Bulgaria is located on the Balkan peninsula with a total area of 111,000 square kilometers.

Bulgaria includes 31% lowlands (0–200 m), 41% hills (200–600 m), 25% highlands (600–1,600 m), and 3% mountains (>1,600 m).

The country is split into northern and southern Bulgaria by the Balkan Mountain. The climate is continental in the north and close to Mediterranean in the South.

Bulgaria's biodiversity is one of the richest in Europe: 41,493 plant and animal species (26% of EU species, including 25% of those in the Red Book of Europe)
Agricultural Academy, Bulgaria

National Autonomous Budget Organization to the Minister of Agriculture, Food and Forestry.

An unified scientific structure with centralized scientific and administrative management, and

research units that elaborate and implement scientific projects in the area of agriculture, livestock and food production of global and national significance.
Academy’s leading role is to strengthen the link between education, science and business, and thus to enhance the rival capacity of the Bulgarian agriculture. The priority scientific research and products are discussed together with the branch organizations, producers, the Ministry of Agriculture, Food and Forestry (MAFF) and other end users and are regularly updated.

Mission

- to develop Bulgarian varieties, hybrids and breeds. The Academy’s research is directed towards the development of Bulgarian products with specific and unique qualities through a small boutique production with high added value in the field of agriculture, ecology, food quality, and security.
- to develop and deepen scientific expertise in the field of: sustainable management and rational use of soil, water and fishery resources; ecology and environment protection; plant and livestock farming; fisheries and aquaculture; food and food industries; in the agrarian economy and related fields.
- to work for the prosperity of agrarian science and education in Bulgaria.
WHAT IS OUR AIM?

Global challenges such as climate changes, declining of natural resources and biological diversity, environmental pollution, urbanization, food security and sustainability are the main problems humanity facing today. In this regard, the most important priorities of Agricultural Academy are:

- Sustainable development of competitive agriculture based on science and innovation;
- Protection of natural genetic resources and development of new varieties and breeds to reduce the impact of climate change;
- Development of safe, quality and healthy food, beverages, animal feed and food additives;
- Improving the quality of life in rural areas by improving competition and increase income;
- Sustainable development of human resources and agricultural science.
The research and innovative projects of the AA are in the following priority areas

- Genetics and plant breeding studies. Development of new varieties with increased productivity and quality, adapted to market and climate changes;
- Sustainable and effective management of resources (ecosystems, soils, waters, biomass) under climate changes, mitigating the impacts of climate changes;
- Development of conventional and organic farming systems, new solutions for integrated plant protection management in agro-ecosystems;
- Genetics and animal breeding studies, improvement of feeding, animal welfare and mitigation of harmful ecological effects;
- Sustainable fisheries and aquaculture development;
- Development of technologies for safety, quality and healthy foods, drinks and other food products.
Basic intellectual products of the Agricultural Academy

Nowadays, the Patent office of the Republic of Bulgaria has issued to the Academy:

- 275 certificates, of which 267 certify the developed by the Institutes new varieties of plants, 7 - the new species of silkworm and one, the new breed of carp;

- 7 utility models and 3 patents.

Annually more than 500 publications are issued in prestigious scientific journals, books and guidance in all listed scientific fields.
Research Institutes
Sustainable use and management of land and soil

Soil ecosystems, mechanization, amelioration, and plant protection

Diagnostics, classification, management and protection of soils and soil biota. Design of agro-environmental and soil recovery plans; mapping of soil diversity and erosion; land evaluation; climatic zoning of the country by suitability for agriculture.

Sustainable water and energy saving technologies, utilisation of biomass, economically viable and adapted to climatic changes technologies for soil tillage.

Solutions and innovations for integrated biological control of plant diseases and pests; monitoring and protection of biodiversity in agro-ecosystems.

