

Japan Agriculture in Aomori Prefecture has launched an initiative to produce high-quality Wagyu beef by using apple juice pomace dried with RedoxMaster technology as feed.

The first RedoxMaster dryer in Japan, developed by Glencal Technology, has been installed at the Aomori Federation of Rural Industrial Agricultural Cooperatives (JA Aoren) in Hirosaki City, Aomori Prefecture. This innovative dryer dries organic matter quickly at low temperatures and with low carbon dioxide emissions. The plant uses Aomori apples to produce antioxidant-free apple juice, a high-end product that sells 11,000 bottles per day (4 million bottles annually) at Japan Railway East stations. Moreover, the juice is a very popular TV shopping item, selling 1,860,000 bottles in one day. The plant has also begun selling halal products in 2022, and exports to other countries are steadily increasing.

On April 1st, 2024, Aoren launched the first initiative in Japan to collect discarded coffee bean dregs from 10 convenience stores in the city. The dregs are mixed with apple pomace from the production process of premium apple juice, and then used as the combined mixture to feed Aomori Kuraishi beef, a brand of Wagyu beef in Aomori Prefecture. This project is aligned with Hirosaki City's SDGs Future City Plan and is being implemented in collaboration with JA North Japan Kumiai Feed (headquartered in Sendai City). The aim is to reduce the environmental burden, complete the food recycling loop within the region, and add high value by recycling local resources.



FSSC 2200 certified in 2015.



Halal certified in 2021

In May 2019, JA Aoren introduced the first domestic unit of Glencal Technology's large dryer, RedoxMaster. This dryer utilizes plasma technology to enable low-temperature, low-cost, and low carbon dioxide emissions drying of apple juice pomace, which is rich in nutrients such as polyphenols. The aim is to utilize the pomace effectively. The machine produces approximately 500 tonnes of dried products from the approximately 5,000 tonnes of pomace lees discharged from the plant annually. These dried products are used for apple leather, agricultural materials, and animal feed.



Since 2021, the company has been supplying a mix of dried apple pomace and dried coffee bean dregs to the JA Zen-Nohoku-Nippon Kumiai Feed Hachinohe Plant. This mix is used to feed Aomori Kuraishi beef, a premium Wagyu beef produced in Aomori Prefecture. The company claims that the apple pomace enhances the cattle's appetite with its taste and aroma, while the diuretic effect of the coffee bean pomace helps prevent kidney disease in cattle by expelling waste products. This leads to improved quality of Wagyu beef meat. This new formula feed was added to Wagyu production regulations last year.





JA Aoren used to purchase dried coffee bean dregs from outside the prefecture, but in April, it switched to purchasing them from 10 convenience stores in the city. This move aims to make effective use of resources that used to be disposed of at high incineration costs, complete a food recycling loop within Aomori Prefecture, and contribute to Hirosaki City's SDGs Future City Plan. According to Chairman Yasuhiko Ogasawara, an estimated 400-600 kg of coffee bean dregs are expected to be collected monthly.



apple pomace      coffee bean pomace      Aomori Kuraishi feed

On March 28, 2024, before starting collection from convenience stores, Representative Director Chairman Ogasawara and others visited Hirosaki City Hall to report the outline of the initiative to Mayor Hiroshi Sakurada. Chairman Ogasawara explained that when apples are processed into juice, 30% become lees, which were previously disposed of by incineration, an expensive and CO2-emitting process. With RedoxMaster's low-temperature treatment technology, the discarded pomace can be utilized as high-performance feed for Wagyu cattle without damaging the nutrition in apple pomace. This will enable us to purchase apples from farmers at a higher price, thus supporting them. The plan is to increase collection from convenience stores and expand the initiative to the entire prefecture. Mayor Sakurada praised the initiative as a model case for the SDGs Future City Plan and expressed his hope for its leadership in the future circular cycle.

Glencal Technology is delighted that Redox-Master technology, which utilizes plasma technology to quickly dry organic matter at low temperatures with minimal carbon dioxide emissions, can help minimize environmental impact while producing high-quality food in Japan.



article from a newspaper the mutsu shimpo