

P-92 (155)**EFFECTS OF WATER STRESS AND SALINITY ON THE QUALITY OF DIFFERENT GENOTYPES OF BASIL AT HARVEST AND DURING STORAGE**

Dr. Farzaneh Bekhradi, 942, Kashani Ave.Esfahan.Iran, Iran;

farzaneh.bekhradi@sroovesh.com (Presenting author)

Dr. Maria C Luna, CEBAS-CSIC, Espinardo, Spain; mluna@cebas.csic.es

Assoc. Prof. Mojtaba Delshad, University of Tehran, Tehran, Iran; delshad@ut.ac.ir

Dr. Alicia Marian, CEBAS-CSIC, Espinardo, Spain; alimafer@cebas.csic.es

Dr. Maria Jose Jordan, IMIDA, La Alberca, Spain; mariaj.jordan@carm.es

Dr. Juan Antonio Tudela, Universitario de Espinardo. Espinardo. , Murcia, Spain;

jatudela@cebas.csic.es

Prof. Dr. Maria Isabel Gil, CEBAS-CSIC, Espinardo, Spain; mgil@cebas.csic.es

Fresh basil (*Ocimum basilicum* L.) has become increasingly popular in recent years because of its superior flavour. Control of abiotic stresses during cultivation can improve quality and extend shelf life of fresh basil. The aim of this work was to study the influence of water stress and salinity on the quality after harvest and during storage of three fresh basil genotypes, Green Iranian, Purple Iranian and Genovese. To evaluate the influence of water stress, three treatments were compared: control that was established according to field capacity, 25% and 50% deficit irrigation. To evaluate the effect of salinity, two levels of salinity included 40 and 80 mM NaCl were compared with 0 mM NaCl as control. After harvest, plants were packed in plastic trays and stored in air at 12 ° C for 7 days. In general, reducing irrigation dose did not affect the visual quality of any of the genotypes studied. However, salt stress positively affected the visual quality of Green Iranian basil. Moreover, increasing water stress increased phenolic compounds and essential oils content of all genotypes although the content of total phenolic acids and anthocyanins did not show differences between irrigation treatments. During storage, salinity stressed Green Iranian increased the content of individual and total phenolic acids compared to control leaves. In conclusion, salinity reduced the visual performance while improved product quality whereas water deficit did not affect either the performance or visual quality. The increase in the content of phenolic compounds and essential oils was observed under both water stress and salinity growing conditions.

Keywords: Basil, Postharvest, Quality, Irrigation practices, Salinity and Soilless culture