Institute of Soil Science, Agrotechnologies and Plant Protection “Nikola Poushkarov”- Sofia
Cereal plant breeding institutes (common and durum wheat, maize, barley, triticale, oat, rye, etc.) – basic priorities

- Dobrudzha Agricultural Institute - G. Toshevo
- Institute of Plant Genetic Resources - Sadovo
- Maize Research Institute - Knezha
- Institute of Agriculture - Karnobat
- Institute of Field Crops - Chirpan
- Institute of Agriculture and Seed Science „Obraztsov Chiflik“ - Rousse

- Development of new varieties, inbred lines and hybrids with improved productivity, plasticity and resistance to abiotic and biotic stress
- Enrichment of the present cereal gene pool by inter- and intra-varietal crosses and mutagenesis
- Development of technologies for maintenance and production of certified seeds
- Development and implementation of technologies for conventional and organic agriculture
Institute of Plant Genetic Resources maintains the National gene-bank and the specialized botanical garden. The collection consists of more than 60,000 accessions. The Institute is a national coordinator of the European programme for plant genetic resources.

The collection maintained by the National gene-bank is published in the European Electronic Catalog for Plant Genetic Resources, EURISCO (http://eurisco.ipk-gatersleben.de).

The basic collection (seed specimen for long-term storage) counts 43,147 copies, representatives of 33 families, 150 genera and 600 plant species.
Forage plant breeding institutes (alfalfa, sailfin, birdsfoot trefoil, winter and spring pea and vetch, sudan grass, cocksfoot, red and tall fescue, smooth brome grass, perennial ryegrass, phacelia, timothy-grass, white & red clover)

Basic priorities:

- Breeding and seed production of forage crops
  Improvement and up-dating of present technological elements and development of environmentally-friendly technologies for forage and seed production

- Conservation, quality evaluation and utilization of forage crops; elaboration of technological solutions and innovative methods for harvesting, preservation, quality evaluation and use of the forages for ruminants; Nutrition of ruminants

- Maintenance of mountain grass associations and their biological diversity
Fruit Breeding institutes – sweet & sour cherry, apple, pear, apricot, plum, table grape, pome and stone species, walnut, hazelnut, kiwi, black currant, raspberry & strawberry, etc.

- Institute of Agriculture - Kyustendil
- Fruit-Growing Institute – Plovdiv
- Institute of Viticulture and Enology – Pleven

Development of fruit species (new cultivars, cultivar/rootstocks combinations, etc.) with improved properties (flavor, application, etc.)

Enrichment of the present gene pool using new cultivars, cultivar/rootstocks combinations, mutagenesis, etc.

Development and implementation of technologies for conventional, integrated and organic production of fruits
Basic priorities of vegetable Crops institute – tomato, pepper, egg plants, onion, potato, etc.

Maritza Institute of Vegetable Crops - Plovdiv

Development of new varieties and hybrids of vegetable crops and potato using conventional and biotechnological methods to obtain good chemical, technological and taste qualities (balanced acid and sugar content, optimal dry matter content, rich of natural antioxidants) suitable for fresh consumption and processing as functional foods.

Sustainable and competitive development of vegetable production through Improvement of systems for integrated and organic production.
Ornamental, medicinal, oil bearing and tobacco institutes

- Institute for Ornamental and Medicinal Plants - Sofia
- Institute of Roses and Essential Cultures – Kazanlak
- Tobacco and Tobacco Products Institute – Markovo

Development of new varieties of flowering plants (gypsophila, gladiolus, lily, spray carnation, Limonium, Goniolimon); technologies for oil extraction; testing, implementation and guidance of application.

Technologies for processing of raw materials derived from production of essential oil and medicinal plants; Natural cosmetic products.

Development of new tobacco varieties and technologies for maintenance and seed production. Design of cigarettes and prediction of smoke composition; drying and fermentation of tobacco; assessment of tobacco and tobacco smoke.
Livestock breeding institutes and centers – milk and meat cattle, sheep and goats, pigs and poultry, buffaloes, bees, silkworms

- Institute of Animal Sciences - Kostinbrod
- Research Institute of Mountain Stockbreeding and Agriculture - Troyan
- Agricultural Institute – Stara Zagora
- Agricultural Institute - Shumen
- Scientific Center for Animal Husbandry and Agriculture - Smolyan

