**Morphological diversity of tomato accessions from the Gene Bank of the Republic of Srpska**

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**Abstract**

In this research the aim was to determine differences in morphological characteristics between 11 tomato accessions from the Gene Bank of the Republic of Srpska. The experiment was conducted and analysis was performed during the 2018 and 2019 seasons. A total of 16 morphological characteristics (9 quantitative and 7 qualitative) were analyzed according to International Plant Genetic Resources Institute (IPGRI) descriptors for tomato. The results showed that polymorphism (diversity) was present in all quantitative characteristics and in 6 qualitative characteristics, while only one qualitative characteristic was monomorphic (no differences between accessions). Thereby, polymorphism was present in 93.75% of morphological characteristics. Out of a total of 9 quantitative characteristics, a highly significant difference (p < 0.01) was found in all characteristics except for the 1000-seed weight since this characteristic had only one value per accession measured according to the IPGRI tomato descriptors. The accessions from the Gene Bank of the Republic of Srpska have shown high diversity in all qualitative characteristics except in plant growth type, which was indeterminate in all analyzed accessions. This research provides a new insight into the research area of diversity of tomato landraces from the Republic of Srpska, which is important for further promotion and sustainable use of germplasm not only for scientific research purposes but also for national rural farmers, who are the key to preserving traditional knowledge and skills related to the cultivation and use of traditional varieties and tomato landraces.

**Key words:** germplasm, landrace, characterization, morphology, IPGRI descriptors