

TOPIC

Received "Gold" in EcoVadis Sustainability Assessment

EcoVadis is an international organization that evaluates the sustainability of more than 90,000 supplier companies in more than 160 countries across more than 200 industries. Hayashibara received a Gold rating, which recognizes companies with scores within the top 5%.



Contact:

**Corporate Design & Management Dept.,
Hayashibara Co., Ltd.**

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Hayashibara Sustainability Website
https://www.hayashibara.co.jp/data/en_sustainability/
Issued: April, 2022



HAYASHIBARA Sustainability Communication Book

—Toward a Sustainable Society—

2022

HAYASHIBARA

NAGASE Group

It all started 139 years ago. Hayashibara's origins can be traced back to a time when sweet foods were very highly valued, and the company made syrup from starch, a gift from the sun.

Since then, we have continued to develop ingredients using the power of microorganisms and enzymes, and have used the insights and learnings gained from interacting with nature to help enrich society.

And now, we have embraced a completely new vision.

With the health of our planet at stake, we are putting our all into research and materials development with a firm focus on sustainability, while respecting nature as never before.

We want to work with like-minded partners to co-create value for the future.



Hello Future! Follow Nature!

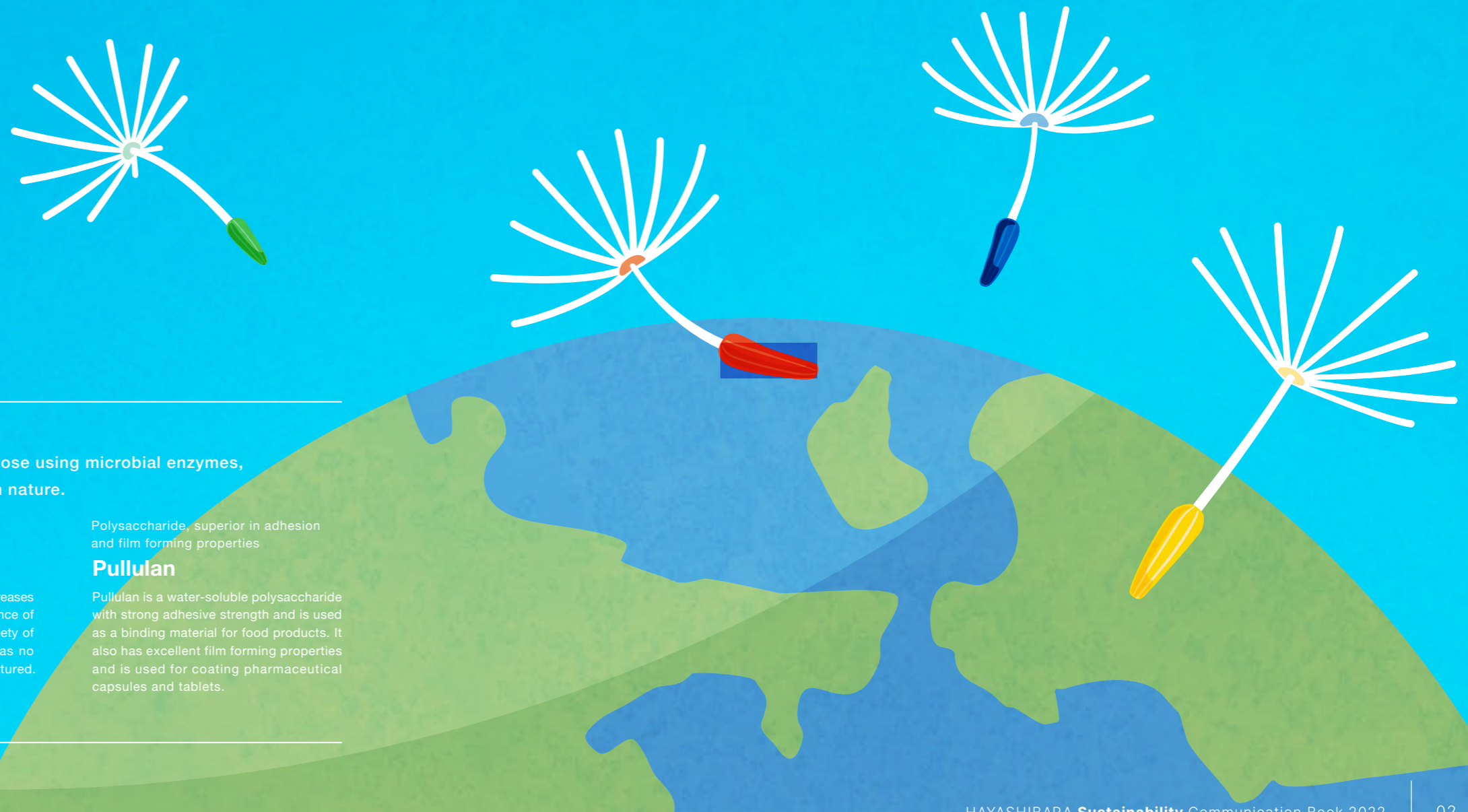
Endeavoring to produce food without stressing the soil.

