Evaluation of diversity and germination of some Muscari neglectum collected from central regions of Iran

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Abstract
The use of bulb flowers like Muscari has been welcomed in recent years in Iran's greenery. Muscari is a flowering bulb in Liliaceae family. Due to the unique blue color, aroma of flowers, the perennials habit of growth, the possibility of planting it along with other bulbous plants as a potting plant, cutting and planting in greenery is considered a valuable plant. In order to study the morphological and genetic diversity, nine populations (90 individuals) belonging to the Muscari neglectum species from central Iran were collected and 22 inter-simple sequence repeat (ISSR) primers and 10 primers of start codon targeted (SCoT) were selected. Germination and the effect of different pretreatments were investigated using two factorial experiments in a completely randomized design. The first experiment consisted of four levels of scratching (control, sulfuric acid 70% for 5, 10 and 20 minutes), three levels of priming (control and chilling for 15 and 30 days at 4 °C), and the second experiment included four polishing surfaces Seed (control, boiling water for 70, 5, 10 and 20 minutes), 3 polishing levels (control and chilling for 15 and 30 days at 4 °C). The results of morphological evaluation showed that the Golpayegan population had a higher mean for all traits. According to genetic diversity indices, Golpayegan population had the highest genetic variation. The effect of treatment of scrubbing with sulfuric acid for 5 days and chilling for 15 days were the best treatments. Among the studied populations, the Golpayegan population had the potential to introduce mass production through seeds for use in low-green areas.

Keywords: Bulb flower, Flowering, Genetic diversity, Germination, Muscari