



LATVIA



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State or Federal Research Facilities, Institutes or Organisations

Ministry of Agriculture of Latvia

<https://www.zm.gov.lv/en/meklet/>

The mission of the Ministry is to contribute to sustainable food and non-food systems. The Ministry develops the legislative framework related to food production, ensuring food safety and animal welfare, promoting the development of human resources and rural resilience, as well as providing preconditions for the sustainable management of natural resources of Latvia.

The Ministry promotes the implementation and co-ordination of a common science and research policy for agriculture, forestry, fisheries, veterinary medicine, food, and rural development in order to facilitate the development of agri-related sectors through research and education. The Ministry of Agriculture has responsibility for several educational and research institutes to enable it to do this. Information on these institutes is given below.

The Ministry of Environmental Protection and Regional Development (VARAM) of Latvia

<http://www.varam.gov.lv/eng/>

The Ministry of Environmental Protection and Regional Development of the Republic of Latvia is responsible for implementing policy in three areas - environment protection, regional development as well as digital transformation.

Areas of Competence/Research/Faculty/Department

1. Global Climate Change
2. Soil Quality
3. Sustainable Development
4. Water Protection

Latvian Academy of Sciences

<http://www.lza.lv/index.php?mylang=english>

Areas of Competence/Research/Faculty/Department

1. [Chemical, Biological and Medical Sciences](#)



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- Agricultural Sciences
 - Biotechnology
 - Ecology, Environmental Science
 - Forestry
 - Geology and Water Management
2. [Agriculture and Forestry Sciences](#)
- Agriculture and Processing Technologies
 - Biology and Biotechnology
 - Forestry Science and Wood Technologies

Institute of Aquatic Ecology

<http://www.lhei.lv/en/about-liae>

Latvian Institute of Aquatic Ecology (LIAE) is a research institute dedicated to basic and applied research of ecology and environmental problems in the Baltic Sea.

Areas of Competence/Research/Faculty/Department

1. [Department of Marine Monitoring](#)
2. [Department of Experimental Hydrobiology](#)

Latvian State Forest Research Institute “Silava” - LVMI Silava

<http://www.silava.lv/mainen/aboutus.aspx>

The Latvian State Forest Research Institute “Silava” is the main centre of forest science in Latvia and leader of scientific ideas in forestry and the related research and development in the country.

Areas of Competence/Research/Faculty/Department

1. [Forest ecology and silviculture](#)
2. [Forest tree breeding and climate change](#)
3. [Genetic Resource Centre](#)
4. [Forest regeneration and establishment](#)
5. [Forest phytopathology and mycology](#)
6. [Forest entomology](#)
7. [Forest operations and energy](#)
8. [Wildlife management](#)
9. [Forest products processing](#)
10. [National Forest Inventory](#)

Institute of Food Safety, Animal Health and Environment – BIOR

<https://www.bior.lv/en>

BIOR is a research centre of national importance which develops innovative research methods and creates new practically applicable knowledge in the following areas of science: public and environmental health, food, fishery and veterinary medicine.

Areas of Competence/Research/Faculty/Department

1. Chemistry Science
2. Environmental Science



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3. Human and Environmental Health
4. Fisheries
5. Veterinary Medical Sciences

Universities/Higher Education Institutes

Latvia University of Life Sciences and Technologies (LLU)

<https://www.llu.lv/en>

The Latvia University of Life Sciences and Technologies (the English name of the Latvia University of Agriculture) is one of the institutions for which the Ministry of Agriculture has responsibility. It specialises in agricultural science, forestry, food technology and related areas.

The University houses the Institute of Agricultural Resources and Economics, the Institute of Horticulture and the Latvian Plant Protection Research Centre Ltd – important research institutes for the Latvian Ministry of Agriculture.

Institute of Agricultural Resources and Economics

<https://www.arei.lv/en>

The Institute of Agricultural Resources and Economics was founded in 2016 by merging several agricultural institutions dependent on the Ministry of Agriculture, to form the only research institute in Latvia engaged in the breeding of field crops. Its researchers specialise in breeding, arable farming and interdisciplinary studies in the science of economics.

Areas of Competence/Research/Faculty/Department

1. Field crop genetics and breeding for integrated and organic farming systems
2. Development of sustainable field crop growing technologies for various farming systems
3. Evaluation of field crop quality for effective use
4. Production of feed
5. Economics of sustainable development of bioresource industries
6. Efficiency of production processes and company competitiveness
7. Sustainable development of territories

Institute of Horticulture

<https://www.darzkopibasinstituts.lv/index.php/en/about-institute-of-horticulture>

Part of the Latvia University of Life Sciences and Technologies, under the responsibility of the Ministry of Agriculture, the Institute of Horticulture is the leading vegetable and fruit growing research centre in Latvia, selecting plant species suitable for Baltic geo-climatic conditions, exploring environmentally friendly cultivation systems, developing innovative food products and conducting research on biological foundations. It also houses the largest lilac collection in Europe.