Endeavoring to develop materials that do not pollute the oceans.

We believe that there are areas in which Hayashibara can make a contribution because of our long history of working together with nature.

We are looking far into the future, drawing on the power of microorganisms and enzymes that have existed since ancient times.

Hayashibara will lead the way to a healthy future for people and the Earth, with the same commitment that we have had since our founding.



What We Make

Since 1959, when we succeeded in the mass production of glucose using microbial enzymes, we have been innovating and developing materials derived from nature.

Multifunctional carbohydrates

Trehalose

Trehalose is widely used in food, cosmetics, pharmaceuticals, and agriculture, with various functions, such as extending the shelf life of food, retaining moisture, and improving productivity by increasing the resistance of crops to environmental stress.

Soluble dietary fiber

Isomaltodextrin

Isomaltodextrin is a material that increases bifidobacteria and regulates the balance of intestinal bacteria. It is used in a variety of foods and beverages because it has no color or odor and is not easily denatured.

Polysaccharide, superior in adhesion and film forming properties

Pullulan

Pullulan is a water-soluble polysaccharide with strong adhesive strength and is used as a binding material for food products. It also has excellent film forming properties and is used for coating pharmaceutical capsules and tablets.

Nature for the future

Hayashibara, with its origins in the production of syrup, provides ingredients for a diverse range of fields, including confectionery, health food, personal care, and pharmaceuticals. Since our founding, Hayashibara has remained steadfast in working with nature, and our livelihood is creating products by combining microorganisms and enzymes with natural raw materials. Our business is oriented on the UN Sustainable Development Goals (SDGs). We focus particularly on the importance of sustainable food systems and made our commitments clear at the UN Food System Summit in September 2021 and the Tokyo Nutrition for Growth Summit in December. The issues facing the food systems, such as food loss and waste, global undernourishment due to population growth, and global climate change, are the ones that we, as a long-standing food company, must tackle head-on. These issues are complex, and being only a ingredients manufacturer, we alone cannot solve them. Resolving these issues will require the timely co-creation of value with strong partnerships. We aim to communicate Hayashibara's vision and activities beyond borders and hope to meet and collaborate with many like-minded people.

