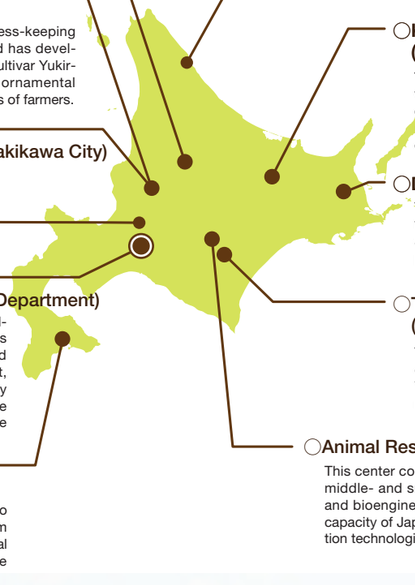
# Agricultural Research Department

This department develops crop cultivars and cultivation technologies suitable for individual regions in Hokkaido, breeds livestock animals, develops technologies for livestock husbandry, and carries out research on food safety and biotechnology.

## Organizational structure



○Kamikawa Agricultural Experiment Station (Pippu Town)

This station focuses on rice cultivation research, and has developed the Kirara 397, Yumepirika and Kitayukimochi cultivars. It also conducts research for local agriculture in Kamikawa and Rumoi.

○Ornamental Plants and Vegetables Research Center (Takikawa City)

This center conducts research on the cultivation/freshness-keeping technologies of ornamental plants and vegetables, and has developed the melon cultivar Okurihime and the strawberry cultivar Yukirara (Sorachi 35). It also provides technical training on ornamental plants and vegetables for new farmers and the successors of farmers.

Plant Genetic Resouces Division, Central Agricultural Experiment Station (Takikawa City)

Paddy-field Farming Group, Production Research Department, Central Agricultural Experiment Station (Iwamizawa City)

○Central Agricultural Experiment Station (Naganuma Town) (Agricultural Research Department)

Besides planning and coordination services as the Agricultural Research Department, this station carries out various types of research on breeding, biotechnology, crop and vegetable quality, farming technology, farm management, machinery and the environment, and has developed paddy rice cultivars like Sorayuki, Nanatsuboshi and Ginpu (rice for sake brewing), the soybean cultivar Iwaikuro and the apple cultivar Hacnine.

○Donan Agricultural Experiment Station (Hokuto City)

Besides having developed the strawberry cultivar Kentaro and paddy rice cultivars Fukkurinko and Kitakurin, the aim of this station is to conduct research that is suited to local farming in southern Hokkaido, such as gardening, rice cultivation and upland farming.

Tenpoku Sub Center, Dairy Research Center (Hamatonbetsu Town)

This branch conducts research to meet the needs of the area by performing tests concerning grass-field dairy farming in northern Hokkaido and the Okhotsk area, and has developed pasture cultivars such as Pokoro and Chinita.

○Kitami Agricultural Experiment Station (Kunneppu Town)

This station carries out research on upland crops such as wheat, barley and potatoes, as well as on onions and forage crops, and has developed the winter wheat cultivar Kitahonami, the potato cultivar Konayutaka, the onion variety Yumesenka and the timothy cultivar Natsuchikara.

○Dairy Research Center (Nakashibetsu Town)

This station conducts research on dairy farming, such as feeding, breeding and the health care of dairy cows, as well as on farm management, livestock environment and self-supplied feed production.

○Tokachi Agricultural Experiment Station (Memuro Town)

This station carries out research on legumes and other field crops and has developed soybean cultivars such as Yukihomare and Toyomizuki, the adzuki bean cultivar Kitaroman and the Chinese yam cultivar Tokachi Taro.

○Animal Research Center (Shintoku Town)

This center conducts research on animal husbandry, including beef cattle, middle- and small-sized livestock animals, forage crops, animal hygiene and bioengineering, while developing technology to evaluate the genetic capacity of Japanese Black Cattle and self-supplied feed production/utilization technologies.