Areas of Competence/Research/Faculty/Department

1. [Unit of breeding and variety testing](#)
2. [Unit of orchard management](#)
3. [Unit of experimental fruit and berry processing](#)
4. [Unit of plant pathology and entomology](#)
5. [Unit of genetics and molecular biology](#)



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Latvian Plant Protection Research Centre Ltd.

<http://www.laapc.lv/en/>

The Latvian Plant Protection Research Centre Ltd is a limited liability company belonging to the Latvian University of Life Sciences and Technologies, but with a legally independent unit status. It grew out of the Baltic Pest Control Station of Agricultural Crops established in 1913. It has developed from its work being mainly oriented to biological efficiency evaluation and the registration of new plant protection products in Latvia, through research on weed distribution, to developing disease forecast systems and integrated systems for the control of harmful organisms.

Areas of Competence/Research/Faculty/Department

Scientific research is organised in four groups:

1. [Weed research](#) group (Group leader Zane Erdmane M.sc.bio.)
2. [Field crop pathology](#) group (Group leader Olga Treikale Dr.bio.)
3. [Entomology](#) group (Group leader Laura Ozoliņa – Pole M.sc.biol.)
4. Horticultural crop pathology group (Group leader Regīna Rancāne M.sc.agr.)

Between them, these groups:

- Carry out research on pest prevalence, development and risks in crop plants providing the State Plant Protection Service and agriculture producers with information necessary for implementation of control measures;
- Work out technologies for restricting pests in conventional and biological agriculture, implement plant protection measures according to the requirements defined by the EU legislation;
- Analyse, adjust and verify new integrated plant protection technologies, enhancing environmentally friendly and pollution preventing production methods;
- Work out recommendation for plant protection harmonising legislation acts of Latvia with the requirements of the EU regulations.

Other areas of Research

1. [Sustainable Agriculture](#) (Plant and Animal Protection)
2. [Sustainable Forestry](#)
3. [Food Quality and Innovations](#)
4. [Veterinary Medicine](#)
5. [Research in Biological Sciences, Engineering Sciences and Social Sciences](#)
 - Investigation of important microorganisms and invertebrates in agriculture
 - Studies of soil and land as basic resources for agriculture
 - Improving plant productivity and yield quality through environmentally friendly technologies
 - Improving animal productivity and functional efficiency
 - Morpho functional studies of animal digestion system from the aspects of ontogenesis and pathogenesis of diseases
 - Research on new diagnostics, treatment methods, medications, feed and nutritional supplements
 - Infectious and invasive disease control and prevention
 - Forest ecology and forestry studies
 - The impact of forest work and technology on the forest ecosystem, the results of the output, the assessment of quantitative and qualitative indicators
 - Forest resource economics and forest management planning
 - Ecology of work environment
 - Food safety and risks



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6. [Research Laboratory of Economic Characteristics of Plant Varieties](#)

The aim of the analysis of economic characteristics of plant varieties is to identify:

- Productivity of a variety, its biological characteristics, the resulting product quality, differences in chemical and technological properties in relation to the standard variety, resistance to diseases and pests, as well as other economically important characteristics.
- Suitability of varieties for growing in agro-climatic conditions of Latvia.

7. [LLU Forest and Water Resources Research Laboratory](#)

The lab conducts research programmes and projects, fundamental and applied research in forest sciences, hydro-engineering sciences, environmental sciences and material sciences related to:

- Forest resources – their sustainable management, planning and recreation;
- Timber resources – timber application in construction (bridges, towers, support of water edges etc.);
- Sustainable environment – research of land, water and air quality;
- Hydro-technical structures – drainage, ports, power supply in the context of hydroelectric power stations;
- Water resources – addressing issues from drinking water to sewage sludge utilisation;
- Hydrology – surface and ground water flow and cycles, flood risks.

8. [Research Laboratory of Biotechnology](#)

- [Division of Agronomic Analysis](#)
- [Division of Molecular Biology and Microbiology](#)
- [Division of Smart Technologies](#)

University of Latvia

<https://www.lu.lv/en/>

The University of Latvia consistently retains the position of the national, leading and most influential higher education institution in Latvia. In terms of the total number of students, the University of Latvia is also the largest university in the country. It is the largest comprehensive university in Latvia with a prominent standing both in the development of the entire education system and in the overall growth of the country's economy.

UL is a modern centre of academic and professional studies, which, along with research in natural sciences, humanities, social sciences, technical sciences and medicine provides opportunities to acquire various types and levels of higher education to the residents of Latvia and other countries. UL has a crucial role in the development of society's academic traditions, national economy, education, environment and health protection, Latvian language and culture. The opinion of the University of Latvia substantially contributes to the public administration decision-making.

Institute of Biology

<https://www.lu.lv/en/about-us/structure/institutes/ul-institute-of-biology/>

The research activity of the Institute for many years has been involved in two mainline research directions:

Areas of Competence/Research/Faculty/Department

1. Investigation of natural resources and ecology with the aim to provide the theoretical basis for sustainable development of Latvia's natural resources.

