

PHENOTYPING CHARACTERIZATION OF THE LANDRACES (LD) FROM THE NATIONAL TOMATO, EGGPLANT, PEPPER COLLECTIONS OF ARMENIA

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Background: Farmers in our republic have a number of ancient forms belonging to the *Solanaceae* family (*Salanaceae* Juss), which are not only important for use in breeding, but they are also highly resistant and rich in phyto-insecticidal compounds, medicinal plants, and have ethnobotanical and ethnopharmaceutical significance. The collection and preservation of these local forms has enriched the amount of genetic resources and their use in the breeding process has become important. Since the territories of a number of regions of the republic are geographically distant from the vegetable growing regions of the Ararat Plain, the local ancient forms (LD) of the main vegetable crops of the *Solanaceae* family - tomato, eggplant, sweet and hot pepper - that are present in these regions and that have been formed by local farmers have been collected and are currently being studied to characterize their phenotype.

Aim of the study: Research work was carried out to improve the phenotypic characteristics of the local ancient (LD) forms of Armenian eggplant, pepper, tomato stored at the Scientific Center and make them available through the EURISCO database, ensuring access to information for breeders, thus strengthening the information system of plant genetic resources. This approach has increased the valorization of Armenian genetic resources, promoting its use for breeding purposes, facilitating the use of spermatozoa for sustainable use.

Materials and methods: The characterization of landraces of *Solanaceae* vegetable crops from the National Solanaceae Vegetable Crop Collection of Armenia was carried out using plant descriptors (IPGRI, AVRDC and CATIE, 1995, Descriptors for Capsicum (*Capsicum* spp.), IPGRI, AVRDC and CATIE, 1990, Descriptors for Eggplant (*Solanum* L), IPGRI, AVRDC and CATIE, 1995, Descriptors for Tomato (*Lycopersicon* spp.)) and compiled into a phenotypic record of the main collection.

Results: Landraces in the National Solanaceae Vegetable Crop Collection have been comprehensively studied in morphological characteristics and phenotypes have been assessed. A core collection of around 42 samples (10 tomato, 13 eggplant, 7 sweet pepper, 12 hot pepper) was created, which is as diverse and representative as possible. Selection criteria were based on the main characteristics of the LR fruits (e.g. fruit size, shape, color) and quality. A common protocol for descriptors and basic phenotypic data was created, and the seed plasm was characterized according to the guidelines. The Armenian local variety information catalog was improved, creating a comprehensive collection, providing phenotypic information and deeply assessing genetic diversity.

Conclusions: A powerful collection with phenotypic diversity was created, which will be used for research and breeding purposes. All this will improve the value of local high-quality products in the food chain, with a concrete and positive impact on end users and the breeding of new, more adapted crops to feed future generations

Keywords: tomato, eggplant, sweet pepper, hot pepper, landraces

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