
Taikisha Has Founded a Company and Is Constructing the First of Its Own Factories to Demonstrate Mass Production.

The Purpose Is to Expand and Enrich the Field of the Plant Factory Business

--Striving to Make a Further Contribution to the Stable Supply and Longer Life of Vegetables--

Taikisha Ltd. (Head Office: Shinjuku-ku, Tokyo; Representative Director, President: Koji Kato) has founded the wholly-owned affiliate “Vege-Factory Co., Ltd.” This is capable of offering clients total solutions, from plant construction to the production and sale of vegetables. The purpose is to expand and enrich the field of the plant factory business that Taikisha has promoted with its air conditioning control technology. It is also constructing the first of its own factories to demonstrate mass production in Sugito town, Saitama Prefecture. Through these approaches, Taikisha strives to make a further contribution to the stable supply and longer life of vegetables, and to reduce food loss. These are areas for which social needs have been increasing recently.



Sugito Factory to Demonstrate Mass Production
scheduled to be completed in July 2021

■ Background

Today, the environment surrounding food and agriculture is facing a variety of problems, including extreme weather and natural disasters, a difficulty in stable supply, a decrease in the agricultural population, an aging population, and the securing of safety. Under these circumstances, vegetables produced in plant factories are drawing attention because they can be cultivated regardless of the season or weather and production volumes and prices are stable. In recent years in particular, extreme weather has been affecting the procurement of vegetables grown outdoors. And in the field of vegetables for business use, whose stable procurement is

required by, for example, convenience stores, there is a growing tendency for companies to select plant factories as vegetable suppliers, and the market is expected to become more revitalized in the future.

■ Sequence of events

The basic policy is “Strengthening initiatives for the future” as stated in the Mid-Term Business Plan and the direction is "Expanding business domains." Based on them, Taikisha has studied how to found a facility that will establish and demonstrates mass production and automation technologies for plant factories and offer proposals to clients. The aim is to expand the plant factory business, which is a market expected to grow in the medium to long term.

Taikisha’s fully artificial lighting plant factory Vege-Factory adopts high-efficiency LEDs instead of sunlight in an air-conditioned, enclosed space. This hydroponic system uses a culture solution instead of soil and is suitable for growing lettuce and other leafy vegetables. Compared to conventional open-field culture, the plant factory can stably supply vegetables as planned throughout the year. It is also trustworthy and safe because it does not use pesticides and reduces the risk of contamination by foreign substances. Other features are the cultivation of long-life vegetables that is realized by a low viable cell count and the lower likelihood of harmful insects getting in. The non-use of soil additionally helps reduce the vegetable washing process and waste portions to be disposed of.

The cultivation area in the fully artificial lighting plant factory is a high, enclosed space. Conventional equipment had the problem of a low yield attributable to temperature irregularities between the upper and lower areas of the space, which affect the growth of vegetables. However, Taikisha realizes a high yield by keeping the space at a constant temperature with the aid of its air conditioning technology cultivated in the field of industrial air conditioning.

<SDGs related to this issue>



Taikisha will contribute to Goal 2 through the approach of "promoting sustainable agriculture capable of ensuring stable production and supply of food" and to Goal 12 through the approach of "reducing food losses by extending the life of vegetables, etc.”

■ New projects

Taikisha committed itself to two new projects to further expand its business.

Two projects

■ Founding a wholly-owned affiliate capable of offering clients total solutions, from plant construction to the production and sale of vegetables

Name	Vege-Factory Co., Ltd.
Address	6-26-12, Nishishinjuku, Shinjuku-ku, Tokyo
Name and title of representative	Shigeru Mikami, Representative Director, President
Foundation	February 5, 2021
Capital	350 million yen
Investor/portion of ownership	Taikisha Ltd.: 100%
Business area	Consulting services and design and supervision of plant factories, production and sale of vegetables, and support for cultivation in plant factories

■ Constructing its own mass production demonstration factory for meeting advanced client needs while building up mass production achievements

Name	Sugito Mass Production Demonstration Factory
Address	558-1, Hongo, Sugito town, Kitakatsushika-gun, Saitama Prefecture (29 minutes' walk from Kita-Kasukabe Station on Tobu-Isesaki Line, 12.3 km from Iwatsuki IC on Tohoku Expressway)
Building summary	Steel structure, 3 stories above ground Total floor area: Approx. 2,215 m ²
Equipment configuration	Cultivation room, seeding/greening/planting room, adjustment operation room, washing room, packaging room, refrigerator, shipment handling room, office, etc.
Scheduled completion	July 2021 (will start operation in August 2021)
Vegetables to be cultivated, yield	Leaf lettuce and other kinds: 2,300 plants/day (200-gram product)

*After completion, this factory will be transferred from Taikisha Ltd. to Vege-Factory Co., Ltd.

Intent and purposes

1. There have been more instances of extreme weather, etc. lately. With this as the backdrop, Taikisha will fulfill the need to shift to vegetables produced by plant factories, for which demand has been growing in recent years in the field of vegetables for business use that requires stable procurement of vegetables for convenience stores, etc.
2. There is still no business operator that can supply plants that meet the weights, quality, and costs required of plants for business use. However, Taikisha will strive to organize a production and sales system for large-volume customers, develop commodities with added value through collaboration with internal and external organizations, and pioneer a new market for plant factories.
3. Taikisha will cultivate long-life vegetables by further automating the growing process in a clean cultivation environment with a reduced viable cell count and lower likelihood of

harmful insects getting in. Through this approach, Taikisha will greatly contribute to reducing food loss as strongly demanded by society.

4. Taikisha will strive to offer total solutions to customers by venturing into the field of production and sale of vegetables beyond the conventional business areas of providing hardware, technology, and systems for cultivating plants.
5. Taikisha will accumulate know-how about the operation and management of mass production plants at its own factory to demonstrate mass production, and strive to surpass the high level of demand required by processing vendors for leading convenience stores with a “capacity for developing cultivation technologies” and achieve the stable supply. At the same time, Taikisha will venture into the provision of a wide variety of vegetables in response to the development of new products by convenience stores, etc., and also strive to realize a longer life by using automation technology and viable bacteria reduction technology backed by its original hydroponic cultivation system.

■ Future prospects

Taikisha will acquire the capability to offer clients total solutions, from plant construction to the production and sale of vegetables from founding the affiliate. In this way, Taikisha will strive to expand its business area to an agriculture business integrating hardware technology for cultivating plants with cultivation operation software technology and thereby establish a new brand as a total agricultural company engaged in producing and selling vegetables. Taikisha will win a certain share of the business-use vegetable market over the medium term. Then, Taikisha is also planning to step into the realm of “food, health, and medical care,” which is expected to further grow, in collaboration with the food service industry and supplement and drug manufacturing companies. Taikisha will open up a new market, such as one for the development of new commodities or the manufacture of raw materials.

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