



State Enterprise Institute of Grain Crops of the National Academy of Agrarian Sciences

Dnipro, 2026



State Enterprise Institute of Grain Crops of NAAS

- The State Enterprise Institute of Grain Crops of NAAS was founded in 1930.
- Our Institute is a leading scientific institution that provides high scientific and methodological level of fundamental and applied research aimed at increasing grain production, improving its quality, creating and maintaining food security of Ukraine.
- The Institute is a leader in the breeding and seed production of maize and sorghum hybrids.
- The mission of the State Enterprise Institute of Grain Crops of the National Academy of Agrarian Sciences of Ukraine, as the leading scientific institution, is to integrate into the global scientific and educational community by carrying out fundamental and applied innovative research in the field of grain production, with the aim of addressing global challenges in the areas of food, energy, the environment, finance and human resources.



Main research and innovation activity areas:

- Plant Breeding, Seed Production of Cereals and Grain Legumes;
- Biotechnology in Plant Production (Technologies in vitro, MAS-selection, Genetic Engineering);
- Development of Adaptable Technologies for Growing High Yield and Quality Cereals, Grain Legumes and Groats;
- Development of Farming Systems for Soil Fertility Restoration and Preservation of Agricultural Landscapes and Sanitary and Ecological Purity in Biocenoses in the Steppe Zone of Ukraine;
- Technical Standardisation Committee TK 170 "Grain Crops and Products of their Processing";
- Conservation and Restoration of Biological Resources in Livestock Farming;
- Central Interregional Research Centre of NAAS (providing scientific support for the innovative development of the agricultural sector and rural areas in the Dnipropetrovsk, Zaporizhzhia, Poltava and Cherkasy regions);
- Coordinator of the Research Programme PND 17 "The Grain of Ukraine" for the period 2026–2030.



Structure of the SE Institute of Grain Crops of NAAS

The Institute comprises the following 3 research departments and 14 laboratories.

Grain Crops Breeding Department

1. Laboratory for the Breeding of Short-Season Hybrids
2. Laboratory for the Breeding of Mid-Ripening and Mid-late Maize Hybrids
3. Laboratory for the Breeding of Spring Cereals and Grain Legumes
4. Laboratory for Breeding Methods and Primary Seed Production
5. Laboratory for Grain Storage Methods and Standardisation

Department of Seed Production, Marketing and Innovation Transfer

6. Maize Seed Production Laboratory
7. Marketing and Economic Research Laboratory
8. Cereals Certification and Providing Laboratory



Structure of the SE Institute of Grain Crops of NAAS

Department of Agriculture and Agrobiological Resources for Cereals and Grain Legumes

- 9. Laboratory of Agrobiological Resources for Maize and Sorghum
- 10. Laboratory of Agrobiological Resources for Winter and Spring Cereals
- 11. Laboratory of Agriculture and Soil Fertility
- 12. Laboratory of Plant Protection

and

- 13. Animal Husbandry Laboratory
- 14. Laboratory for the Coordination of Scientific Research and Intellectual Property

Laboratory for the Breeding of Short-Season Hybrids

- development of source material for maize hybrids based on the use of breeding forms of the early-ripening and mid-early maturity groups;
- development of short-season maize hybrids with enhanced grain moisture-yielding ability and low harvest moisture content;
- forming and expanding a working collection of short-season maize lines based on key genetic plasms;
- environmental variety testing, establishing demonstration grounds.



Laboratory for the Breeding of Mid-Ripening and Mid-late Maize Hybrids

- development of source material for maize hybrids by using breeding forms from the mid-ripening and mid-late groups;
- development of maize hybrids with increased productivity, adapted to growing conditions and climate change;
- forming and expanding a working collection of short-season maize lines based on key genetic plasms;
- environmental variety testing, establishing demonstration grounds.



Laboratory for the Breeding of Spring Cereals and Grain Legumes

- development of source material and varieties of spring barley and oats, including naked-grain forms, with high resistance to drought, lodging, grain shattering, and major diseases and pests;
- development of source material and varieties of lathyrus, lentils, beans and chickpeas with enhanced nutritional value;
- development of source material and varieties of sorghum crops for grain, sugar, silage and broom production;
- breeding of sweet maize and popcorn based on our own source material.



Laboratory for Breeding Methods and Primary Seed Production

- research and using haploproducers in maize breeding;
- selection and establishment of a collection of donors for haploid induction traits;
- development of a technology for producing haploids with a high level of induction, and the development of maize hybrids.



