



Who we are

BPI is a non-profit research Institute, legal entity of the public sector, operating under the auspice of the Hellenic Ministry of Reconstruction of Production, Environment and Energy. Since 1929, when BPI was founded, several scientific activities and disciplines have been established to address the various needs and requirements of the Hellenic agricultural sector. The scientific disciplines covered by the Institute are organized in three scientific departments, *i.e.* the Department of Phytopathology, the Department of Entomology & Agricultural Zoology and the Department of Pesticides Control & Phytopharmacy. The expertise of the human capital of the institute involves ninety scientists and originates from a wide range of scientific disciplines, *i.e.* agronomy, chemistry, biology and molecular biology, toxicology and ecotoxicology, and environmental science.

In the Department of Phytopathology, plant diseases caused by both parasitic (fungi, bacteria, phytoplasmas, viruses, viroids) and non-parasitic (nutrients and environment) agents are studied to develop innovative disease management strategies. Research fields include systematic taxonomy, physiology, biology, genetics, epidemiology and population dynamics of plant pathogens, as well as the etiology of non-parasitic disorders. In addition, dynamic areas of research of the Department also involve studies of plant–pathogen–environment molecular interactions, microbe pathogenesis and plant defense mechanisms. For the early diagnosis, prevention of entry, establishment and spread of quarantine and emerging plant pathogens, modern methods are being continuously developed. In parallel, novel plant disease control methods are proposed aiming at minimizing chemical inputs in major national crops. Research on the protection and improvement of soil quality, remediation of polluted soils and sustainability of natural resources mainly through recycling of agricultural wastes is also carried out aiming at the prevention of non-parasitic plant disorders.

In the Department of Entomology and Agricultural Zoology the plant damages causes by insects, mites and nematodes are studied and control strategies are being developed through Integrated Pest Management approaches. The diversity of research carried out includes studies on physiology, behavioral and chemical ecology, pest management and taxonomy. In the field of plant health, methods are developed for the prevention of entry and establishment of alien species and the provision of early warning and rapid response, including eradication and management actions. Furthermore, research in the Department values the role of arthropods biodiversity in Ecosystem services such as biological control and how it may be implemented in management practices. Another research activity of the Department focuses on emerging entomological problems, such as those of medical importance. The ultimate goal of this activity is the development of effective management plans of those potentially harmful organisms.

In the Departments of Phytopathology and Entomology & Agricultural Zoology operate the National Laboratories for Phytosanitary Control, for the implementation of the EU legislation relevant to plant health and for the surveillance of certain harmful organisms to maintain the “protected zone” status in the EU.

The plant clinic for disease diagnosis, pest identification, and analyses of plant tissues, soils, irrigation waters and soil improvers/additives operates at the Institute. Advice is provided to state agencies, farmer unions, cooperatives and individual farmers for the successful management of the diagnosed problems with respect to the human and environmental safety.

The Department of Pesticides’ Control & Phytopharmacy (DPC&P), is the National Competent Authority to carry out the evaluation and control of plant protection and biocidal products for their efficacy, quality and specifications, and safety for human health, both for the



occupationally and dietary exposed populations, safety for the environment and non-target species, for registration purposes at EU and at National level.

Furthermore, as post registration activities, the market control of pesticides and the residue analysis on the different commodities, both fresh and processed, are carried out in the frame of National and EU monitoring programs. Analysis of other type samples, such as water, soil, bees and hive products, marine organisms and biomonitoring for pesticide and other contaminants are also performed. Weed Science issues related to the management of weeds in agricultural and urban environments are also carried out in the DPC&P.

The main research activities of the Department focus on analytical method development as well as on the development of methods alternative to animal testing, sustainable use of pesticides and other cropping strategies, replacement of chemicals in agriculture, studies related to exposure of the environment, workers, residents, bystanders and consumers to pesticides, development of novel tools to carry out reliable risk assessment both at the level of hazard identification and exposure estimation. Further research is conducted on the application of new technologies for efficient and economic site-specific weed management, the functional role of weeds in agroecosystems, the development of herbicide resistance, the biology of alien and invasive weeds, the expression of allelopathy, and the study of seed physiology.

The Laboratory of Pesticide Residues is the National Reference Laboratory, the Laboratory of Chemical Control of Pesticides is the Central Laboratory for the Control of Plant Protection Products and together with the Laboratory of Toxicological Control of Pesticides are accredited by the National Accreditation System (ESYD) in ISO 17025:2005.

Besides the above activities that are carried out as part of the Institutes mandate, BPI coordinates and participates in competitive EU and National, basic and applied, research projects, such as FP7 and HORIZON 2020, LIFE+Environment, EFSA, Hellenic General Secretariat of Research and Technology projects. Latest achievements of the Institute comprise the declaration of the EcoPest project (LIFE+ Environment “Strategic plan for the adaptation and application of the principles for the sustainable use of pesticides in a vulnerable ecosystem”, www.ecopest.gr), as Best of the Best of 2012 at EU level, and the construction of a containment BL 3 greenhouse through a REGPOT, FP7 project (BPI-PlantHeal “Development of Benaki Phytopathological Institute as a Centre of Excellence in Plant Health and Crop Protection” www.bpi-plantheal.gr) which contributed considerably to the upgrading of the Institute’s infrastructures.

The Institute is accredited according to ISO 9001:2008 and ELOT EN 1429 in the field of management of co-funded projects.

Other activities of the Institute are the participation and organisation of training programs at national and European level, the participation in twinning projects and the provision of technical and scientific support, to countries outside the EU, as well as exchange and transfer of knowledge between European and overseas experts.

The Institute is in close collaboration with Universities and Research Institutes, National and European, and has an active contribution to the works of International bodies, such as the EFSA, EPPO, CIPAC FAO, WHO. Undergraduate students are trained annually at BPI, as well as research for MSc and PhD Theses is carried out in collaboration with National and European Universities.

The scientific and research work of the Institute is published in international journals and in the Hellenic Plant Protection Journal, issued biannually by BPI.