Preservation of endogenous and development of improved animal breeds and hybrids; Breeding and selection technologies

Sustainable innovative systems for animal nutrition and welfare

Production of functional foods and utilization of wastes of animal origin
**Fisheries and aquaculture institutes** – preservation of biodiversity, selection and improvement of freshwater and marine species

**Institute of Fisheries and Aquacultures – Plovdiv**
- Maintenance and development of gene bank of the main warm-water fish species of economic significance for the aquaculture
- Development and improvement of systems and methods for reproduction and rearing of traditional and new hydrobionts
- Production, prevention and treatment of fish diseases in aquaculture; assessment of the meat quality of hydrobionts
- Applied research and services, identifying the fish stocks in the Black Sea
- Monitoring of the dynamics, structure and food supply of industrial marine fish species.

**Institute of Fishing Resources – Varna**
- Preservation of biodiversity, selection and improvement of freshwater and marine species
Plant and animal research; agro-biotechnologies for sustainable agriculture

Fundamental and applied research targeting various bio-economy areas related to characterization and utilization of national bio-resources (cereals, legumes, vegetables, oil-bearing crops, trees, medicinal plants, etc.; livestock's, bees, marine organisms, etc.

Omic’s research for identification of cultivars, hybrids, lines of economically important crops with better performance under abiotic and biotic stress and food quality.
Food technology institutes – plant and animal foods

- Institute of Cryobiology and Food Technologies – Sofia
- Institute of Food Preservation and Quality – Plovdiv

- Development of technologies for production of bio-products for the medicinal and the veterinary-medicinal practice; lyophilized and specific foods and functional bio-products for healthy, prophylactic, protective nutrition and nutrition in extraordinary conditions (space foods)
- Development of food products - functional and traditional foods for different consumer groups
- Development of technologies for processing of plant and animal products
- Innovations in food packaging, labeling
Agricultural Economics

Institute of Agrarian Economics – Sofia

- Develops strategies and national programs related to the implementation of the Common Agricultural Policy (CAP) and other EU policies.

- Analyzes the implementation of strategies, programs and measures for the development of agriculture, food industry and rural areas and prepares recommendations and proposals for their updating.
Qualification structure of Academy’s staff

In 2020 the staff of AA includes **1848 persons** - **468 Scientists** and **1380 technical staff**

Qualification structure of the scientists according to their scientific degree

Qualification structure according to the academic positions

Professors 16 %
Assistant Professors 24 %
Assoc. Professors 34 %
Research fellow 26 %
The Agricultural Academy is accredited to educate PhD students in the following scientific areas

- **Area 3.** Social, business and legal sciences
  - **Professional area** – 3.7 Administration and Management,
    3.8. Economics;

- **Area 4.** Natural sciences, mathematics and informatics
  - **Professional area** - 4.3. Biological Sciences;

- **Area 5.** Engineering
  - **Professional area** - 5.1. Mechanical Engineering,
    5.7. Architecture, construction and geodesy,
    5.12. Food Technology;

- **Area 6.** Agricultural sciences and veterinary medicine
  - **Professional area** - 6.1. Crop production
    6.2. Plant protection
    6.3. Livestocks
20 institutes of Agricultural Academy have a total 55 accreditations for education of PhD students in the following doctoral programs:

- Economics and management (agriculture), Organization and management (agriculture);
- Genetics, including molecular genetics;
- General agriculture, Soil science, Agrochemistry, Land reclamation (incl. Soil erosion and its control), Hydromeliorative construction, Mechanization and electrification of animal husbandry, Mechanization and electrification of plant husbandry;
- Crop husbandry, Breeding and seed production of cultivated plants, Plant protection (including phytopathology, virology, herbology, etc.), Vegetable production, Fruit husbandry;
- Viticulture, Fodder production and meadow breeding, Ornamental plants;
- Pig breeding, Cattle and buffalo breeding, Sheep and goat breeding, Feeding of farm animals and feed technology, Animal and human physiology, Breeding of farm animals, biology and biotechnology of reproduction, Ecology of farm animals, Special industries (horses, rabbits, silkworms, bees, etc.);
- Technology of biologically active substances (including enzymes, hormones, proteins), Technology of meat and fish products, Technology of alcoholic and soft drinks, Technology of processing and storage of grain, grain products and mixtures; Technology of canned fruits and vegetables; Technology of tobacco and tobacco products.
Center for professional qualification

