



OFFER

Institute of Soil Science and Plant Cultivation State Research Institute (IUNG-PIB)



1. History of the Institute

The Institute of Soil Science and Plant Cultivation – State Research Institute (IUNG-PIB) is a continuation of the more than 160-year tradition of agricultural science in Puławy. The genesis of the institute dates back to 1862, when the first scientific centre for agricultural research was set up in Puławy. The modern Institute was established in 1950 and since then it has been continuously carrying out scientific research, implementation and expert activities for the benefit of Polish agriculture and food economy. Since 2005, it has had the status of a state research institute, reporting to the Minister of Agriculture and Rural Development. The headquarters of IUNG-PIB is located in the historic palace of the Czartoryski dukes in Puławy, which emphasises the continuity and importance of the scientific tradition of the place.

The Institute has twice been awarded the prestigious status of European Union Centre of Excellence: PROLAND (2002-2006) and PROFICIENCY (2009-2014), which confirmed its position as a full partner in the European Research Area. In recent years, IUNG-PIB has successfully coordinated and implemented numerous national and international projects, including under the Horizon 2020 and Horizon Europe programmes, as well as the National Centre for Research and Development and the National Science Centre. Among the most important were: BioEcon "New Strategies on Bio-Economy in Poland", AFINET (Agroforestry Innovation Network), BIOREG (bioeconomy and biomass utilisation), LCAgri (low-carbon agriculture), as well as projects on biodiversity conservation and agricultural energy efficiency. In recent years, a number of soil conservation projects have been implemented at IUNG-PIB in support of the European Soil Mission, such as EJP SOIL, PREPSOIL or NBSOIL. Currently, the Institute is running an interdisciplinary scientific and research programme "Sustainable development of crop production and shaping of Poland's agricultural space" with 20 research topics. This programme focuses on optimisation of crop production, environmental protection, adaptation of agriculture to climate change, assessment of the effects of the Common Agricultural Policy and development of innovative technologies for the bioeconomy. The Institute is also a national leader in agricultural drought monitoring – since 2007 it has been running the Agricultural Drought Monitoring System, operating a network of 77 meteorological stations and providing data and reports for public administration and farmers.

In recent years, IUNG-PIB has been dynamically developing its research infrastructure, e.g. through the construction and launch of the Innovation and Scientific Center for Agricultural Research – INCBR, which brings together modern laboratories and research teams, and has implemented 5 investment projects from the National Plan for Reconstruction and Enhancement of Resilience in

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terms of the A2.4.1 Investment part of the investment A2.4.1 Investment in expansion of research potential. Since 2024, IUNG-PIB has been implementing the infrastructure project "Supplementing the research infrastructure of the Institute of Soil Science and Plant Cultivation in Puławy in the context of conducting research in the area of regional smart specialisations of the Lubelskie Voivodeship for the benefit of the economic sector". The Institute has implemented a quality management system in accordance with the PN-EN ISO/IEC 17025:2018-02 standard, as confirmed by positive accreditation results from the Polish Centre for Accreditation. In 2024, employment at IUNG-PIB was 294 employees, including 16 professors, 11 IUNG-PIB professors, 12 assistant professors with a postdoctoral degree, 17 assistant professors with a doctoral degree and 14 assistants. The scientific and research and technical staff comprised 96 people.

The contemporary IUNG-PIB is a modern, interdisciplinary scientific unit that combines tradition with innovation, responding to the challenges of sustainable development of agriculture, environmental protection and food economy in Poland and Europe. The Institute is a recognised partner for science, administration, business and agricultural practice, and its activities have a significant impact on shaping agricultural policy, knowledge transfer and implementation of innovations in the agricultural sector.

