Message from the President

The Hokkaido Research Organization (HRO), a local independent administrative agency, was established in April 2010 by integrating 22 prefectural research institutes in the fields of agriculture, fisheries, forestry, manufacturing, environment, geology, and architecture.

The HRO now focuses on the three major studies of food, energy, and communities as the priority study fields and the cross-cutting studies on urgent and important issues in Hokkaido under the second midterm plan since 2015. The excellent technological experiences and various expertise cultivated by our fundamental research experiences are very effective for those researches. We also provide the knowledge and technologies to improve the well-being life environment of residents and develop the local industries utilizing the principal products of Hokkaido.

The goal of our organization is to realize the affluent life and industrial development by looking out over the future of Hokkaido through research and technologies. We hope your helpful cooperation and technological contribution toward our future works. Thank you.

Outline of the Hokkaido Research Organization

Name:	Local Independent Administrative Agency Hokkaido Research Organization (abbreviation:HRO)
Date of establishment:	April 1, 2010
Headquarters:	Hokkaido General Research Plaza, Kita 19 Nishi 11, Kita-ku, Sapporo
Capital (land and buildings):	approx. 25.4 billion yen (stakeholder: Hokkaido government (100%))
Budget scale:	approx. 15.6 billion yen/year (operational subsidy from the Hokkaido government: approx. 13.3 billion yen)
Number of employees:	1,091 (including 725 researchers)
Scope of services:	experiments, research, surveys, technical development, extension and technical support related to various fields: agriculture, fisheries, forestry, manufacturing, food, environment, geology and architecture; provision of experimental equipment and facilities

*The budget scale and the number of employees are as of FY 2018.

21 research institutes and stations

Agricultural Research Department ☎ 0123-89-2001
- Central Agricultural Experiment Station (Naganuma Town) ※
- Kamikawa Agricultural Experiment Station (Pippu Town)
- Donan Agricultural Experiment Station (Hokuto City)
- Tokachi Agricultural Experiment Station (Memuro Town)
- Kitami Agricultural Experiment Station (Kunneppu town)
- Dairy Research Center (Nakashibetsu Town)
- Animal Research Center (Shintoku Town)
- Ornamental Plants and Vegetables Research Center (Takikawa City)

Fisheries Research Department ☎ 0135-23-7451
- Central Fisheries Research Institute (Yoichi Town) ※
- Hakodate Fisheries Research Institute (Hakodate City)
- Kushiro Fisheries Research Institute (Kushiro City)
- Abashiri Fisheries Research Institute (Abashiri City)
- Wakkanai Fisheries Research Institute (Wakkanai City)
- Mariculture Fisheries Research Institute (Muroran City)
- Salmon and Freshwater Fisheries Research Institute (Eniwa City)

Forest Research Department ☎ 0126-63-4164
- Forestry Research Institute (Bibai City) ※
- Forest Products Research Institute (Asahikawa City)

Industrial Technology and Environment Research Department ☎ 011-747-2321
- Industrial Research Institute (Sapporo City) ※
- Food Processing Research Center (Ebetsu City)
- Research Institute of Energy, Environment and Geology (Sapporo City)

Building Research Department ☎ 0166-66-4211
- Northern Regional Building Research Institute (Asahikawa City) ※

※ Location of research department head

Headquarters (Sapporo City) ☎ 011-747-0200

April 1, 2022

Research activities

We carry out strategic research by setting priority fields, based on the policies of the Hokkaido government and Hokkaido residents' needs, as well as the current status of technology and future directions.

Priority study fields
(1) Establishment of technologies for a stable food supply and the promotion of food-related industries
(2) Formulation of a stable renewable energy supply system and an energy-saving technological system
(3) Creation of safe and sustainable local communities where nature, industries and livelihood coexist harmoniously

Focusing on these three fields, we work on various studies in collaboration with universities and companies.

〈Major studies〉

Strategic research Cross-cutting studies related to important issues facing Hokkaido

- ○Creation of a new food market by integrating material, processing and distribution technologies
- ○Formulation of a model for the distributed utilization of local energy corresponding to the region and industry
- ○Creation of living environments in village communities, and the formation of measures for industrial promotion

In addition to the above-mentioned studies, we are involved in more than 700 studies a year, including basic research necessary to maintain and improve technical capabilities, pioneering research that will lead to new research and development, and ongoing surveys of the environment and natural resources.

Technical support

Utilizing our research findings, technologies and expertise, we support technological development and problem-solving by companies and business operators.

〈Major support〉 (results in FY 2016)

Technical consultation	Answers to inquiries about technologies	(8,955 cases)
Technical guidance	Instructions to resolve technical questions	(2,185 cases)
Commissioned testing	Commissioned examinations, analyses, measurements and surveys	(4,365 cases)
Facility use	Lending of testing equipment and devices	(1,096 cases)

〈General consultation counter〉

We respond to various technical questions and research needs at the general consultation counter in our headquarters.

Tel 011-747-2900
E-mail hq-soudan@hro.or.jp

HRO Headquarters
(Hokkaido General Research Plaza)
The general consultation counter here is used as a hub of industry-academia-government interaction and joint research.

Social contribution

We organize various presentations and events to raise people's awareness of the HRO's activities. Please feel free to join us.

Presentation of research findings
We organize presentation sessions to introduce our latest research findings to companies and researchers.

Open days
We host events in which individual research institutes are open to the public.

