

Reduction and Upcycling of Food Loss and Waste



Material Issue
Circular Economy

Governance

The Fuji Oil Group's Sustainability Committee*¹ is an advisory body to the Board of Directors that is chaired by the President and CEO. It deliberates on and monitors the material ESG issue*² of Circular Economy from a multi-stakeholder perspective, and reports the results to the Board. The Chief Technology Officer (CTO) oversees the progress of initiatives for Reduction and Upcycling of Food Loss and Waste, a priority action within this material issue.

*1 Governance, Strategy, Metrics and Targets, Risk Management > Governance

https://www.fujioilholdings.com/en/sustainability/sustainability_management/

*2 Governance, Strategy, Metrics and Targets, Risk Management > Strategy, metrics and targets

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Strategy

As a manufacturer of food materials and ingredients, the Fuji Oil Group recognizes the efficient use of limited food resources as a material issue, given the concerns over future food supply posed by global population growth, climate change, and biodiversity loss. Food loss and waste reduction is an explicitly defined target of Goal 12 of the SDGs, and we view them as significant challenges for global society. It is the responsibilities of companies to respond to these challenges, and failure to do so will increase the risk of a decline in social reputation.

As a manufacturer of intermediate food materials, our Group provides products that help extend the best-before date of our customers' products to in turn reduce end consumers' food waste, and also aims to effectively use resources through upcycling. We are working towards the following two goals.

1. Contribute to reducing food loss and waste throughout the value chain
2. Create products with added value using waste and byproducts as raw materials

Risk management

The R&D Division engages in the following in order to quickly gain understanding of the many social issues that are changing day by day, and create opportunities to address them.

- Offer customers product concepts and application formulas in a single package that helps resolve social issues

Environmental Management > Risk management

https://www.fujioilholdings.com/en/sustainability/environmental_management/

Metrics and targets

○ At least 90% complete △ At least 60% complete ✕ Less than 60% complete

FY2023 Goals	FY2023 Results	Self-assessment
Develop technologies and products to maintain food quality longer and expand the market	Marketed four products including a whipped cream with improved freezing resistance and a cooking cream with greater heat denaturation resistance	○
Add new functions and seek value through effective use of byproducts	Expand sales of SoyBio MA, a soil amendment made from soy whey, and offer new functions for soy polysaccharides	○

Analysis

Our new types of cream, which help extend best-before dates of customers' products, have been adopted by several companies as a result of smoothly gaining understanding and cooperation in maintaining product quality. A customer has also obtained new sales opportunities by expanding the food product lineup.

Next steps

We will focus our efforts on developing ingredients and technologies that maintain the "freshly made" quality of foods. We will also search for ways to make good use of what is typically discarded as waste. We set the following goals for FY2024.

- Develop technologies and products to maintain food quality longer and extend best-before dates
- Seek new functions and value through proactive and effective use of waste

Specific initiatives

Developing ingredients that sustain food quality

Extending the best-before dates of products is one of the key measures promoted by the Japanese government to reduce food waste. By providing technologies and materials that maintain quality, Fuji Oil Co., Ltd. makes retort pouch foods and other non-perishable food products more delicious and varied, which also helps reduce food waste.

Increasing social demand for online shopping and food waste reduction has led to rising consumption of frozen foods, yet the quality of frozen whipped cream after thawing had yet to reach that of chilled products, as degradation of texture and milk flavor remained challenges. The company thus developed a frozen-to-chilled whipped cream using both technology to improve freezing resistance and technology to further improve taste. In FY2023 they also developed Grand Delica® Crysta, a new and more heat-resistant version of the Grand Delica® cooking cream launched in FY2022. The improvement gained praise from customers who then began using the product, which also increased sales volume.



Cod roe cream pasta made with Grand Delica® Crysta

Creating functional food ingredients through upcycling

Our Group sells food ingredients made by separating plant-based raw materials into their constituent elements, such as oils, fats and protein. Using components of a raw material effectively is a crucial aspect of resource efficiency. Since its foundation, our Group aims to reduce food residues and create high value-added ingredients through upcycling, one example of which is the upcycling of process streams in the production of soybeans for oil. After extracting oil from the soybeans, we separate the soy protein, and from the curd byproduct we separate the soluble soy polysaccharides. Another example of this is our effective use of starch residues. The manufacturing process for pea starch, which is an ingredient of cellophane noodles, generates large volumes of pea fiber as a byproduct. We developed an upcycling technology for processing soluble pea fiber into a stabilizer of acidic milk drinks and acidic plant protein drinks. In this way we make effective use of a byproduct, that would have little value otherwise. We began commercial production at our German plant specializing in soluble pea fiber in spring 2023.



Plant specializing in soluble pea fiber (Fuji Brandenburg GmbH, Germany)

Upcycled product SoyBio MA

Fuji Oil Co., Ltd. has begun sales of SoyBio MA, a bioremediation* agent for detoxifying polluted soils (Distributor: Shoei Yakuhin Corporation). SoyBio MA works by serving as a source of nutrition for microorganisms that break down toxic substances. The product is especially effective in remediating industrial brownfield sites that have been polluted by volatile organic compounds (VOCs) and oil. SoyBio MA has also a lower price than other soil amendments in the market, helping to reduce project costs. SoyBio MA is also used to clean contaminated groundwater and for a number of other uses every year.

The product draws on our expertise in making food products such as soy meat, which has become popular as a plant-based food, as well as nutritionally rich soy protein and soy peptides. Soy whey, the main ingredient used to make SoyBio MA, is a byproduct of food production where the soy protein is separated, heated and concentrated, which is naturally rich in nutrients.

We also expect soy whey to contribute to soil health through its ability to activate microorganisms and cause them to proliferate, and are aiming to introduce SoyBio MA into the agricultural industry. We completed fertilizer registration in FY2023, and will commercialize the material for agricultural use in FY2024.



SoyBio MA

* A process of harnessing the natural activity of microorganisms to remediate polluted soil