2. Priority research projects

In 2024, IUNG-PIB carried out 20 research topics under the statutory programme "Sustainable development of crop production and shaping of Poland's agricultural space", 23 tasks under a specific grant from the Ministry of Agriculture and Rural Development (MARD), and numerous national and international projects funded by NCN, NCBR, Horizon Europe, Interreg, the Ministry of Agriculture and Rural Development and other sources. The most important ones include:

- NBSoil (Horizon Europe) nature-based solutions for soil management.
- INNO-MIK (NCRD) innovative microbial bio-fertilisers to support sustainable crop production and climate change adaptation.
- Waste4Soil (Horizon Europe) converting food processing waste into soil conditioners.
- VALUE4FARM (Horizon Europe) demonstration and replication of local value chains based on renewable energy sources.
- CLEAR (NCN) landscape planning for agrobiodiversity and agroecosystem resilience.
- OSMO-PROTECT (NCRD) microbial osmoprotectants for plants.
- AQUAGRI-KNOW (Horizon Europe) innovation in agricultural water management.
- MOBILES (NCN) diagnostic tools for the assessment of biotic and abiotic pollutants in the agricultural environment.
- MARD projects agricultural drought monitoring, assessment of fertilisers and crop support measures, expert reports for public administration, 2005–2020 multi-annual MARD programmes.

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3. Key achievements

- Development and implementation of methods for estimating soil emissions in rape and maize crops for biofuel certification and emission databases in Poland.
- Maintenance of a quality management system in accordance with PN-EN ISO/IEC 17025:2018-02, confirmed by positive results of external evaluations by the Polish Centre for Accreditation.
- Development and modernisation of research infrastructure, including laboratories and Agricultural Experimental Plants.
- Award of new degrees and titles doctorates, habilitation, professorial appointments.
- Participation in international science consortia and events, including Horizon Europe and Interreg projects.
- Delivering more than 90 expert reports for the Ministry of Agriculture and Rural Development and 455 works for business units in 2024.

4. Main lines of research activity

- Soil science, mapping and spatial valorisation of soils, soil and water quality monitoring, remediation of degraded land.
- Agrometeorology, drought monitoring, crop forecasting, climate change impact assessment.
- Fertilisation and fertiliser management, fertiliser advice, evaluation of fertilisers and soil conditioners
- Tillage, cereals, fodder crops, hops and tobacco, development of crop production technology.
- Plant breeding and biotechnology, micropropagation, pathogen diagnostics, plant metabolite research.
- Agricultural microbiology, research on the soil microbiome, development of microbiological preparations.
- Bioeconomy, spatial modelling, digitisation of agriculture, use of RES, circular economy.
- Economics and organisation of crop production, production systems analysis, impact assessment of agricultural policies, organic and carbon farming.
- Cooperation with agricultural advisory services, dissemination of knowledge, conducting training and conferences.

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5. Information about the publisher

IUNG-PIB currently publishes the scientific journal **Current Agronomy (CA)**, which has replaced the quarterly Polish Journal of Agronomy (formerly 'Pamiętnik Puławski') since 2024. Current Agronomy is a peer-reviewed, open-access scientific journal that publishes articles in English on a wide range of crop production, environmental sciences, fertilisation, microbiology, biotechnology, agricultural economics and other related fields. The journal is indexed in international scientific databases and has 20 points of the Ministry of Education and Science (2024).

In addition, the Institute publishes the series "Monographs and Scientific Dissertations", "Studies and Reports of IUNG-PIB" and dissemination manuals, atlases and agricultural dictionaries, as well as other popular science publications.

IUNG-PIB operates an e-publishing shop where scientific publications, monographs, manuals, atlases and other materials in the field of agriculture, soil science and related sciences can be ordered (https://esklep.iung.pl), and also provides access to the IUNG-PIB's open Digital Library, which contains digital versions of articles, books, reports, conference materials and other scientific documents, available online for all interested parties (https://bc.iung.pl).

6. Commercial services on offer

- Accredited laboratory testing of soils, fertilisers, fodder, water, sewage sludge, agricultural products (Main Chemical Laboratory).
- Evaluation and certification of fertilizer products according to national and EU regulations.
- Carrying out the procedure for listing microbiological preparations.
- Expert opinions, analyses, opinions for administrations, companies and farmers, including quality assessment of fertilisers and plant aids, qualification of fertilisers and soil conditioners for organic production, opinion on sewage sludge and waste for agricultural use.
- Advice on fertilisation, plant protection, soil management.
- Organisation of training courses, workshops, conferences and knowledge transfer to agricultural practice.
- Production of healthy hop and tobacco seedlings, micropropagation of plants, disease diagnosis.
- Digital soil and agricultural maps, computer programmes.
- Postgraduate Diploma in Soil Science, Soil Classification and Soil Cartography.

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