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**DEVELOPMENT OF SCIENTIFIC ACTIVITIES  
OF THE ALLELOPATHIAL DEPARTMENT OF M.M. GRISHKO'S  
NATIONAL BOTANICAL GARDEN OF NAS OF UKRAINE (1960–2005)**

**Summary**

The heyday of research on the chemical interaction of plants coincided with the appointment time A.M. Grodzinsky in 1965, the director of the Central republican botanical garden of the Academy of Sciences of the UkrSSR – a leading scientific and environmental institution in the field of introduction and acclimatization of plants in the country. In the Department of Ecology and Plant Physiology, many bright personalities were trained.

In 1983, the Department of Plant Physiology was reorganized into the only department in the world of allelopathy and structured its work. Thanks to the energetic and sociable A.M. Grodzinsky, the department of allelopathy became a powerful cell the scientific center of allelopathic research. The researchers of the department collaborated and maintained friendly relations with many research institutions of the former USSR, as well as with scientists from foreign countries. Scientists from different corners of the world came here: Australia, India, Poland, the USA, the former Yugoslavia, and others like that.

During the 60-year period in the department of allelopathy under the leadership of A.M. Grodzinsky and his students E.A. Golovko, P.A. Moroz, L.D. Yurchak, as well as scientists from other institutions of the former USSR, prepared dozens of candidates and doctors of biological and agricultural sciences. The original candidate and doctoral theses devoted to the establishment of various aspects of allelopathy: allelopathic features of different plants – agricultural, fruit and berry, vegetable, medicinal, technical, essential oil, wood, herbal, decorative, forest, segetal; the chemical nature of the knees, showing allelopathic effect on the plant; the role of soil and environmental conditions for the introduction of physiologically active substances and their transformation into the environment; root extractions of plants from plant populations of protected areas of Ukraine and different types of agrophytocenoses, as well as volatile exometabolites of plants and their individual components, etc. Work on phytoncology combined with the problem of research on allelopathy and ensured the development of a new direction – phytodesign.

Modern research is focused on solving fundamental problems of ecology, biology and plant physiology; ecological function of allelopathy; studying the unique features of higher plants and microorganisms to synthesize a huge amount of secondary metabolites, various compounds that have biological activity and provide a special chemical type of interaction of organisms; modeling the influence of external factors on the growth and development of higher plants.

Thus, taking into account the problems of today, the leading specialists in the field of allelopathy see the prospects of development of the mentioned scientific direction in system-complex approaches to solving important theoretical and practical problems of the present: increase of soil fertility and biological protection of plants; the effectiveness of the relationship of cultivated plants, weeds, microorganisms; ecologization of physiology, biochemistry, etc.

*Key words: development, scientific activity, creative contribution, allelopathy, A.M. Grodzinsky, Allelopathial Department of M.M. Grishko's National Botanical Garden of NAS of Ukraine.*