



The Franciszek Górski
Institute of Plant Physiology,
Polish Academy of Sciences
(IPP PAS), Kraków

Scientific and Research Support Offer for Plant Breeding and Agriculture

The scientific team of IPP PAS has extensive, well-documented experience in research on the application of biotechnology methods as tools for shortening breeding cycles and accelerating biological progress in plant breeding. Research conducted at the IPP PAS focuses on the mechanisms regulating plant growth and development as well as plant responses to the environmental stresses that determine their adaptive capacity. The Institute conducts both fundamental and applied research, addressing the practical needs of modern plant breeding and agriculture. The IPP PAS is equipped with an advanced analytical infrastructure, state-of-the-art research equipment and a highly qualified scientific staff.



SCOPE OF SERVICES:

- developing methods to shorten breeding programmes
- conducting *in vitro* propagation of plant material
- conducting comprehensive phenotypic characterisation of plants, including the yield-related and biochemical traits that are influenced by genotype and the environment



DETAILED OFFER:

- developing laboratory protocols for producing homozygous doubled haploid (DH) lines in cereals using androgenesis and wide crossing methods
- developing *in vitro* culture systems (tissue, cell and protoplast cultures) for micropropagation and plant regeneration via organogenesis or somatic embryogenesis
- phenotyping of plant varieties and populations
- evaluating plant productivity and tolerance to environmental stresses
- performing plant development analyses
- performing cytological, anatomical, physiological, biochemical, and molecular analyses



EXPERIENCE AND IMPLEMENTATION OUTCOMES

The IPP PAS has long-standing collaborations with Polish plant breeding companies, primarily within projects funded by the Ministry of Agriculture and Rural Development, the National Science Centre and the National Centre for Research and Development. As part of these collaborations, several thousand homozygous doubled haploid (DH) lines of various cereal species have been developed and implemented in breeding programmes that are aimed at creating new cultivars. A notable example is the oat cultivar Huzar, which was developed by Danko Hodowla Roślin Sp. z o.o. using DH lines produced at the IPP PAS.



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