



Summary

Research Master Plan for the Agri-Food Sector 2021–2024



Schweizerische Eidgenossenschaft
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Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
Federal Office for Agriculture FOAG

The Research Master Plan

The Swiss Federal Administration initiates and supports scientific research whose findings it requires to perform its tasks. Such research undertaken in the public interest is known as «departmental research». Multi-year departmental research programmes are developed in the form of cross-departmental research master plans. The Federal Office for Agriculture FOAG was requested by the Federal Council, under the Dispatch on the Promotion of Education, Research and Innovation 2021–2024, to present a research master plan for the agricultural policy sector. The present brochure provides a summary of this research master plan, which was published in February 2020.

The wider context

In a 2015 study commissioned by the FOAG, the Swiss Federal Institute of Technology (ETH) Zurich provided a comprehensive assessment of future global and national developments relating to agricultural production and nutrition. Based on this study, key challenges can be defined, which remain of central importance for departmental research. These are, in particular, population growth, demographic changes and changing public expectations concerning production and products, as well as the increasing globalisation of markets and – associated with this trend – the competitiveness of domestic production and local products. Other key challenges are the increasing scarcity of natural resources, efficient resource use and anthropogenic pressures. An update in 2019 identified a further challenge – digitalisation, which has the potential to help increase the competitiveness and sustainability of Swiss agriculture, as well as facilitating administration and promoting more efficient achievement of agricultural policy objectives. In recent years, four challenges have become increasingly important – invasive species, political and societal demands, growing awareness of animal welfare and animal health, and the concept of the circular economy.

International strategies and research fields

Analysis of international strategies shows the potential for collaboration between national and international research actors. The food and agriculture strategies of the UN (FAO), OECD and EU emphasise the importance of sustainable development, food security, resource conservation and avoidance of food waste (e.g. through the bioeconomy, the circular economy and changes in consumer behaviour), as well as addressing climate change and promoting resilient value chains and sustainable food systems. It is apparent that international and national research priorities largely coincide. This means that, firstly, Switzerland can contribute its outstanding research expertise to international research programmes such as «Horizon Europe». At the same time, Switzerland can benefit from this international scientific excellence and, through in-

ternational research collaborations, access the latest scientific knowledge and developments – also in order to avoid redundancies and create synergies.

National strategies

With national strategies, the Federal Council seeks to respond in good time to societal, technological and economic developments and to address new challenges. The strategies, implemented via action plans and measures, include important research-related aspects. Certain strategies define their objectives along the value chain within the food system – for example, the future development of agricultural policy, the animal health strategy, the pesticides action plan, the plant breeding strategy, the food chain strategy and the nutrition strategy. Another group of strategies focus on a specific area of the food system and have cross-cutting effects on other sectors at the national level; here, examples include the strategies on antibiotic resistance, invasive alien species, soil and biodiversity, as well as the bee health action plan. The third group of strategies address general, cross-sectoral challenges such as climate change, energy provision, digitalisation, cost-effective and efficient resource management, and sustainable development. These strategies have significant impacts on the development of the food system.

National research fields

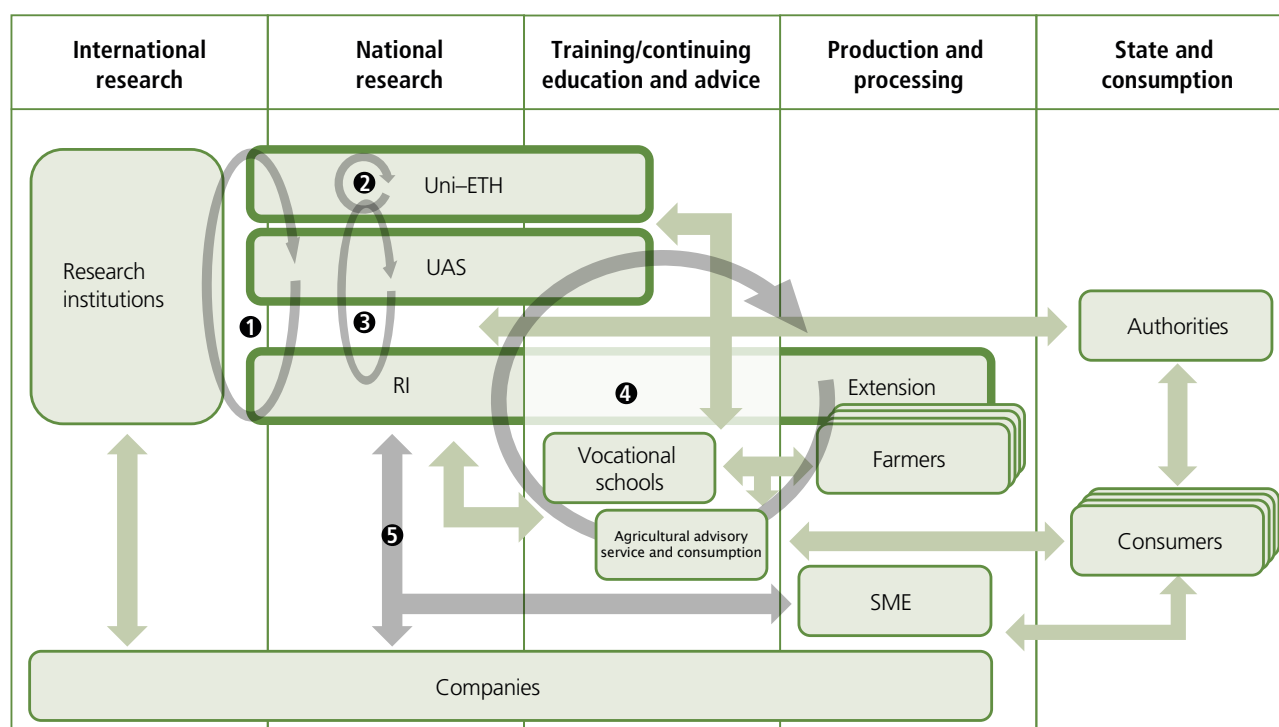
The overarching goal of the agricultural policy strategy is to achieve a sustainable agri-food sector by 2025. The strategy should lead to sustainable production forms, products and services, which are competitive and of high quality, and the provision of which is transparent for all concerned. In this process, the agri-food sector sees itself as a user and preserver of production resources. Arising from these policy objectives are cross-cutting research fields of particular relevance – research to promote the competitiveness of production and products; sustainable use and conservation of production resources; and production, products and services with high levels of quality and transparency. The findings of this research serve, in turn, to facilitate the achievement of the policy objectives.