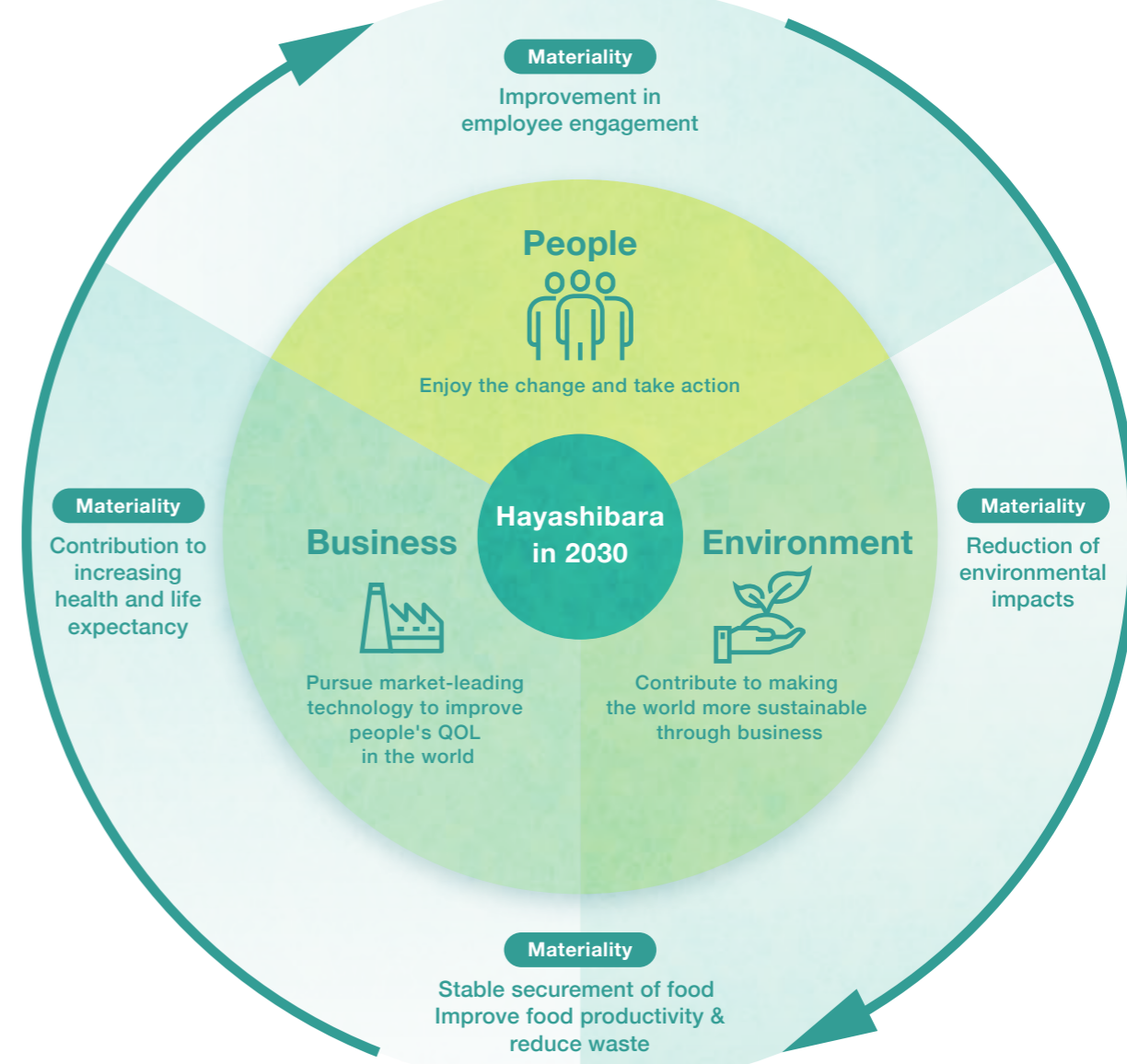


Representative Director **Naoki Yasuba**

Who We Seek to Be

Hayashibara works in partnership with nature and contributes to creating a sustainable society through our business activities.

Offer solutions to social issues
Contribute to a more sustainable world



Continuously improve corporate value

Hayashibara Vision

We continue to innovate new and original materials with our advanced biotechnology

Our Goals

What should we be doing now to achieve our vision of where we want to be in 2030?
What can we do? Through an exchange of ideas between the management team and employees based on the themes of the SDGs, we have established four types of materiality (agenda in focus).

