

Romania - Hungary

GENOMICS_RoHu

ROHU00244

Summary of the aims of the project entitled:

Strengthening the knowledge exchange in plant genomics through the development of strategic cross-border Romanian-Hungarian consensus

The Romanian-Hungarian cross-border region (Arad and Temes Counties - Békés and Csongrád-Csanád Counties) is subject to the same geological and climatic constraints to which both agriculture and human health are linked.

Plant genomics is a field of strategic regional importance that aims to achieve a collaboration based on the requirements of the landscape of developing rural economies and why not of general social problems.

It will be possible to stop the loss of genetic material, of local landraces of garlic and onion cultivated for hundreds of years with obvious genetic value.

Garlic and onion included the most important vegetables in the world. In Romania, according to INSSE (National Institute of Statistics) data, garlic production was 60,601 tons, according to Eurostat, Romania was the second largest producer in the EU, after Spain. The garlic production area was 711 hectare with 5,258 tons yield and the onion production area was 1,667 hectare with 58,215 tons yield in Hungary in 2023, according to the KSH (Hungarian Central Statistical Office).

The project has a double benefit, in addition general information is provided, including plant genetic resources, biometrics (ie. studies on phenotypic characters that obligatorily contribute to the development of plant material), education (young specialists, students, teaching staff, farmers,) and knowledge (highlighting) of valuable genetic material.

We would like to draw attention to the local values found in horticultural products, their distinction and preservation in cultivation.

The main output of the project is, on the one hand, to scientifically verify whether the local varieties of the region differ from each other, and on the other hand, to display the new information in agricultural education (students), expert advice (farmers) and consumer information (curriculum, booklet, workshop, press).

In the 1st quarter of the project, 6 onion landraces were collected from Békés county from two growers in Békésámson and one in Örménykút; 5 garlic landraces from Békés, Doboz and Örménykút growers. In Csongrád-Csanád county 3 onion varieties were collected from a grower in Makó and 5 garlic varieties from farmers in Makó, Hódmezővásárhely and Maroslele. The morphological measurements (bulb height, diameter, weight, number of cloves in the case of garlic) were carried out for the collected propagation material. The samples collected in Hungary and in Romania (14 landraces) were planted in the experimental field for gene conservation and improvement of cultivation technology at the MATE KÖTI ÖVKI Lyzimeter Station. For the Hungarian landscapes, we will study the effect of irrigation, irrigation water quality and monitor the water use of each variety in lysimeters. The Hungarian samples were handed over to the Romanian partner for DNA analysis and ex situ conservation. The lab nutrient analysis of the Romanian samples is being carried out at the ÖVKI Environmental Analysis Laboratory in Szarvas.

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Project title:

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JEMS Code: 00244

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rohugen.eu

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