

**LITHUANIAN RESEARCH CENTRE FOR AGRICULTURE AND FORESTRY  
STRATEGY IMPLEMENTATION PLAN  
2022 – 2024 m.**

Lithuanian Research Centre for Agriculture and Forestry (LAMMC) is a state research institute, a public legal entity, which carries out long-term scientific research and experimental development in the fields of agronomy, forestry, ecology and environmental science, and biochemistry, which are important for the state, society, international cooperation or economic entities. LAMMC is founded by the Government of the Republic of Lithuania.

The activities of LAMMC are carried out and the goal of the activity is implemented in accordance with the main documents that form the basis for the activity strategy of LAMMC. LAMMC's activities contribute to the implementation of the goals and priorities approved in the program of the Government of the Republic of Lithuania, as well as: the State Progress Strategy "Lithuanian Progress Strategy Lithuania 2030", the 2021-2030 National Progress Program, the European Strategy "Green Deal", the General Research and Innovation Program " Horizon Europe" and others.

**LAMMC MISSION**

LAMMC mission – generate, garner and disseminate new scientific know-how geared to awareness of sustainable land, forest and environment resources, their competitive development and use, elaboration of innovative technologies and products to meet the needs of the society.

**LAMMC STRENGTHS, WEAKNESSES, OPPORTUNITIES, THREATS (SWOT) ANALYSIS**

The future agriculture must be developed by increasing the production of high added value products and contributing to the sustainable development of countries. We need to ensure the sustainable use of resources now and in the future and satisfy the needs of consumers in regional, national and international markets. This can be achieved developing the research with the focus on:

- environmentally sustainable crop production methods,
- biodiversity and plant productivity,
- more efficient use of biological processes for practical purposes,
- climate change risk assessment and its mitigation,
- adaptation to climate change,
- yield potential and quality of conventional and new plants in various soils,
- more intensive and rational use of renewable resources for the production of traditional and non-traditional products.

During the planning of LAMMC's activities, a SWOT analysis was carried out, on the basis of which LAMMC's tasks and measures were formulated.

| <b>Strengths</b> | <b>Weaknesses</b> |
|------------------|-------------------|
|------------------|-------------------|

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|--|--|
| Balanced scientific staff<br>Balanced income structure<br>Increasing international visibility<br>Strengthening the readiness of scientists to carry out R&D<br>Potential for agricultural policy making<br>Multidisciplinarity of research | Insufficient activity in submitting project proposals<br>Scattered infrastructure<br>Low ratio of academic/non-academic staff<br>Lack of interdisciplinary scientists<br>Weak mutual communication<br>Lack of information on employee job satisfaction |
| <b>Opportunities</b>   | <b>Threats</b>   |
| EU Green Deal Strategy<br>The need for innovation<br>International cooperation<br>Stable agricultural and forestry businesses<br>Increasing R&D funding, especially at the international level   | Uncertain funding due to the geopolitical and economic situation<br>Increasing interest in laboratory research vs decreasing number of field experiments<br>Lack of postdoctoral internships<br>Unstable project financing                             |

### **PURPOSE, TASKS OF LAMMC ACTIVITY**

The goal of the Lithuanian Research Centre for Agriculture and Forestry (LAMMC), as defined in the Statute of the LAMMC, is to serve the public interest by carrying out long-term scientific research and experimental development that are of interest to the State, society, international cooperation and economic operators.

To achieve the operational goals the following objectives were defined:

1. developing high-level scientific knowledge to address national and international economic, environmental, and social challenges;
2. increasing the availability of science-based innovations and solutions to domestic and foreign consumers and the general public;
3. raising the prestige of science and ensuring attractive working conditions in the country's regions.

### **INSTRUMENTS FOR IMPLEMENTATION OF LAMMC TASKS AND THEIR ASSESSMENT INDICATORS**

One of the main objectives of the LAMMC is to generate high-level scientific knowledge to address national and international economic, environmental and social challenges. In 2021, the scientists of the LAMMC published 148 scientific publications in journals referenced in the Clarivate Analytics Web of Science (CA WoS) database and with a citation index (IF), 73% of these publications appeared in high-level international publications (Q1 and Q2). The short-term goal is to achieve a minimum of one scientific publication per researcher and a gradual improvement in the quality of scientific publications.