Materiality for Hayashibara

1 Contribution to increasing health and life expectancy

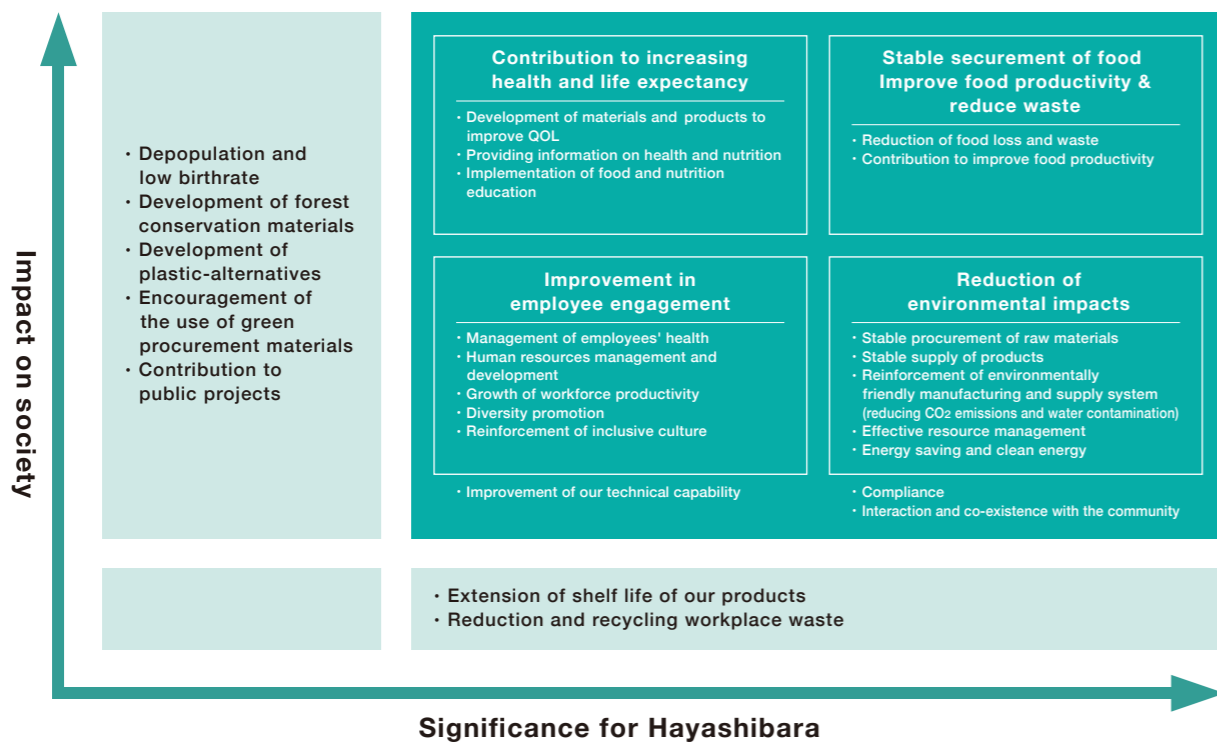
**2 Stable securement of food
Improve food productivity & reduce waste**

3 Improvement in employee engagement

4 Reduction of environmental impacts

The Process of Identifying Materiality

A cross-departmental team of young and mid-career employees examined the social issues that had been identified and organized them along the two axes of "impact on society" and "significance for Hayashibara." Priority goals were defined and identified through deliberations by the Board of Directors.



Our Action Plan

We have formulated a Sustainability Action Plan to address these materialities.
To align the entire company, we have defined the value for our stakeholders in 2030, and have set targets for 2025 to achieve them.

Sustainability Action Plan

Materiality... ①Contribution to increasing health and life expectancy
②Stable securement of food - Improve food productivity & reduce waste
③Improvement in employee engagement ④Reduction of environmental impacts