Research actors and networks

The wide variety of topics relating to the agri-food sector is reflected by the multiplicity and diverse orientation of Swiss research actors. Among the main national centres of excellence in agricultural and nutrition research are departments of the ETH Zurich, the School of Agricultural, Forest and Food Sciences at the Bern University of Applied Sciences (BFH-HAFL), the federal research institute Agroscope, and the private Research Institute of Organic Agriculture (FiBL). Research at other institutions, such as the cantonal universities, focuses on selected aspects of agronomy. These research activities show an extensive potential for synergies. Given the different types of research pursued at the various institutions (basic research, ap-

plication-oriented basic research and applied research), their efforts can be mutually complementary.

Switzerland's research landscape offers networks of various kinds, enabling synergistic effects to be exploited in research. Depending on their orientation, these networks support scientific exchanges between research actors or promote inter- and transdisciplinary collaboration and application in practice (e.g. through the AGRIDEA advice centre). The following diagram provides a schematic view of the most important networks. Switzerland's funding institutions also promote collaboration through various instruments. For example, Innosuisse promotes partnerships between academia and the private sector. Coordinated research is promoted by the Swiss National Science Foundation's National Research Programmes and National Centres of Competence in Research.



Schematic view of knowledge sharing (green arrows) between research, education, advisory services, production and consumption, and selected examples of links with research actors (grey arrows).

UAS = universities of applied sciences,

RI = research institutes.

- ❶ International networks and collaboration;
- ❷ Competence centres at higher education institutions;
- ❸ Coordinated collaboration between research institutes and teaching establishments;
- ❹ National platforms for research–practice;
- ❺ Networks involving public research and companies.

Legal mandate

With regard to the further development of agricultural policy and the evaluation of agricultural policy measures, the FOAG – as the federal competence centre for agricultural policy – is responsible for formulating its research requirements at an early stage and ensuring that they are met, using appropriate instruments. For this purpose, the FOAG has at its disposal periodic service agreements with agricultural research partners, as well as specific research mandates and grants, with particular importance attaching to the annual service agreements with Agroscope and the four-year financial assistance agreement with the FiBL.

Agroscope

Agroscope is the federal competence centre for research and development in the areas of agriculture, food and the environment. It makes an important contribution to a sustainable agri-food sector and an intact environment, thus helping to improve the quality of life. Agroscope's responsibilities encompass research for the development, implementation and evaluation of Switzerland's agricultural and food sector policies, for reorientation in agriculture, and for forms of production that are environmentally sound and respect animal welfare; research and development of products and methods for Swiss agri-food sector actors; and knowledge sharing and technology transfer. In addition, in accordance with legal requirements, Agroscope performs enforcement tasks and supports the FOAG by providing enforcement aids.

Agroscope's activities involve 15 Strategic Research Fields, with a particular focus on three areas: (1) Improving competitiveness – Agroscope's research contributes to sustainable production systems and competitive, high-quality products; (2) management of natural resources – A key question for Agroscope is how resources can be efficiently used, the environmental effects of production minimised, and ecosystem services safeguarded and enhanced; (3) expanding opportunities, reducing risks – Growing knowledge, technological progress and advances in breeding offer opportunities for sustainable development of the food system. Among the risks that scientists and policymakers need to address and develop solutions for are climate change, invasive plants and animals, or diseases occurring in Switzerland for the first time. Details of the Strategic Research Fields and related activities can be found in the Agroscope Work Programme 2022–2025.

Financing

The FOAG's expenditure for research mandates and grants is around CHF 75 million for the period 2021–2024; of this total, around CHF 55 million will go to the FiBL. Federal funding for Agroscope departmental research amounts to CHF 513 million for the same period.

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The Research Master Plan is available as a PDF file in German and French at:
www.blw.admin.ch
www.ressortforschung.admin.ch