

Genetic Diversity in Barberry Genotypes from Northwest of Iran as Revealed by Biochemical Characteristics and ISSR Markers

Naser Gholizadeh¹

¹*Department of Horticultural Sciences, Urmia University, Urmia, Iran*

In the present study Genetic Diversity in Barberry Genotypes from Northwest of Iran as Revealed by biochemical characteristics and Inter-simple sequence repeat (ISSR) markers. Molecular diversity by ISSR markers was investigated in ۲۶ individuals of Barberry genotypes from Northwest of Iran. Also, pH, total soluble solids (TSS), total acidity (TA) and total carotenoid (TCC) of genotypes were determined. This study showed that various species of barberry fruits have different amounts of TSS, pH, TA and TCC. The pH of barberry genotypes varied within ۲.۷۱ for G۱ (*B.carataegina*) to ۳.۷۰ for G۳ (*B.vulgaris*). According to the results, the highest and lowest TSS content was observed in G۹ (*B.vulgaris*) and G۱۷ (*B.integerima*) genotypes (۱۸.۵۰ and ۲.۰۰) respectively. In the Total acidity, the highest (۱۳.۹۰) and lowest (۳.۹۰) total acidity were observed in G۱ (*B.carataegina*) and G۱۱ (*B.integerima*) genotypes, respectively. Also the highest and lowest TCC content was observed in G۲ (۳۸.۳۷ mg/g FW) from (*B.vulgaris*) genus and G۱۷ (۴.۴۴ mg/g FW) from (*B.integerima*) genus respectively. Inter-simple sequence repeat (ISSR) techniques produced ۵۸ polymorphic bands. Result showed that the genetic similarity between barberry genotypes was ۰.۴۷ to ۱.۰۰ and the populations were divided into four groups.

Keywords: Barberry, Genetic Diversity, ISSR Markers, Biochemical

References

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