

April 10, 2024

JX Metals Trading Co., Ltd.

Support activities in FY2023 under the comprehensive partnership agreement with Faculty of Engineering in Shinshu University

JX Metals Trading Co., Ltd. (President & CEO : MUTSUNOBU Atsuushi ; the below “The company”) concluded the comprehensive partnership agreement with Faculty of Engineering in Shinshu University in March, 2023.※

The company puts environmental conservation as one of important tasks so that works on various measures. The comprehensive partnership agreement states that both of the parties effectively use mutual resources and build a cascade-typed carbon-free society through utilization of sorghum, an annual grass.

The company would like to introduce the status of our activities in FY2023.

The support activities

Research challenges in the University	Our support activities
Securing profits for farmers (Regional economic revitalization)	Proposal of profit model through sorghum cultivation
Expansion of food sales	Support for partnerships with food companies and new product development
Expansion of the use of stems and leaves	CO ₂ free fuel (Mixed fuel with mushroom waste culture medium) Gathering information on partners for direct biofuel conversion Possibility investigation of fuel supply to biomass power plants Application investigation of sorghum and fungal chiller solids
Expansion of cultivation infrastructure	Research and selection of agricultural equipment development companies
New development (Potential as a pharmaceutical raw material)	Marketing research

※The themes of collaborative activities would be proposed as follows;

- ① Regeneration of abandoned farmland and revitalizing the local economy by cultivation of sorghum
- ② Conversion to biofuel of stem, leaves and unused agricultural products, except edible parts, of sorghum
- ③ Reduction and immobilization of CO₂ by cultivation of sorghum

Activities were carried out to raise awareness of sorghum to the general public in 2023, sponsored by Shinshu University and Shinshu Sorghum Association to Revitalize the Community.

The company agree with the activities and participated in them.

Seeding (Regional exchange meeting) on May 13, 2023 in Daian Temple, Naniai, Nagano City

Approximately 60 people including farmers responded to the call participated in the activity of seeding. Existing seed, new developed one by Shinshu University, developed one by Nagoya University were seeded.



Representative Inoue of AKEBONO, Professor Amano, Associate Professor Kunii from left

Cultivation seminar (harvesting) in September 30, 2023

Brand of “Enryu” resulted in about 4 meters height and 7.05 ton per 10 a in harvest survey.



Industrial fair in Shinshu on 27, 28 October 2023 in Big-hat Nagano city

Efforts toward decarbonization was introduced and the related products was sold based on sorghum hosted by Shinshu Sorghum Association to Revitalize the Community.

Results report meeting and Sorghum Marche in FY2023 on February 17, 2024 in Metropolitan Nagano

- Keynote speech by Yokoyama Takako, cooking expert, titled “Choosing ingredients in daily life”
- Dialogue by Yokoyama Takako and Kiyosawa Atsushi, titled “Decarbonize by eating delicious sorghum !”
- Activity introduction “About sorghum varieties and cultivation” by Nagano Prefecture Livestock Experiment Station
- Activity introduction “Initiatives towards a local resource recycling society using sorghum” by Chubu Electric Power



Results report meeting
Approximately 300 people attended the meeting.



Sorghum Marche
Various foods made with gluten-free sorghum were introduced.

The company will continue its support activities in FY2024.

Direction of the activities in line with discussion with Shinshu University will be as follows;

- To support for expanding the use of raw materials for pharmaceuticals, including the university's Faculty of Medicine
- To expand sorghum utilization methods for large-scale cultivation and support for mechanization of cultivation
- To find possibilities of composite materials
- To versatile use of stems and leaves

The company will continue to promote "initiatives toward a decarbonized society". Specifically, the company are considering processing biomass as fuel for power plants and building a supply chain.