The development of new, innovative, research-based products and technologies is an ongoing activity of the LAMMC. In 2022, plant breeding in Lithuania celebrates its centenary. In the course of hundred years, agricultural plant varieties have been developed that are both nationally and internationally competitive. During the reporting period, seven plant varieties developed by the LAMMC underwent international expertise in specialised European centres and one application was filed with the European Patent Office. It is likely that the LAMMC becoming a public establishment will further strengthen the development of these activities and encourage researchers not only to develop more innovative products, but also to successfully commercialise them.

Production of high-level scientific knowledge is directly linked to competitive funding and implementation of high-level national and international R&D and other projects. In 2021, LAMMC researchers submitted 76 R&D project proposals worth more than 10.4 million euro. The project success rate is close to 25%. In our view, this is a good achievement, but in order to ensure the successful continuation of the activities of the LAMMC, preparation and submission of more applications to attract competitive funding will be encouraged.

The success of each institution is directly linked to attracting new innovative researchers. Currently, there are 65 doctoral students at the LAMMC, but this number is likely to increase as the opportunity to apply for the competitive PhD programme funded by the Research Council of Lithuania becomes available. Development of the internationalisation of doctoral studies is also foreseen. In 2021, nine doctoral students from foreign countries were studying at the LAMMC, with an increasing number of both English language and publication-based PhD dissertations. Not only does it facilitate joining international scientific networks, but also enhances the visibility of LAMMC scientists in the international arena.

| <b>Objective 1: developing high-level scientific knowledge to address national and international economic, environmental and social challenges.</b> |   |             |             |             |             |
|---|---|-------------|-------------|-------------|-------------|
| <b>Measures of the implementation of the operational plan</b>   | <b>Criteria of the evaluation of the implementation of the operational plan</b>   | <b>2021</b> | <b>2022</b> | <b>2023</b> | <b>2024</b> |
| Conducting high-level fundamental and applied research  | Scientific publications in journals referenced in the CA WoS database and with an index of citation (IF), number  | 148         | 160         | 180         | 190         |
|   | Of which publications in Q1-Q2 journals, number   | 108         | 120         | 130         | 150         |
|   | Publications with participation of foreign institutions and/or businesses, number   | 58          | 65          | 85          | 100         |
|   | Research monograph (at least eight author's sheets) or part(s) of a research monograph (at least 8 author's sheets) published by an internationally                                       | 9           | 10          | 11          | 12          |
|   | Number of research traineeships   | 17          | 20          | 25          | 35          |
| Development of new, innovative, research-based products and technologies  | Number of plant varieties that underwent international examination in specialised European centres and/or the number of new species of organisms that underwent international examination | 7           | 8           | 10          | 10          |
|   | The number of patent applications filed with the European Patent Office, the US Patent and Trademark Office, or the Japan Patent Office (by registration certificate)                     | 1           | 2           | 1           | 1           |
| Implementation of high-level national and international R&D and other projects  | Number of project applications  | 76          | 80          | 82          | 85          |
|   | Funding of project applications, million euro   | 10.4        | 11.0        | 11.5        | 12.0        |
|   | Funds generated by R&D projects, million euro   | 2.5         | 2.8         | 3.0         | 3.3         |
| Conducting high-level international doctoral studies  | Number of doctoral students   | 65          | 67          | 69          | 70          |
|   | Number of doctoral theses defended  | 12          | 14          | 16          | 17          |
|   | Number of dissertations in English  | 4           | 6           | 8           | 12          |
|   | Number of publication-based dissertations   | 3           | 5           | 8           | 9           |
|   | Number of foreign doctoral students   | 9           | 9           | 10          | 11          |

The key to a country's growth is science-based decision making in the public and private sectors. In order to strengthen innovation at the national and international level, the LAMMC focuses its activities not only on the implementation of scientific projects and innovation design, but also on their direct implementation and active dissemination of information. In 2021, researchers completed 188 contracts with businesses with a total worth of 1.8 million euro.

For many years, scientists at the LAMMC have been actively participating in national working groups: they are members of expert groups for the evaluation of projects and national strategic documents, and in recent years their contribution to the activities of international working groups and expert groups submitting proposals to the European Commission has increased significantly. Researchers actively share their scientific knowledge at national and international conferences.

