O-2 (108) Keynote Speaker
GRAFTING A CHANCE TO ENHANCE GROWTH AND QUALITY OF TOMATO AT ABIOTIC STRESSES

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In recent years the objective of grafting in annual fruit crops has been greatly expanded and thus, the cultivated area of grafted tomato (*Solanum lycopersicum)* has increased tremendously. Grafting is used to enhance plant tolerance against several abiotic stresses, such as salinity, thermal stress, nutrient deficiency, toxicity of heavy metals and organic pollutants, drought, flooding, and alkaline soils. Particularly under sub-optimal conditions, the potential to enhance growth and yield are significant while the effect on quality is contradictory and less clear. This review focuses on these stresses, i.e. sub-optimal conditions between the threshold for optimal activity or development and the threshold at which the plant can successfully complete its life cycle. It considers grafted tomato and the root-derived molecular and physiological mechanisms involved in optimized rootstock-scion interaction and scion performance. Given the complexity of these traits, suggestions for selection and use of stress-tolerant rootstocks are discussed as well.

Keywords: rootstock, scion, Solanum lycopersicum, salinity, low temperature