

P-105 (224)**THE STUDY OF THE RESPONSES OF SIX DIFFERENT CITRUS GENOTYPES TO CONTINUOUS FLOODING CONDITIONS****Reza Partiya**, Department of Horticultural Science, University of Guilan, Rasht, Iran; reza.partiya@gmail.com (Presenting author)**Prof. Reza Fotouhi Ghazvini**, Department of Horticultural Science, University of Guilan, Rasht, Iran; r.fotouhi@gmail.com**Assoc. Prof. Mahmoud Ghasemnezhad**, Department of Horticultural Science, University of Guilan, Rasht, Iran; ghasemnezhad@guilan.ac.ir**Assist. Prof. Reza Fifaie**, Citrus subtropical fruits research center, Ramsar, Iran; rezafifaie@yahoo.com

Flooding is a potential threat to different horticultural crops in lands prone to inundation. Citrus orchards mostly known as sub-tropical species are especially in danger of being affected by this environmental stress- i.e. a decrease in their yield and even plant death in cases of long exposure to flooding. In order to evaluate the responses of 6 *citrus* genotypes, including sour orange, rough lemon, trifoliolate orange, troyer citrange and 2 local genotypes labeled; CRC1 and CRC2 to flooding conditions, an experiment based on a completely randomized factorial design with two watering treatments and three replications was carried out. The factors which were focused on included; leaf cell electrolyte leakage, carotenoids, proline and soluble protein content of leaves and the activity of superoxide dismutase as well as the survival period of the genotypes. The effect of flooding, genotype and their interaction on the protein, proline, and electrolyte leakage were significant. Electrolyte leakage was increased by flooding stress and the lowest level was spotted in citrange leaves. Flooding stress had an increasing impact on the proline level of leaves. The highest level of proline was in sour orange and the lowest in citrange. Flooding stress decreased the level of soluble proteins. Trifoliolate orange and CRC1 had the highest and the lowest level of protein respectively. The longest survival period was of troyer citrange and trifoliolate orange (more than 60 days) while sour orange was the most sensitive (less than 30 days). The best thriving genotype at the end of recovery period was citrange followed by CRC2, and sour orange showed the least ability to reestablish. The results suggest that among the studying genotypes, troyer citrange and trifoliolate orange resist longer periods of inundation and also citrange and CRC2 have the best ability to reestablish after being flooded to their critical surviving point.