

P-59 (178)**PRELIMINARY ASSESSMENT IN GENETIC DIVERSITY OF MATURE WALNUT (JUGLANS REJIA L.) GENOTYPES IN THE NORTH OF HAMADAN PROVINCE, IRAN**

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Persian Walnut (*Juglan sregia* L.) is one of the most important horticultural crops in the world. This is well known that Iran is one of the primary sources and centre of origin for Persian walnut and is rich in walnut germplasm with a good diversity. Evaluation and identification of superior walnut genotypes within the rich walnut population of Iran is an important task in the walnut breeding program and further commercial orchard establishment. This research have been started in 2017 growing season in order to explore and evaluate the Persian walnut populations that grown under the Razan region in the North part of Hamadan Province in Iran. For this purpose and for the first step a wide and comprehensive survey have been done using questionnaires filled by the experienced orchardist in the region as well as local Department of Horticulture in the Government Agriculture Sector of Hamadan. According to the survey results there are some districts in the studied regions such as Shavand and Surtajin villages with high quality traditional walnut orchards with good and superior genotypes in the term of nut quality and growing criteria such as late leafing at the beginning of the growing season. Two hundred and seventy (270) mature own rooted Persian walnut tree genotypes were labeled according to the extensive survey from the experienced local orchardists. Trees are growing under Razan regions, evaluating for morphological, biochemical and pomological characteristics based on IPGRI and UPOV descriptors. Date of leafing and bud break, male and female flowering period, trees and nut characteristics is being evaluated. The obtained results indicated considerable phenotypic diversity in he studied walnut germplasm. Some genotypes such as SuTo4, SuMo8, SuHe9, SuHe19, ToMa13 showed are late leafing genotypes. This research will continue to evaluate the flowering, growth and nut characteristics of the labeled trees, in order to select the superior genotypes in the region for further breeding or commercial purpose.

Keywords: Walnut, Genetic diversity, Germplasm evaluation, Hamadan