

Subsection - 1.2. Genetics, breeding and plant biotechnologies

CZU: 631.117.4:633.2/.3.03(498)

MAIN RESULTS OF THE RESEARCH PROCESS CARRIED OUT AT THE RESEARCH AND DEVELOPMENT STATION FOR MEADOWS VASLUI, ROMANIA

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The research conducted during the 1981-2023 period at the Meadows Research and Development Station, Vaslui (RDSM Vaslui) (46°40'-36°10' north latitude and 27°44'-20°40' east longitude) followed the breeding program of three species of perennial grasses and legumes of meadows: *Bromus inermis* Leyss., *Agropyron pectiniforme* Roem., & Schult., and *Onobrychis viciifolia* Scop., species with an important role in combating erosion and increasing the fertility of degraded soils.

The Research-Development Station for Meadows Vaslui was established in 1981 in order to answer the problems of pratology in the hilly area of North-Eastern Romania. It is organized as a public institution with legal personality and is subordinated to the Academy of Agricultural and Forestry Sciences „Gheorghe Ionescu – Sisesti” – Bucharest.

Species of grasses and perennial legumes for meadows are considered among the most important species in the vegetation of permanent grasslands and in the structure of agricultural crops sown in arable land, with a multifunctional role in the sustainable development of agriculture. In order to keep up with climate change, it is necessary to create new varieties of plants, activity depending on the geographical area, depending on the species and its field of use.

At the RDSM Vaslui have been created: 6 varieties of *Bromus inermis* Leyss. (Doina, Olga, Mihaela, Iulia Safir, Maia Safir and Dovas), with 12.74-14.66 % crude protein content, 10-20.3 Mg·ha⁻¹ dry matter production capacity and 550-1000 kg·ha⁻¹ seed production, 1 variety of *Agropyron pectiniforme* Roem. & Schult. (Flaviu) with 13.4 % crude protein content, 4-9 Mg·ha⁻¹ dry matter production capacity and 400 - 500 kg·ha⁻¹ seed production and 2 varieties of *Onobrychis viciifolia* Scop. (Anamaria and Sersil) with 19.53-20.7 % crude protein content, 9-18.1 Mg·ha⁻¹ dry matter production capacity and 1000-1400 kg·ha⁻¹ seed production.

Currently, within the RDSM Vaslui there is a continuous process of improvement of the three species, through the mass selection process. There are: 9 collection fields, 10 seed fields of the breeder, 6 selection fields, 5 fields of assortments and 2 fields of descendants and other fields and experiences.

Acknowledgments: This study was supported by the research project ADER 15.1.1 project (2023-2026), funded by Ministry of Agriculture and Rural Development - Romania.

Keywords: *Agropyron pectiniforme roem. & schult.*, *Bromus inermis Leyss.*, *Onobrychis viciifolia scop.*, varieties.