In 2021, due to the constraints prevailing at the time of the COVID-19 pandemic, the number of national events was slightly lower, but it is expected that in 2022 the number of national events will be the same as before. The number of international events increased significantly due to a greater number of international projects organised. At least ten international scientific events are expected to be organised in 2022.

To reinforce the credibility of scientists and the importance of research, there a strong emphasis is placed on the dissemination of information on social networks (Facebook, LinkedIn, and Twitter).

| <b>Objective 2: increasing the availability of science-based innovations and solutions to domestic and foreign consumers and the general public</b> |   |        |        |        |        |
|---|---|--------|--------|--------|--------|
| Measures of the implementation of the operational plan  | Criteria of the evaluation of the implementation of the operational plan  | 2021   | 2022   | 2023   | 2024   |
| Experimental development and innovation   | Number of contracts with economic entities  | 188    | 190    | 192    | 195    |
|   | Sums of money received from contracts with economic entities, million euro                                      | 1.8    | 2.0    | 2.2    | 2.4    |
|   | Number of licensing agreements  | 22     | 23     | 24     | 26     |
|   | Sum of money received from licensing agreements, thousand euro  | 302    | 310    | 320    | 350    |
| Developing and presenting science-based recommendations to decision-makers  | Number of experts (in national and international groups)  | 59     | 60     | 62     | 65     |
| Disseminating new scientific knowledge to the research community and target groups  | Number of presentations at international conferences  | 73     | 73     | 75     | 80     |
|   | Number of public presentations (national seminars, field days, exhibitions)                                     | 10     | 20     | 30     | 50     |
|   | Number of national conferences organised  | 4      | 4      | 5      | 6      |
|   | Number of international events (conferences, exhibitions, international seminars, courses, briefings) organised | 9      | 9      | 10     | 11     |
| Dissemination of new scientific knowledge and innovation to the wider public  | Number of website visitors  | 49 931 | 55 000 | 60 000 | 65 000 |
|   | Number of visitors to the LinkedIn social network   | 424    | 500    | 700    | 1000   |
|   | Number of visitors to the Twitter social network  | 65     | 100    | 150    | 200    |
|   | Number of visitors to the Facebook social network   | 1 895  | 2000   | 2500   | 3000   |

The LAMMC is increasingly contributing to the implementation of the Green Deal strategy of the European Commission and conducts its activities in a sustainable and resource-efficient manner. A strong emphasis is placed on ensuring Green Procurement, which aims at procuring goods, services, or activities with the lowest possible environmental impact at one, several or all stages of the life cycle of a good, service, or activity. Already in 2021, some public procurement was recognised as green, and in 2022 the target will be at least 50% of the value of procurement.

In addition, the LAMMC also contributes to the implementation of the national regional policy, which has a differentiated impact on the socio-economic development of the regions, with the aim of reducing their socio-economic exclusion and inequalities of development within the regions themselves and promoting balanced and sustainable development throughout the territory of the whole country. The aim is to ensure salary progression and to raise the qualification of the staff by encouraging participation not only in scientific events, but also in generic competence development activities and by creating conditions for students to pursue their studies with flexible working hours. However, there is a lack of objective information on employees' job satisfaction, which is why surveys to assess employees' emotional well-being are planned for 2023, which will not only help to provide more information on the effectiveness of various management measures in place but will also help to improve work processes.

| <b>Objective 3: raising the prestige of science and ensuring attractive working conditions in the country's regions</b> |   |             |             |             |             |
|---|---|-------------|-------------|-------------|-------------|
| <b>Measures of the implementation of the operational plan</b>   | <b>Criteria of the evaluation of the implementation of the operational plan</b>                 | <b>2021</b> | <b>2022</b> | <b>2023</b> | <b>2024</b> |
| Application of green technologies in the activities of the LAMMC  | Green procurement as a share of total procurement, %  | 10          | 50          | 100         | 100         |
|   | Proportion of electronic files prepared for archiving as a percentage of total files, %         | 27          | 50          | 75          | 100         |
| Creation of favorable working conditions in LAMMC   | Increase in average salaries of researchers in per cent, no less than                           | 12          | 10          | 10          | 10          |
|   | Percentage of staff participating in professional development activities per year, no less than | 15          | 25          | 25          | 25          |