Performing and certifying vocational training with the acquisition of a degree of professional qualification, according to the Vocational Education and Training Act in Bulgaria in 9 professions and 24 specialties

1. Profession "Marketer", 1.1 Specialty "Marketing”,
2. Profession "Economist-manager", 2.1 Specialty "Industry", 2.2 Specialty "Agricultural production", 2.3 Specialty "Economics and Management“;
3. Profession "Operator in biotechnological productions", 3.1 Specialty "Biotechnology in Plant Breeding“;
5. Profession "Installer of agricultural machinery", 5.2. Specialty "Mechanization of agriculture“;
7. Profession "Viticulture Technician", 7.1. Specialty "Viticulture",
AA Projects towards HORIZON 2020 funded by EU

RESHER (Find Research Everywhere, SHARE and expERience), AgroBioInstitute, Sofia

“A holistic multi-actor approach towards the design of new tomato varieties and management practices to improve yield and quality in the face of climate change” (TomGEM), Institute of vegetable crops, Plovdiv

“Establishment of a center of plant systems biology and biotechnology for the translation of fundamental research into sustainable bio-based technologies in Bulgaria” (PlantaSYST), Institute of vegetable crops, Plovdiv

“Development and implementation of early detection tools and effective management strategies for invasive non-European and other selected fruit fly species of economic importance (B. zonata, B. dorsalis, C. capitata and M. pardinia)”, Institute of soil science, agrotechnologies and plant protection, Sofia

“Dynamic sod mulching and use of recycled amendments to increase biodiversity, resilience and sustainability of intensive organic fruit orchards and vineyards (DOMINO), Fruit Growing Institute, Plovdiv

“Translating knowledge for legume-based farming for feed and food systems” (Legumes translated), AgroBioInstitute, Sofia

Structural Transformation to Attain Responsible BIOSciences (STARBIOS2), AgroBioInstitute, Sofia
Cooperation Programme INTERREG V-A GREECE-BULGARIA 2014-2020 funded by EU

"Developing Identity On Yield, Soil and Site, DIONYSOS", Institute of viticulture and enology, Pleven

"Conservation and sustainable capitalization of biodiversity in forested area (BIOPROSPECT)", INTERREG Balkan-Mediterranean, AgroBioInstitute, Sofia

To improve entrepreneurial support systems for SMEs in the cross-border area. These business support systems/actions should be focused on removing barriers and bottlenecks for SMEs.
COST Actions

Action FA 17111: Data integration to maximize the power of omics for grapevine improvement (INTERGRAPE) – AgroBioInstitute, Sofia

Action 16107: "EuroXanth: Integrating science on Xanthomonadaceae for integrated plant disease management in Europe" – Institute of soil science, agro-technology and plant protection

Action CA15136: EUROCAROTEN – European network to advance carotenoid research and applications in agro-food and health – Food Research and Development Institute, Plovdiv

Action CA 16106: "Ammonia & Greenhouse Gas Emission from Animal Production Housing", Aarhus University, Denmark - Agricultural Institute, Shumen

Action CA 15215: "Innovative approaches in pork production", University of Hohenheim, Germany – Agricultural Institute, Shumen
National Scientific Programmes funded by the MES

- NSP “Healthy foods for a strong bio-economy and quality of life”
- NSP “Reproductive biotechnology in animal husbandry in Bulgaria”
- NSP “Environmental protection and reduction of adverse events and natural disasters’ risks”
- NSP “Smart agriculture”
- NSP “Smart livestock”
- NSP “Young scientists and postdoctoral students”
Agricultural Academy

Sofia 1373, Bulgaria
30 Suhodolska Str.
tel: +35928127505, fax: +3592812751
ssa@agriacad.bg
http://www.agriacad.bg