

P-87 (104)**ACHIEVING RESISTANT ROOTSTOCKS TO PHYTOPHTHORA ROOT AND CROWN ROT IN IRANIAN LOCAL GREENGAGE (*PRUNUS DOMESTICA* SUBSP. *ITALICA*) GENOTYPES**

Seyed Mojtaba Hosseini, Department of Horticulture Science, Science and Research Branch, Islamic Azad University, Tehran, Iran; m.2002hosseini@gmail.com (Presenting author)

Dr. Naser Bouzari, Horticultural Sciences Research Institute, Agricultural Research, Education and Extension Organization AREEO, Karaj, Iran; bouzari1111@yahoo.com

Dr. Hamid Sadeghi, Seed and Plant Improvement Institute, Agricultural Research, Education and Extension Organization AREEO, Karaj, Iran; hsgarmaroodi@gmail.com

Early decline of stone fruits is one of the most important problems occurring in the orchards. One of the well-known reasons for this problem is soilborn pathogenic fungi including *Phytophthora* species. This pathogen can infect the tree at any time and cause decay of all parts of fruit tree. There are several report nationwide indicating the effect of this pathogen in decline of cherry, peach and plum orchards. In order to achieve rootstock resistant to this pathogen, 15 plum genotypes collected from Eastern Azarbayjan, Ardebil, Kohkiluyeh-Boyer Ahmad, Kerman, Tehran and Alborz provinces. The collected seeds washed and air-dried, then stratified at cold room set at 4-5 C. After germination, the seedling potted in plastic pots. The plum (seedling) were inoculated in two steps. First, they were inoculated at the crown with three wheat grains covered with mycelia mat of *Phytophthora cactorum* isolated from stonefruits. In the second step, suspension of mycelia of the same species was applied to each seedling at the crown. Analyses of variance showed the significant difference between the genotypes for traits of survival and diameter of the seedling at the probability level of 1%. Cluster analysis using Ward method and calculating the Euclidean distance squares for disease severity data showed that the genotypes Ahmad Beiglu 91-1, Bijagh 5 and Anar B1 showed the most resistance reaction while genotypes Meshkin shahr MRS and Karaj 3548 are the most susceptible ones. It is suggested that the first three genotypes can be considered as promising rootstocks used for future research.

Keywords: Greengage, *Phytophthora*, local genotypes, tolerant rootstocks