

News Release

FOR IMMEDIATE RELEASE

December 20, 2023

Contact: Spread Co., Ltd.

Public Relations Department

E-mail: pr@spread.co.jpURL: www.spread.co.jp/en

Spread Develops Long Life Cut Lettuce through New “Techno Fresh” Method, Breaks Ground on Salad Processing Plant near Tokyo

Spread Co., Ltd. (HQ: Kyoto, Japan; CEO: Shinji Inada) has developed the *Techno Fresh* processing method which allows for an increase in the shelf life of cut lettuce of up to 2 times, while preserving freshness, taste, and quality. Spread has also started construction on the first large-scale salad processing plant to utilize the method - Techno Fresh Hadano near Tokyo.

- A unique combination of vertically farmed lettuce and dedicated processing design that will allow for the longest shelf-life of a cut lettuce product in Japan
- Next generation automated salad processing plant utilizing the latest AI/robotics
- A design that will help fight food loss, while also reducing water usage and labor

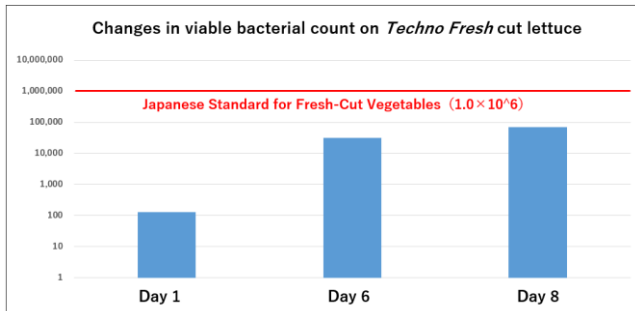


Development of *Techno Fresh*

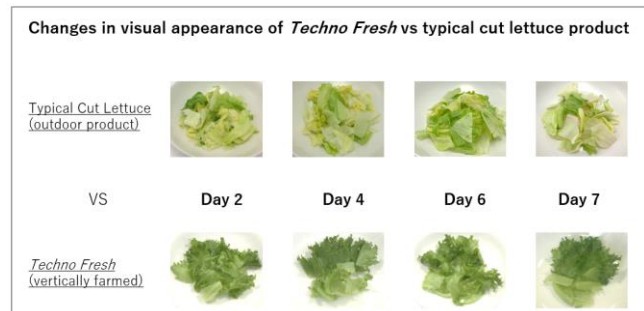
Food insecurity is a global problem, with 1.3 billion tons of food loss occurring every year, while approximately 800 million people are suffering from famine. Food waste is an important problem in Japan specifically, since it ranks as the 14th country with the highest amount of food waste, with over 8 million tons of food thrown away in 2021^{*1}. One reason for Japan having a high food waste rate is its strict regulation concerning the expiration dates for products. For example, one of the standards commonly used for fresh-cut vegetables requires viable bacteria count to be lower than 1,000,000 for 1g of the product. Due to this, the shelf life for fresh-cut lettuce in Japan is commonly set at 3-4 days.

The *Techno Fresh* processing method uses pesticide-free, pristine lettuce, that is grown in a highly hygienic environment within *Techno Farm* and combines it with the in-house developed processing technologies that prevent bacteria from increasing. Through this method Spread was able to enhance the shelf life of the cut lettuce by up to 2 times and has become the first company to achieve record-breaking 6 days shelf life for a fresh-cut lettuce product in Japan. Additionally, the *Techno Fresh* method prevents lettuce from browning/discoloration and doesn't have the unpleasant smell that is associated with certain washing agents.

Comparative Data for *Techno Fresh* (changes over time) *2

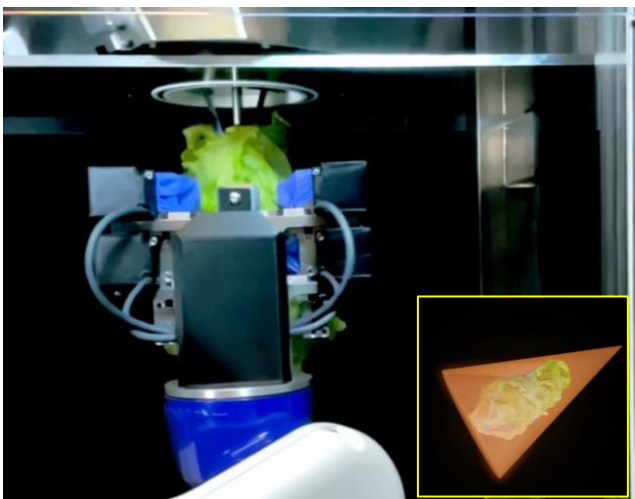


Sample size: n=13



Techno Fresh Hadano

Techno Fresh Hadano is the first processing facility by Spread, and is the first facility to implement the *Techno Fresh* system. This next-generation processing factory will process 8 tons of lettuce per day while automating 85% of the processes, including implementation of the world's first AI-based lettuce core remover. Automation will allow for a drastic improvement in productivity, while the dedicated processing design developed in-house makes it extremely resource-efficient, lowering water usage by 55%*3.



AI-based lettuce core remover *4



Fully automated washing/disinfection line

Overview of the Facility

Construction site	Hadano, Kanagawa Prefecture, Japan
Site area	Approximately 4,800 m ²
Product	Fresh-cut lettuce
Processing capability	8 tons per day
Planned start of operation	June 2024

Product Lineup

Techno Fresh Hadano will produce and sell 6 types of cut lettuce under the *INDOOR SALAD* brand, starting from June 2024.

Fresh Bowl series

- Top seal package
- Sustainable package using biomass



Cut Frilly Lettuce



Colorful Mix



3 Types of Cut Lettuce

Fresh Wrap series

- Unique deaeration package
- Precise control of gas composition for more freshness



Cut Frilly Lettuce (70g)



Cut Frilly Lettuce (140g)



Cut Frilly Lettuce (500g)

Awards

Techno Fresh won the Best Crop Enhancement category in the 2023 Vertical Farming World Awards held in London, with judges praising the innovative approach to support quality and minimize the food waste.



We are always looking for new partners!

Vertical farming is an exciting young industry at the nexus between agriculture, biology, engineering and more, which opens almost limitless opportunities for partnership.

Spread is a pioneer and leading vertical farming company, with a proven record of successful automation at scale, with 3 farms in full operation, producing 9 tons of produce per day and supplying over 5,000 stores all over Japan.

We are happy to investigate all kinds of partnerships, be it retailers, investors, energy companies or else.

[Learn more on partnership here](#)

[Contact us](#)

*1 UNEP Food Waste Index Report 2021

*2 According to internal research. Doesn't include processing date

*3 Internal research. Compared to conventional fresh-cut lettuce processing factory

*4 Developed by ROBIT Inc., with Spread providing development assistance

Overview of Spread

Company Name : Spread Co., Ltd.

Chief Executive Officer : Shinji Inada

Location : Kyoto Research Park #6, 93 Chudojiawata-cho, Shimogyo-ku, Kyoto, Japan

Established : January 2006

Company Website : <https://spread.co.jp/en>