

Global Agricultural Exchange

VISIT 1 University students from Indonesia, Vietnam, and Malaysia

Fifteen international students joined our university students to explore vegetable cultivation research in the center, farm operations in Shobara and Miyoshi cities, and regional cultural sites. Activities included lectures on highland vegetable cultivation, hands-on farming, and visits to Miyoshi Herb Garden and Bihoku Hillside Park. Highlights were learning about extended cultivation of asparagus and tomatoes, making pizzas with our farm-fresh ingredients, and participating in traditional Japanese rural activities. At the end of the program, the students from abroad deepened their connections with our students through their shared interest in agriculture.



VISIT 2 High School Students from Taiwan

High school students from Taiwan toured our vertical farming (plant factory with artificial lighting), aquaponics, and orchards where apples and Japanese pears are grown. They also visited melon cultivation facilities managed by our students. The high school students received detailed explanations from our faculty and deepened their understanding of advanced agricultural techniques and sustainable farming practices.

The visit, which was realized through our collaboration with Shobara Jitsugyo High School, contributed to fostering broader international connections. The center connects many people through the shared theme of agriculture.



Establishment Purpose and Location



Human Resource Development

We aim to develop experts who can address the diverse modern challenges related to food and the environment by utilizing the natural resources and environment of the mountainous and rural regions. Through this initiative, we contribute to solving food and environmental issues.



Role as an Intellectual Hub

Our goal is to become a central hub that provides knowledge for activities related to food and the environment in the region. To achieve this, we support advanced research closely tied to the region and engage in resource development, environmental protection, and chemical analysis.

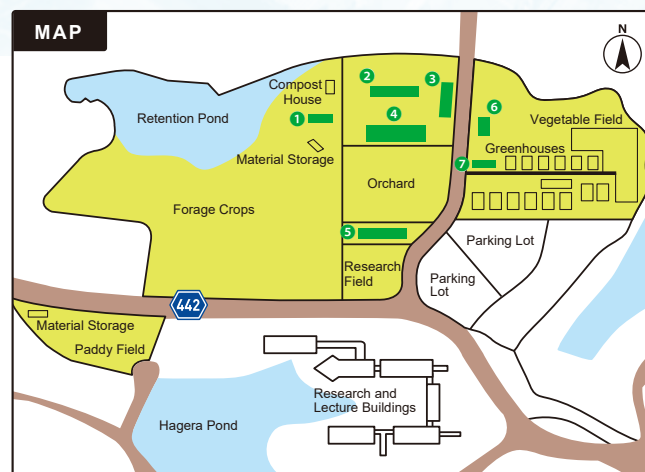
To achieve these two goals, the center was established in April 1989, and it was reorganized into the Field Science Center under the Faculty of Bioresource Sciences in April 2020.



Location

The center is part of the university's Faculty of Bioresource Sciences, located on the Shobara Campus. It is situated in Nanatsuka Highlands, approximately 65 km northeast of Hiroshima City. The facility is established on elevated hilly terrain at an altitude of 322 meters, with fields organized around the main administrative building.

From this location, you can enjoy a panoramic view of the natural landscape of the Bihoku mountainous region. Located within the Shobara Campus, the huge center boasting an area of 12.14 hectares is conveniently accessible to the students and the teachers who conduct practical training and research.



- ① Vertical Farming ② Environmental Engineering Laboratory
- ③ Farm Garage ④ Administrative Building ⑤ Livestock Anatomy Laboratory
- ⑥ Food Processing Plant ⑦ Fruit Garage

Field Science Center

Affiliated with
Faculty of
Bioresource
Sciences



A Greenfield of Knowledge:
Cultivating the Future in Harmony
with the Community and Nature

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Field Science Practicum for First-Year and Second-Year Undergraduate Students



Spring

Spring marks the planting season for many crops. During the practicum, students begin cultivating melons. Each student takes care of melons from planting to harvest, to grow their own unique ones. The harvested melons are used for quality testing and prototype processing products.



Summer

The practicum also involves handling fruit trees. Students cultivate a variety of fruits, including Bihoku specialties like Pione grapes and Shine Muscat, as well as Japanese pears, Western pears, and apples. During the practicum, students engage in tasks such as flower thinning, bud removal, and cluster thinning for grapes. Additionally, in the fields, they conduct studies such as investigating the effects of different fertilizers on potato yields.



Autumn

The crops that students have cared for throughout the practicum are ready for harvest. For sweet potatoes, students investigate how planting methods affect the formation and quantity of tuberous roots. It is also time to harvest Saijo persimmons, a specialty of Hiroshima, and the practicum includes steps from harvesting to removing the astringency.



Winter

In the Hitotsugi district of Shobara City, there is an advanced initiative where the Hitotsugi farming group practices collective farming. The area's specialty is soba (buckwheat noodles). At the end of the year, the practicum includes a soba noodle-making session using Hitotsugi's buckwheat flour.



Field Science Practicum for Students from Other Universities



Every year from the end of August to September, university students from public universities in the Chugoku and Shikoku regions gather for the Food Resources Field Science Practicum.

During this practicum, students in various grades from different universities work together on field exercises, visit the sixth industry sites such as roadside stations

— called in Japanese "Michi-No-Eki," and engage in food processing activities. At the end of the practicum, students summarize what they have learned and give group presentations, deepening their understanding of the broad framework of agriculture.



Examples of Research Using the Center



Professor Dr. Seiichiro YONEMURA



The Bihoku region is famous for large-scale fog occurrences, such as the Miyoshi Fog, making the Shobara Campus one of the best campuses for fog observation in Japan. Since 2022, we have been conducting fog observations using visibility sensors, general trace cameras, and infrared cameras. We also observe wind speed, temperature, humidity, ground temperature, soil moisture, and underground heat flow. Observational results during previous two years indicate that fog frequently occurred is from October to November.

Weather and Atmospheric Observation in Pasture of the Center →



Professor Dr. Hiroyuki KOHMURA

In collaboration with the Japan Agricultural Cooperatives (JA) Hiroshima Shobara Branch and the Northern Center for Agricultural Technology Guidance, we are developing methods for using rice seedling facilities to cultivate asparagus plants in bags and to promote forcing cultivation.



Using lightweight soil made from rice husks, developed for tomato bag cultivation, and the shallow-dormant variety "Winderu," we have enabled young stem production during the extremely cold period. Currently, in cooperation with the Hiroshima Prefectural Technology Research Institute Agricultural Technology Research Center, we are applying and promoting long-term greenhouse cultivation.

← Forcing Cultivation of Asparagus in Bags During Severe Winter



Professor Dr. Kenji FUKUNAGA



We are conducting research on a combination of genetic resources and genomics. We are mainly interested in foxtail millet (*Setaria italica*) which has been an important cereal crop in Japan since ancient times, and its wild ancestor, *S. viridis*. We use genetic resources from all over the world, as well as experimental populations for genetic studies.



↑ Exhibition of Millet Genetic Resources at Open Campus