

The Institute of Plant and Genetic Resources in Sadovo presented its successful large-scale breeding project

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At the Institute of Plant Genetic Resources “K. Malkov” the traditional “Farmer’s Day in Sadovo” was held. It was opened by the Director of the Institute Assoc. Prof. Katya Uzundzhaliyeva, PhD; greetings were delivered by the Deputy Minister of Agriculture, Food and Forestry Georgi Sabev, the President of the Agricultural Academy Prof. Martin Banov and the Rector of the Agricultural University in Plovdiv Prof. Hristina Yancheva. The forum was attended by Academicians Atanas Atanasov, Vasil Sgurev and Ivan Popchev, many business partners, students, media representatives and farmers from across the country.

At the Institute's demonstration field, the guests were acquainted with the conditions for the development of winter cereal crops during the year. It was emphasized that they are extremely favorable for Central Southern Bulgaria and that the setting of the reproductive organs, such as ear length, number of spikelets and number of florets, is close to the optimum for each variety. This is a prerequisite for a very good harvest.

This was followed by a presentation of the Sadovo wheat breeding. The demonstration started with one of the most popular varieties – Sadovo 1. It is characterized by stable yields over the years and remarkable ecological plasticity of distribution. Pobeda is a long-standing, permanent standard for Group A – strong wheats; it is distinguished by high baking quality indicators and very good winter hardiness. Boryana, Fermer and Gizda are “economic” varieties; they utilize the nutrients from the soil better than other varieties and are therefore suitable for poorer soils, at lower fertilization rates, as well as for organic farming. Boryana is very well uniform, Fermer has excellent baking qualities, and Gizda has high productive tillering. Murgavets is currently the only owned variety, characterized by its high yield and the strong interest in it from hunting farms. Gea 1 is one of the highest-yielding, short Bulgarian varieties. Nikolay is slightly later and resistant to a number of wheat diseases. Nikibo is a high-yielding variety, created with the participation of Prelom, taking from it the high yield potential, but being about 10 cm shorter. It is characterized by a very large ear, excellent drought resistance, and is recommended for fertile soils with balanced fertilization, rewarding with very high yields. Ginra is a new variety, created after the mass spread of the new races of yellow rust, to which it is resistant. It is high-yielding, with very large grain.

Special attention was paid to the newest breeding achievements – the high-yielding Nadita and the high-quality Sashets. Nadita was registered in 2018 and is distinguished by excellent productive tillering, very good cold tolerance and high test weight. In trials of the Executive Agency for Variety Testing, Field Inspection and Seed Control in Northern Bulgaria it showed results of over 1000 kg/ha and outperformed the standards Avenue and Annapurna. Sashets was registered in 2020 and won the innovation competition at AGRA 2020. It belongs to Group A and combines excellent baking qualities with high yield. The durum wheat variety Denitsa was also presented, being short, non-lodging, with excellent winter hardiness and good parameters for the species, as well as the barley variety Potok, distinguished by high yield, very good winter hardiness and a low seeding rate.

For organic farming enthusiasts, the only Bulgarian rye variety Millennium, included in the official variety list of the country, the spring naked oat Mina and one of the few winter hulled oat varieties – Kaloyan – were demonstrated. In this group is also the triticale variety Rozhen, which enjoys wide popularity and is one of the most sought-after varieties. It can also be used for fodder and is particularly suitable for mixtures with winter pea

varieties. As the most suitable variety for such mixtures, the winter fodder pea variety Mir was presented, which reaches a height of up to 1.5 m and provides up to 4–5 t of green mass per hectare.

The Institute of Plant Genetic Resources in Sadovo works with all field crops and also offers a wide diversity of alternative species. This year as well, guests were acquainted with the differences between one-grain and two-grain einkorn, with the melliferous plant phacelia, with the possibilities for cultivation of oil flax, with the medicinal grass pea, with the interesting cowpea, for which the variety Hrisi has been developed, with late-spring millet; work is also being done with the recently popular saffron, as well as with other alternative crops.

Attention was also drawn to the great foreign interest in recent years in the Sadovo peanut varieties. In 2020, 95% of the produced peanut seed was marketed in Austria, Germany, Switzerland, Italy and, for the first time, in Portugal and France. There is also interest in the sesame breeding for mechanized cultivation. This year the rights to one sesame variety were sold in Bulgaria, and at present we are negotiating with a French company for financing and purchasing a new sesame variety with white seed coat.

All guests were given the opportunity to visit the National Plant Gene Bank and the specialized botanical garden. At the final discussion, many requests were made for the purchase of seed of various crops.