Laboratory for Grain Storage Methods and Standardisation

- development of post-harvest processing and storage procedures for grain, depending on its intended use;
- development of energy-saving methods and determination of grain quality during the harvesting, processing and storage stages;
- justification, testing and creation of technical and technological equipment for grain processing and storage systems;
- standardisation of grain crops, preparation of regulatory documents, and fulfilment of the functions of the National Technical Standardisation Committee TK-170 “Grain crops and Products of their Processing”.



Maize Seed Production Laboratory

- development of agronomic techniques for the production of high-quality maize hybrid seeds and their parental components;
- field variety testing of seeds from the parental components of maize hybrids within the domestic seed production system;
- development of guidelines for the seed production of maize hybrids in accordance with their maturity group;
- primary seed production of the parental components of maize hybrids.



Marketing and Economic Research Laboratory

- monitoring of innovative scientific developments arising from plant breeding, seed production and cultivation technology for grain crops;
- transfer and marketing of scientific and commercial products to agricultural producers of various forms of ownership;
- economic research and development of science-based standards for grain crop production systems.



Cereals Certification and Providing Laboratory

- development of cultivation methods and seed quality control procedures for pre-basic categories at the primary stages of seed production for grain crops;
- certification of seeds from the parental components of maize hybrids in accordance with key indicators and standards;
- testing and introduction of innovative varieties and hybrids of grain crops.



Laboratory of Agrobiological Resources for Maize and Sorghum

- development of agronomic techniques for growing maize and sorghum in the Steppe and Forest-Steppe regions of Ukraine, with consideration of climate change;
- research into the variety composition used in maize and sorghum cultivation technologies;
- research into the impact and effectiveness of new chemical substances in these technologies;
- determination and evaluation of the economic efficiency of maize and sorghum cultivation technologies.



Laboratory of Agrobiological Resources for Winter and Spring Cereals

- development of agronomic techniques for growing winter (wheat, barley) and spring (barley, oats, peas) crops in the Steppe and Forest-Steppe regions of Ukraine, with consideration of climatic changes;
- development of technologies for producing high-quality food winter wheat grain in the Steppe region of Ukraine;
- identification of agronomic and biological factors for increasing yields and improving the grain quality of cereals, grain legumes and groats;
- search for and implementation of technologies to counteract and mitigate the effects of drying conditions in the Steppe region of Ukraine.



Laboratory of Agriculture and Soil Fertility

- development of soil tillage systems, introduction of crop rotation and fertilization based on the natural soil fertility and the potential of grain crops in the Steppe and Forest-Steppe zones of Ukraine;
- alternative farming systems: multi-depth tillage, biological soil management, direct drilling and green manure management;
- research into and application of micronutrients in plant nutrition systems.



Laboratory Plant Protection

- development of integrated plant protection systems for field crops against diseases and pests;
- development of integrated weed control systems for field crops ;
- inspection of field crops with assessment of the damage degree by disease, pest and weed infestation.



Animal Husbandry Laboratory

- genetic improvement of agricultural animals and the conservation of their biological diversity;
- research into the influence of individual productivity traits and age at first calving on the lifespan, productive life and reproductive capacity of Ukrainian Grey cattle;
- breeding, genetic and technological solutions for pig farming;
- research into the influence of genetic factors on the duration of breeding use, production value and reproductive qualities of sows of foreign breeds.



Laboratory for the Coordination of Scientific Research and Intellectual Property

- development of scientific and technical programmes for the State Enterprise Institute of Grain Crops of NAAS of Ukraine, thematic plans for scientific research and patent research;
- organisation of state registration and reporting on scientific research;
- coordination of research activities carried out by the Institute's departments, laboratories and research stations;
- support for the accreditation processes of the research institution and its research staff;
- coordination of cooperation with other research institutions and higher education institutions.

The Institute's network comprises legally independent research stations:

- ***The Erastivka Research Station*** is engaged in research into farming systems, crop rotation and soil tillage, as well as cultivation technologies for cereals, maize and grain legumes (chickpeas, lentils, beans and peas), and forage production.
- ***The Synelnykove Breeding and Research Station*** is a long-established centre for the breeding of maize, sorghum, winter wheat, spring barley and oats, and also specialises in comprehensive developments in winter crops technology and the protection of cereals against pests and diseases.
- ***The Rozivka Research Station*** develops varietal cultivation technologies for high-quality winter wheat and aspects of seed production for parental forms and maize hybrids in areas prone to wind erosion.
- ***The Henichesk Research Station*** focuses on growing seed crops of newly developed varieties of winter wheat, winter barley and sorghum (crop production), as well as on pig farming (livestock production).