## Major current research and development

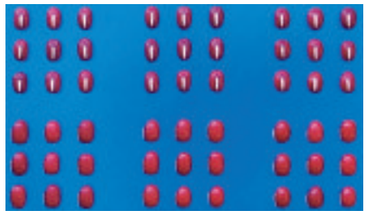
- Establishment of vegetable production technology using thermostat-equipped, snow-resistant greenhouses that are not heated all year round (Kamikawa Agricultural Experiment Station, Ornamental Plants and Vegetables Research Center, Donan Agricultural Experiment Station) [priority research: 2017 - 2019]
- Establishment of cider production technology using Hokkaido apples and verification for commercialization (Central Agricultural Experiment Station, Food Processing Research Center) [priority research: 2018 - 2020]
- Establishment of a long-term storage and shipping system that enables the supply of Hokkaido melons during winter (Ornamental Plants and Vegetables Research Center) [priority research: 2017 - 2019]
- Construction of a viral spread-preventing technology system to prevent the occurrence of bovine leukosis (Animal Research Center) [priority research: 2017 - 2019]
- Application of map-based controlled fertilization technology to vegetable cultivation using ICT technology (Tokachi Agricultural Experiment Station) [ordinary research: 2017 - 2019]
- Establishment of total mixed ration (TMR) feeding technology for breeding Japanese Black Steers (Animal Research Center) [ordinary research: 2015 - 2018]
- Crop variety development project (rice, wheat, soybeans, adzuki beans, grass, etc.) [ordinary research: 2013 - 2019]
- Research on control measures against Globodera pallida and the development of resistant varieties (Kitami Agricultural Experiment Station) [open-type research: 2015 - 2020]



## Major recent achievements

### Crop development field

Processing example of Erimo 167 (jellied bean paste)



Erimoshozu　Erimo 167　Kitanootome

**Brown stem rot-resistant Erimoshozu Development of the new adzuki variety Erimo 167**

Erimo 167 has the quality attributes equivalent to those of Erimoshozu, a popular Hokkaido adzuki variety.

### Ornamental plant and vegetable field

Kentaro　Yukirara, a new variety

**Development of Yukirara, a spring strawberry variety that is larger than the well-regarded Kentaro variety**

Since this variety is large, it is higher-yield but less frequently harvested than Kentaro, resulting in reduced harvesting work.

### Animal husbandry field

**Breeding of Katsu-haya-zakura 5, a superior seed bull of Japanese Black Cattle**

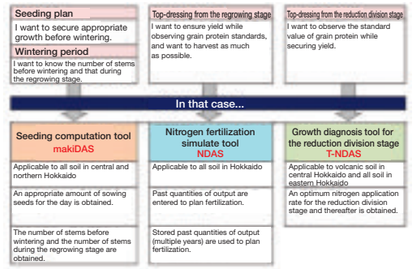
We have developed a superior seed bull; it has excellent meat quality and quantity characteristics, its calves are well grown, and its daughters are excellent in body shape.

### Production system field


**Development of controlled fertilization technology using IT**

We have developed a controlled map-based fertilization system using data that have been acquired and accumulated by growth sensors. This system can be utilized for basal fertilization and additional fertilization in rotation cropping.(Joint research with private companies)

### Agro-environmental field

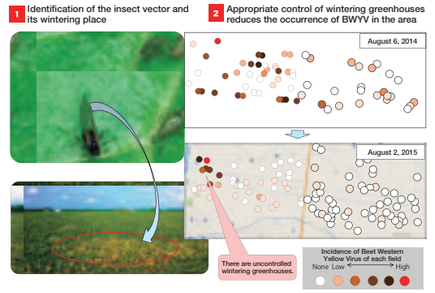



Source: Kitahonami Growth/Management Tool Manual

**Development of winter wheat growth/management tools**

We have developed NDAS, makiDAS and T-NDAS, tools that make it easy to decide on sowing quantities and nitrogen fertilization design for winter wheat varieties such as Kitahonami, Yumechikara and Tsurukichi.

### Disease and pest control field




**Control of Beet Western Yellow Virus**

If sugar beets are infected with the disease, their leaves will turn yellow and the sugar content will decrease by approximately 30%. Through appropriate wintering greenhouse control, an environment in which pathogenic virus-carrying insects (*Myzus persicae*) cannot overwinter is created, thereby effectively reducing the occurrence of the disease in the surrounding sugar beet fields.