URL http://www.hro.or.jp/ HRO Web search
E-mail hq-entry@hro.or.jp
Facebook https://www.facebook.com/dosoken/

HRO
Hokkaido Research Organization

Our research realizes new dreams for Hokkaido.

【Headquarters】
Kita 19 Nishi 11, Kita-ku, Sapporo 060-0819 JAPAN
TEL 011-747-0200 (main) FAX 011-747-0211

Photo: Scientific research vessel - Hokushin-maru

Research achievements by the HRO

～ The following wide range of achievements ～

We have predicted the resource volume of artificial forests for up to the next 50 years and estimated the yield and the diameter distribution of logs for each region.

We conduct surveys of the geology and terrains of collapsed slopes to formulate measures against slope disasters.

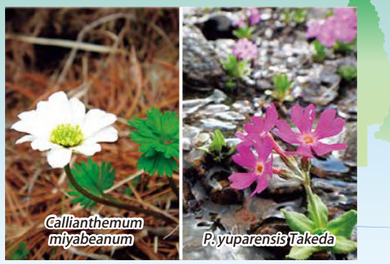
To improve the usage rate of Hokkaido-grown timber, we have recommended the use of Japanese larches for structural and interior materials, and verified its quality with demonstration tests using an actual house.

We have developed the method to product long-life concrete using volcanic ash in Hokkaido.

We have developed Erimo 167, a new adzuki bean variety that has quality attributes similar to Erimoshozu, a popular Hokkaido adzuki bean variety. Erimo 167 is also resistant to brown stem rot.

We have developed Kitahonami, a wheat cultivar with a good flour color and good quality for udon noodles, accounting for approximately 80% of the total amount of wheat produced in Hokkaido.

We have studied how to collect woody residue (forest biomass) produced by logging, how to utilize it as fuel and evaluated its value as fuel.



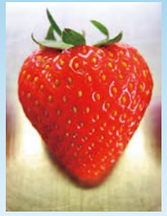
Rare plant protection can lead proper conservation at unique ecosystem surrounding its habitat.

We have conducted various studies to put the new wood material CLT (cross laminated timber) made of Hokkaido timber to practical use and achieved CLT construction using domestic larch for the first time in Japan.

In collaboration with a Hokkaido company, we have developed an easily cleaned plastic heat exchanger that can recover heat from strongly acidic hot spring water or dirty hot waste water with many suspended solids. It is applied to a preheating hot-water supply system.

We have developed Katsu-haya-zakura 5, a superior seed bull of Japanese Black Cattle; the bull has excellent meat quality and quantity characteristics, its calves are well grown, and its daughters are excellent in body shape.

Kentaro

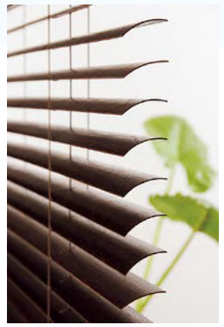


Yukirara, a new variety

Yukirara, a new spring strawberry variety, is larger and higher-yield but less frequently harvested than the well-regarded Kentaro variety, resulting in reduced harvesting work.

We explore the possibilities of geothermal/hot spring resource development and evaluate the effect of such development on the surrounding hot springs, contributing to regional promotion through the use of geothermal resources.

We have examined mutual interactions between organisms, including leaf litter, aquatic insects and fish to identify the importance of the connections between these organisms in the natural world.



In collaboration with a Hokkaido company, we have developed a super-thin wooden blind with a slat thickness of 0.8 mm or less. The slat has a sandwich structure comprised of veneer and Japanese paper.

We have suggested approaches to the eco-renovation of existing buildings like schools mainly using passive methods that have been adopted in their designs.

As a result of snow wind tunnel and other tests, we have suggested a shape and layout for buildings to help prevent snow cornices, snow accretion and drifts, reflecting them in the design of buildings.

We have succeeded in the mass propagation of rare, useful trees (*Myrica gale*) using tissue culture technologies, and developed cosmetics and cheese using these trees in collaboration with companies.

The third Hokushin-maru scientific research vessel was completed in November 2014. Using the cutting-edge devices (a pelagic and/or mid water trawl net, multipath ultrasonic flowmeter, etc.) in this vessel, surveys are conducted on the distribution densities of Pacific saury and other migrating fish, water temperature and flow, and the results are released as migrating fish news. Such information is used to increase the operational efficiency of fishery operators and marine product companies.

The development of a technique to automatically discriminate/count scallops in seabed footage taken from a sleigh drawn by a fishing boat has made it possible to accurately estimate the quantity of these resources. Through fisheries management and appropriate density management, we contribute to the quality improvement of scallops.

We work on improving the accuracy of salmon resource predictions and offer the predicted value to those concerned with the fishing industry before the fishing season every year. This information is used to secure parent fish necessary for the salmon breeding project in Hokkaido.

Health-conscious consumers increasingly use kelp for salads and other dishes. We have developed a technique to make culled kelp (which is rarely utilized) into a paste. It is used for a sauce for seafood bowls and dressings.

To promote the utilization of primary products in Hokkaido, we have developed processed food with high-added value leveraging the health functionality of their ingredients.

The HRO uses trial product testing facilities that meet facility standards based on the Food Sanitation Act at the Food Processing Research Center, contributing to the development of the food industry in Hokkaido by stepping up food-related research and providing more technical support.