Laboratories:



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- Bioindication
 - Botany
 - Experimental Entomology and Microbiology
 - Geobotany
 - Hydrobiology
 - Marine Ecology
 - Ornithology
2. Bioregulatory mechanisms of vital process in plants and animals in connection with the improvement of its bioproductivity.

Laboratories:

- Animal Biochemistry and Physiology
- Mineral Nutrition of Plants
- Environment Genetics
- Magnetobiology
- Genomics and Bioinformatics

The Department of Environmental Science

<https://www.lu.lv/en/gribustudet/study/doctoral-study-programmes/study-programmes-for-international-students/environmental-science/>

Environmental science is an interdisciplinary science, which is developed on the border where social and natural sciences and humanities meet. Environmental science uses the methodologies of social and natural sciences to study the interaction between humans and nature to ensure sustainable management of natural resources, protection of biodiversity, genetic diversity, the environment and society and to protect humans from the adverse effects of their own activities. In view of the rapid development of environmental science, research in this scientific discipline today make an integral part of the University.

1. Laboratory of Environmental Quality
2. Laboratory of Soil Chemistry
3. Laboratory of Environmental Technologies
4. Centre for Education for Sustainable Development
5. Laboratory of Natural substance research
6. Laboratory of National Centre of Forest and Water Research

UL Institute of Microbiology and Biotechnology

<https://www.lu.lv/en/about-us/structure/institutes/ul-institute-of-microbiology-and-biotechnology/>

Faculty of Geography and Earth Sciences

<https://www.lu.lv/en/studies/faculties/faculty-of-geography-and-earth-sciences/>

Riga Technical University

<https://www.rtu.lv/en>

RTU is a modern internationally recognized university. It is the only polytechnic university in Latvia and the largest university in the country – it educates and trains almost 15 thousand students.

RTU is focused on becoming a third-generation university that not only provides high quality education, but also conducts advanced research and ensures innovation and technology transfer, practically implementing scientific discoveries.



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Faculty of Materials Science and Applied Chemistry

<https://www.rtu.lv/en/university/structure-and-administration/faculties/materials-science-and-applied-chemistry>

Daugavpils University of Life Sciences and Technologies

<http://sciences.lv/en/>

Department of Biosystematics

<http://sciences.lv/en/structure-2/departement-of-biosystematics/>

Areas of Competence/Research

1. [Ilgas Studay and Research Centre](#): research into the taxonomy of Latvian flora and fauna
2. [The Coleopterological Research Centre](#): research on the systematics, taxonomy, morphology, fauna and biogeography of beetles (Coleoptera)
3. [Forest Biodiversity Research Centre](#)

Department of Biotechnology

<http://sciences.lv/en/structure-2/departement-of-biotechnology/>

Areas of Competence/Research

1. [Animal Ecology and Evolution Laboratory](#)
2. [Genomics and Biotechnology Labotory](#)

Department of Ecology

<http://sciences.lv/en/structure-2/departement-of-ecology/>

Areas of Competence/Research

1. [Laboratory of Molecular Biology and Genetics](#)
2. [Laboratory of Zoocultures and Nature Conservation](#)
3. [Laboratory of Parasitology and Histology](#)

Department of Applied Chemistry

<http://sciences.lv/en/structure-2/departement-of-applied-chemistry/>

Areas of Competence/Research

1. Determination of nutrients, organic compounds in water, soil and air
2. Determination of pesticides and other toxicants in foodstuffs
3. Production of biogas from aquaculture residues and optimization of production process parameters
4. Analysis of synthesis gas obtained in the process of biomass gasification with the aim to increase the efficiency of the process

Department of Design

<http://sciences.lv/en/structure-2/departement-of-design/>

Areas of Competence/Research

1. Ethno and cultural biology
2. Ethno and cultural coleopterology



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Latvian State Institute of Wood Chemistry (LSIWC)

<http://www.kki.lv/en/institute/about-institute>

Areas of Competence/Research:

1. structure, bio- and weathering durability, degradation mechanisms of wood and wood-based materials by microorganisms and under environmental impact, methods for improving their sustainability properties (including modification and surface protection) to enhance competitiveness with non-renewable building materials;
 2. biorefinery approaches, development of technologies for wasteless cascade use of wood components for obtaining chemical compounds, composite and hybrid materials and added value products designed for the food industry, agriculture, pharmacy, healthcare, etc.;
 3. rational use of woodworking, wood and biomass processing residues for innovative multifunctional products (including fiber and insulation materials) for agriculture, building, the transport field, forestry and environment protection.
- [Laboratory of wood biodegradation and protection](#)
 - [Biorefinery laboratory](#)
 - [Cellulose laboratory](#)
 - [Laboratory of lignin chemistry](#)
 - [Polymer laboratory](#)
 - [Laboratory of bioengineering](#)