The Rozivka and Henichesk Research Stations are currently located in temporarily occupied territory.

- ***The 'Polyvanivka' State Agricultural Enterprise*** comprises breeding farms for beef cattle – of the Ukrainian Beef and Grey Ukrainian breeds – as well as a breeding centre for the Blonde d'Aquitaine breed of cattle and a breeding centre for Large White pigs. The enterprise sells young breeding stock of the Grey Ukrainian breed.



Highly qualified research staff training, publishing activities

The main forms of training for highly qualified research staff at the State Enterprise Institute of Grain Crops of NAAS of Ukraine are postgraduate and doctoral programmes.

- The Institute trains PhD candidates, in accordance with the licence granted by the Ministry of Education and Science of Ukraine for the relevant educational activities under an educational and research programme accredited by the National Agency for Higher Education Quality Assurance, and candidates for the degree of Doctor of Science under research programmes in the field of knowledge H Agriculture, Forestry, Fisheries and Veterinary Medicine, specialty H1 – Agronomy.
- The scientific community is kept informed of research findings in the field of agriculture, ensuring or continuing scientific debate on theoretical, methodological and applied issues, and engaging specialists from the relevant sector in the implementation of innovative developments by domestic researchers through the organisation of Field Days, International Scientific and Practical Conferences, followed by the publication of proceedings to disseminate the research findings of researchers and candidates for the degrees of Doctor of Philosophy and Doctor of Agricultural Sciences. The State Enterprise Institute of Grain Crops of the National Academy of Agrarian Sciences of Ukraine is the founder of the scientific journal '*Grain Crops*', which is included in the List of Ukrainian Scholarly Professional Journals in Category B.
- On the basis of agreements on scientific and technological cooperation with scientific institutions and higher education institutions, joint research projects are carried out, and further advanced training courses and internships are organised for research staff at agricultural research institutes and academic staff at higher education institutions specialising in agriculture.



Main achievements

- The 2020 State Prize of Ukraine in Science and Technology for the work "High-yielding maize hybrids (breeding, biotechnology, seed production)".
- A total of 255 maize hybrids and 196 of their parental lines have been registered in Ukraine and other countries.
- The State Register of Plant Varieties Suitable for Distribution in Ukraine includes 172 maize hybrids bred by the Institute, accounting for approximately 12 % of the total number of maize hybrids in the Register.
- Long-term crop rotations (Certificate No. 043-047 in the Register of Certificates of UAAS, Kharkiv, 2006).
- Co-author of the programmes: "The Grain of Ukraine", "Strategy of development of Agro-Industrial Complex of Ukraine until 2035", "Strategy of food security for the period up to 2030".
- State Standards of Ukraine developed by the Institute:
 - DSTU 3768:2019 Wheat. Specifications;
 - DSTU 4525:2006 Maize. Specifications;
 - DSTU 4138-2002 Seed of agricultural plants. Methods for seed testing.
- Co-developed the first national Ukrainian beef cattle breed and new competitive genotypes of dairy cattle (Ukrainian Black-and-White breed, Ukrainian Red Dairy breed).



International and national projects

- **International projects:**

Joint Ukrainian-Chinese Research Projects "Reducing the pesticide load on agricultural systems through the development of maize breeding material resistant to phytopathogens" National project "Development of new grain sorghum varieties and hybrids using modern molecular genetic technologies"

- **National project** "The Grain of Ukraine".

- Participation in the European Roadmap for Climate-Smart Recovery of Ukraine (ILCA grant project).



Avenues of cooperation

- The Institute's researchers cooperate with colleagues from Europe, Asia, Africa and America; the closest scientific ties are established with China, Bulgaria, Greece, Kazakhstan, and South Africa. The work experience of the Institute includes the development of breeding research programs together with Golden West Seed Bulgaria Ltd (Bulgaria) and SAATEN-UNION (Italy). The Institute conducted ecological variety testing the maize hybrids of Monsanto, Pioneer (Corteva Agriscience Ukraine), Advanta (USA); Cassady, Limagrain (France); KVS (Germany).
- Our Institute can act as a co-coordinator, technology provider and end-user within the Food, Bioeconomy, Natural Resources, Agriculture & Environment programme, specifically in the area of Food, Agriculture & Environment. We are looking for partners in Poland, Bulgaria, Greece, Germany, Serbia and Austria.

Contact information

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