

P-25 (168)**PROPAGATION OF A95 PROMISING EUROPEAN PEAR (PYRUS COMMUNIS L.) GENOTYPE BY MICROPROPAGATION AND LATE SUMMER BUDDING**

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A95 is a chance seedling promising European pear (*Pyrus communis* L.) genotype that have been selected through the Department of Horticultural Science, Tarbiat Modares University (TMU) pear breeding Program in recent years. This promising genotype has been selected for superiority in fruit color and taste in compare with a reference local commercial European pear cultivar 'Shahmiveh' in Iran. This research was carried out during 2015 to 2016 growing seasons in order to evaluate the propagation of A95 in compare with some of other European and Asian pear (*Pyrus serotina* Rehd.) cultivars that planted in pear collection orchard at TMU. Micropropagation was used for A95, in addition with grafting this genotype as well as some Asian pear cultivars on European pear seedling rootstock in late summer 2015. In the budding experiment different characters were evaluated including scion-rootstock graft compatibility in terms of percentage of budding survival, scion growth in length and diameter during growth season and chlorophyll a and b contents as well as the carotenoid. The results obtained from data analysis showed a significant differences in A95 and the other grafted scion cultivars on seedling rootstocks, although all studied scions showed the same budding survival. In addition, there was a significant difference ($P \leq 0.01$) among A95 and other studied cultivars in terms of chlorophyll content. The highest well matched scion rootstock combination was observed in Asian pear 'KS₁₃' and the lowest in 'KS₇' cultivars. The highest growth in terms of scion growth length was observed in A95 and the lowest growth was recorded in 'KS₇' Asian pear. In addition, 'KS₇' showed higher chlorophyll a, total and carotenoid contents than 'KS₉'. In the micropropagation of A95, the single nodes were sampled and three media including MS, 1/2MS and WPM supplemented with different concentration of IBA and BAP were used for explants establishment, shooting and rooting in the media. The highest survived explants (75%) were found in MS medium plus 1.5 mg/l BAP. Increasing BAP concentration caused increase in shoot proliferation so that the highest shooting (2.8%) was found in medium containing 2 mg/l BAP. The highest rooting (66.67%) was obtained in 3 mg/l of IBA. In conclusion, results showed the good performance of A95 in the both grafting and budding experiments when compared with the other pear cultivars.

Keywords: Proliferation, Rooting, IBA, BAP, Chlorophyll, Carotenoid