

MOLECULAR–GENETIC AND PHYSIOLOGICAL ASPECTS OF PLANT ONTOGENY AND PRODUCTIVITY. REGULATION OF PLANT GROWTH AND DEVELOPMENT, AND SEXUAL DIFFERENTIATION

Founded in 1986.

Founder: **Viktor Nikolaevich KHRyanin**, Doctor of Biological Sciences, Professor (academic title), Honoured Professor of the V. G. Belinsky Penza State Pedagogical University, Honoured Worker of Science of the Russian Federation, Academician at the Russian Academy of Natural Sciences, Honoured Worker of Higher Vocational Education, Vice-President at the Society of Plant Physiologists of Russia, and Member of the Scientific Council on Plant Physiology and Photosynthesis at the Russian Academy of Sciences.

Since 2015, the research group has been headed by **Galina Alekseevna KARPOVA**, Doctor of Agricultural Sciences, Head of the Department of General Biology and Biochemistry.

Led by **V. N. Khryanin**, the group conducted 15 international and national conferences and symposia on plant physiology, protection, and the sustainable management of natural ecosystems and biological resources.

In 2003, the Department of Botany at PSU held the 5th Congress of the Society of Plant Physiologists of Russia, which welcomed 370 delegates and guests from 41 regions of Russia, the CIS countries, China, and Czechia.

Members of the research group: **V. N. Khryanin**, Doctor of Biological Sciences, Professor; B. P. Zaplatin, PhD in Biology, Associate Professor; N. A. Kagina, PhD in Biology, Associate Professor; S. A. Soldatov, PhD in Biology, Associate Professor; Yu. A. Fatyunina, PhD in Biology, Associate Professor; D. G. Teplitskaya, PhD Student; K. O. Kovaleva, PhD Student.

The research group works on both fundamental issues of plant physiology and biochemistry, and on applied aspects of special and environmental plant physiology used in agricultural production.

The group's work encompasses a large variety of topics such as the evolution and regulation of plant sex expression, the role of phytohormones and microelements in growth and development processes, plant productivity improvement, plant adaptation and resilience to salinisation, heavy metals, low and high temperatures, and other stress factors.

The research group's main research areas are as follows:

1. Morphogenesis and the hormonal status of plants; the role of phytohormones in growth processes and sex expression in plants (N. A. Kagina, B. P. Zaplatin)

2. The effects of growth regulators and bacterial preparations on plant growth and development during ontogenesis (**G. A. Karpova**)

3. The impact of heavy metal salts on plant growth, development, and sex expression (S. A. Soldatov)

The research group maintains close ties with the K. A. Timiryazev Institute of Plant Physiology of the Russian Academy of Sciences, the Russian State Agrarian University – Moscow Timiryazev Agricultural Academy, the Penza Research Institute for Agriculture, and Penza State Agrarian University.

The research group has published 2 monographs, over 50 training manuals and textbooks, and more than 500 research works. It has obtained 4 patents for invention.

The research has supervised 16 PhD dissertations and a Doctor of Sciences dissertation.



■ Laboratory research work