INSTYTUT BIOTECHNOLOGII
PRZEMYSŁU ROLNO-SPOŻYWCZEGO
im. prof. Wacława Dąbrowskiego
PAŃSTWOWY INSTYTUT BADAWCZY

Institute of Agricultural and Food Biotechnology State Research Institute (IBPRS-PIB)

About the Institute

The Prof. W. Dąbrowski Institute of Agricultural and Food Biotechnology (IBPRS-PIB) is a leading national scientific institution that promotes innovation, safety, and the sustainable development of the food industry. The Institute conducts research in food technology and nutrition, participates in national and European projects (Horizon Europe, MIRRI-ERIC), and fosters collaboration with industry and agricultural consultancy.

Historical outline and achievements

The IBPRS-PIB can trace its origins back to 1949, when the Main Institute of Agricultural and Food Industry was established in response to the need to rebuild the domestic food industry following World War II. Over the following decades, the Institute underwent numerous transformations, absorbing other industry units and expanding its research capabilities. Today, it operates as one of the largest and most important scientific institutions in Poland specialising in food biotechnology, food processing technology and agriculture. Its areas of expertise include food safety, microbiological innovations, fermentation processes, technological development for industry and agriculture, and the commercialisation of research results. IBPRS-PIB conducts research that is strategically important for Poland's food economy and actively participates in national and international projects, legislative consultations and knowledge transfer. The Institute's structure includes the renowned Collection of Industrial Microbial Cultures and the AgroBioTech PhD School. The Institute employs over 220 people, including a substantial scientific team, and its research and implementation activities are widely adopted in industrial practice.

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Detailed scope of services and studies

1. Laboratory and analytical testing (accredited and non-accredited)

Food safety and quality:

- - Determination of pesticide residues, heavy metals and mycotoxins
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- - Testing of migration of chemical substances from packaging into foodstuffs
- - Evaluation of biological contaminants, such as pathogenic bacteria, moulds and viruses.
- -Ttesting for food allergens and anti-nutritional substances

Authenticity of food and raw materials:

- - species identification of meat (PCR, qPCR)
- - Authenticity of juices and processed products (HPLC and NMR analysis)
- - verification of product composition conformity with the declaration

Chemical and physicochemical analyses:

- - nutritional determination (macro- and micronutrients).
- - lipid, protein and sugar profiling using GC-MS and LC-MS
- - determination of additives, such as preservatives and colouring agents

Microbiological analyses:

- - microbial count, indicator bacteria and pathogens
- - microbiological stability tests
- - microbiological diagnosis of the production environment

Sensory testing:

- - consumer and sensory preference analysis
- - tasting panel training
- - evaluation of the influence of ingredients on sensory quality

2. Industrial biotechnology and microbiology services

a) The Microbiology Resource Centre:

- Provision and identification of microbial strains

- Deposition of microorganisms (safe and patent)

- Functional profiling of strains

b) Biotechnology:

- Fermentations (dairy, fruit, cereals and spirits).

- Development of biopreparations

- Biosynthesis of enzymes and secondary metabolites

3. Development and implementation work for industry

A) Functional foods and new products:

- Design of prebiotic and probiotic foods

- Alternative protein sources (e.g. plants, insects, algae)

- Speciality products: gluten-free, organic

b) Processing technologies:

- HPP, low temperature and ultrasonic processing

- Bioprocessing and by-product processing (circular bioeconomy).

c) Packaging and sustainability:

- Bioactive and biodegradable coatings

- Impact of packaging on quality and sustainability

- Refrigeration logistics

4. Consultancy, expertise and certification

- Technological assessments, formulations and opinions

- Implementation of ISO standards (22000 and 17025)

Commercialisation: licences, know-how and patent

5. Training, conferences and knowledge transfer

- Training courses on HACCP, microbiology and sensor technology.

- Seminars and workshops for industry and consultancy

- Internships, apprenticeships and PhD programmes at AgroBioTech IV.

Development potential of the Institute

The Institute boasts modern research infrastructure, a diverse team of experts, and commercialization expertise. As an accredited body (ISO 17025, 17034 and 17043), it produces reliable research results. The Institute intends to expand its expertise in the areas of advanced food technologies, bioinformatics, the microbiome, and sustainable processing.

Strategic assumptions for the development of the Institute

From 2025 to 2029, the Institute of Agricultural and Food Biotechnology (PIB) will implement a development strategy based on five complementary strategic objectives:

1. Scientific Excellence: Development of modern, interdisciplinary scientific research; internationalisation of publications; and increased participation in Horizon Europe, EFSA, BIOEAST and MIRRI programmes.

2. Implementation and dissemination of research results: transfer of knowledge to industry and agriculture through licences, know-how, implementations, publications, expertise, and training.

3. Providing expert support to the state and the European Union by participating in legislative consultations, advisory groups and tasks that support state and European administrations.

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4. Development of scientific staff and creation of organisational culture: development of the AgroBioTech PhD School, internship programmes, staff succession and specialised and interdisciplinary training.

5. Financial stability and diversification of income sources: increasing the share of own income; commercialisation of research results; and implementation of investment and infrastructure projects (including KPO).

The State Research Institute also carries out tasks to support public safety and the development of the food economy. It cooperates with the state administration, scientific entities, businesses, and international partners.

Implementing the above objectives is aligned with the priorities of the Strategy for Sustainable Rural, Agricultural and Fisheries Development 2030 and the Horizon Europe programme.

Contact

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