

**ABSTRACT BOOK**

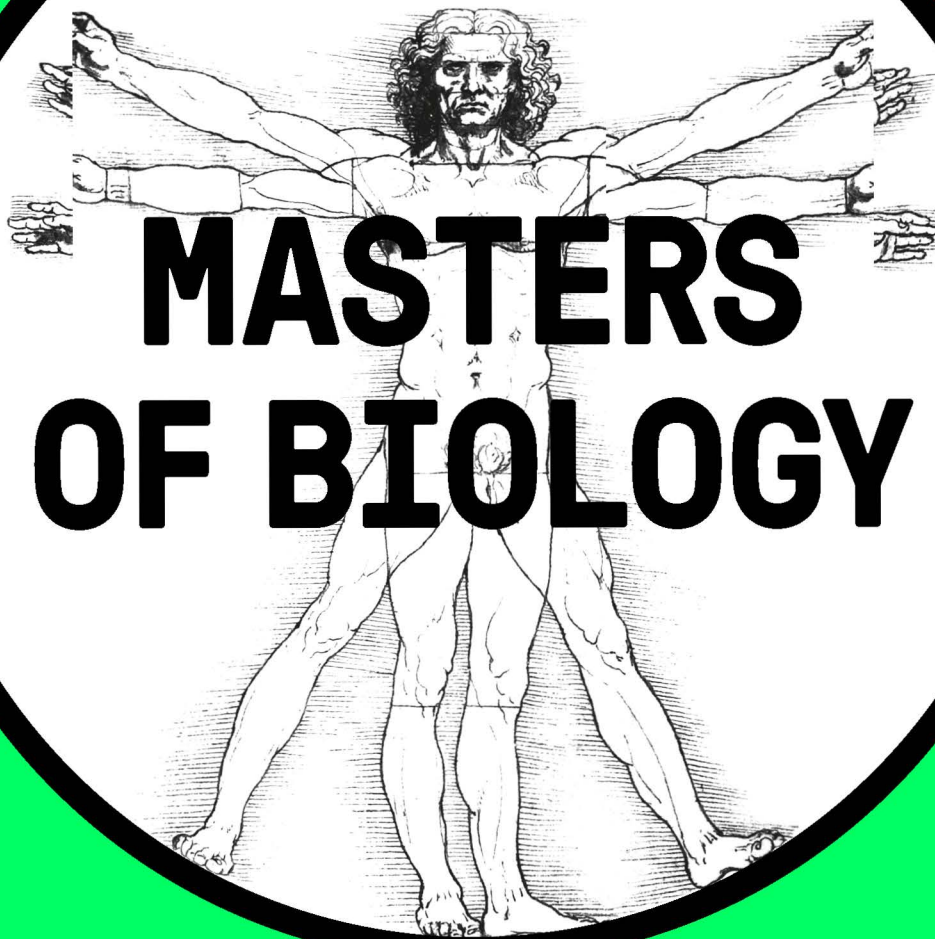
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## PC1.58 PHYSIOLOGICAL AND BIOCHEMICAL RESPONSES OF OLIVE TREE TO POTASSIUM SUPPLY UNDER RAIN FED CONDITIONS

THURSDAY 5 JULY, 2018 POSTER SESSION

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Olive tree has a relevant economic, social, cultural and environmental importance in the Mediterranean region. Although the crop is modest in mineral nutrition requirements, the physiological and biochemical processes respond positively with a balanced mineral nutrition regime. The study, conducted in Bragança (Northeast Portugal), began in 2013 in a 3-year-old olive grove, with two treatments (application of 133 g K tree<sup>-1</sup> yr<sup>-1</sup> and without K). After a period of 3 years in which there were no significant physiological and biochemical effects, the results during 2017 and winter 2018 showed that K supply ameliorate olive tree physiological performance, as indicated by higher net photosynthetic rate, due to lower stomatal and non-stomatal limitations, the last more evident in winter measurements in a close association with higher intrinsic water use efficiency, and superior relative water content, as well as higher concentrations of leaf total soluble proteins and soluble sugars, both in leaves and branches. Conversely, K-supplied trees presented lower electrolyte leakage and leaf starch concentration at winter 2018, as well as inferior concentration of total phenols during the peak of summer stress. The results are of great importance for agricultural practices of this crop, highlighting the fundamental role of potassium in olive tree function under rain fed conditions, both in summer and winter seasons.

## PC1.59 CHEMICAL COMPOSITION OF WHEAT SEED AFTER SELENIUM SUPPLEMENTATION

WEDNESDAY 4 JULY, 2018 POSTER SESSION

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Selenium is a beneficial nutrient for the human being and its consumption in recommended amounts can avoid several health problems. Nowadays there is a growing demand for foods that have not only the essential nutrients but also other nutrients like selenium that promote the human health. Wheat is a relevant crop all over the globe, being one of the most used crops as a staple food source. Through biofortification, it is possible to increase the nutritive value of cereals, particularly wheat. This work aims to study changes in nutritive constituents of wheat after selenium supplementation. Selenium was applied in two different concentrations by seed hydro-priming before sowing and by foliar spray after plant tillering. Fifteen plants per treatment were harvested to evaluate the grain production, dry matter (DM), ash content (Ash), crude protein (CP) and fibre content (DF). Mean values of %DM, ash and CP were higher (91%, 18g/kgDM, 163g/KgDM, respectively) than those reported by previous studies. Significant differences were observed in the DM, ash, CP, and DF among seed treatments. No correlation is observed between DM and CP. The hydro-priming treatments revealed more quantity of DF than foliar spray treatments. However, the opposite occurs with the CP. When compared with control, all treatments showed an increase in the amount of CP and DF. Our work showed that the application of selenium by priming and foliar spraying seems to be a suitable method to improve its concentration in wheat plants without devaluing the nutritional value of the grain.