronomic practices and growth conditions.

Advisor:
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Co-Advisor
Prof. Cherubino Leonardi