	Value delivery in 2030	Targets for FY2025	Related Materiality
[People and Corporate Culture] Enjoy the change and take action	Development of leaders to drive business growth and enhancement of diversity	(1) Develop next-generation leaders based on a succession plan (2) Enhance gender equality in managerial positions (3) Active recruitment of overseas nationals	③
	Every employee realizes their potential inspired with a motivation to contribute	(1) Create an "everyone on board" corporate culture (2) Make it the normal practice among many employees to reflect on their own role and express their own thoughts	③
	Pursuit of integrity through strengthening of corporate governance: shift from "do no wrong" to "do good things"	(1) Evolve from compliance to integrity (2) Improve functions and transparency of corporate meetings	③
	Promotion of health management	(1) Improve health and promote work-life balance (2) Reduce traffic accidents (3) Reduce work accidents	③
[Business] Pursue market-leading technology to improve people's QOL in the world	Food Ingredient business	Contribution to future of food culture, delivery of vitality to the world	① ②
	Personal Health Care business	Improvement of quality of life and contribution to increasing health and life expectancy	① ④
	Creation of new technology through open innovation	(1) Identify strengths and weaknesses of our existing technologies and realize co-creation with partners develop the technologies (2) Acquire legal and negotiation capabilities to stand on an equal footing with leading companies	① ② ④
[Environment] Contribute to making the world more sustainable through business	Contribution to a sustainable society by reducing environmental impacts	Reduction of 7% compared to FY2018 in each item: CO ₂ emissions, consumption of electric power/gas/water, wastewater amount and industrial waste	④
	Improvement in productivity, sustainability of manufacturing sites	Drive investment in ICT	③
	Provision of safety and reliability through world-class management system	(1) Put in place and embed the Hayashibara original integrated quality management system (2) Deliver trusted product quality	① ② ④
	Establish quality culture	Put in place system to instill quality culture	① ② ④
	Reduction of environmental impacts throughout supply chain	(1) Sustainable procurement: Improve EcoVadis score (2) Have in place an efficient logistics network in cooperation with customers (3) Review supply chain from the viewpoint of social issues	④

Strengthening Relationships of Trust with Stakeholders and Co-Creating Value



Materiality

1

Contribution to increasing health and life expectancy



Contributing to wellness with natural products

There is a crisis of malnutrition in developing countries, while over-nutrition and unbalanced diets are of concern in developed countries. We aspire to provide natural ingredients, technologies, and information around the world to promote healthy lifestyles and healthy longevity in this era of 100-year lifespans.



Action Report

A dietary fiber ingredient that combines the pleasures of eating with good health



TetraRing™

The new product TetraRing™ is a liquid dietary fiber ingredient made from starch. It is characterized by a subtle sweetness and smooth viscosity. It is easy to use in foods that have proven difficult to add dietary fiber to, and can supplement dietary fiber that is often in short supply. It is a new material that can also be used to make sugar-free foods, making them both pleasurable to eat and healthy at the same time.



Vitamin C in nutritional foods for the elderly and disaster victims



Stable vitamin C Ascofresh™ is not easily affected by heat, light, oxygen, iron, or amino acids, so it can be used in disaster preparedness food and emergency stores to help address the problem of insufficient vitamin C intake in disaster-stricken areas. Ascofresh™ is also used in nutritional foods for the elderly and perfected foods that provide the necessary nutrients, along with protein and minerals, in a single product thereby supporting health.

Solving the challenges of an aging society



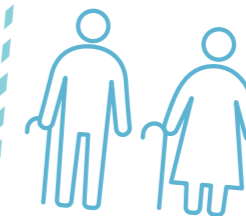
As people age, their ability to chew and swallow food deteriorates, increasing the probability of malnutrition and aspiration. We are developing recipes for delicious, easy-to-eat meals for the elderly using trehalose in Japan - one of the countries in the world to face a super-aging society. As a member of the Japan Care Food Conference, we also promote Universal Design Food (UDF) and propose improvements to food provision services at hospitals and welfare facilities.



Pharmaceutical quality and a stable supply of antibody drugs



Trehalose stabilizes proteins and nucleic acids, and is used to preserve the quality of antibody drugs and other products widely used to treat severe infectious diseases such as cancer, diseases caused by immune abnormalities, and COVID-19. It is also expected to facilitate the storage and transport of vaccines used to prevent infectious diseases, thus helping ensure a stable global supply.



Materiality

2

Stable securement of food Improve food productivity & reduce waste



Helping to create sustainable food systems*

Population and climate pressures may cause global food shortages. We will support sustainable food systems by boosting crop and livestock productivity with our ingredients and technologies, and by co-creating next-generation food resources through industry-academia-government collaboration.

*Food systems: various activities related to the production, processing, distribution and consumption of food.



Action Report

Aspiring to human- and nature-friendly agriculture



Excessive use of chemical fertilizers and pesticides has become a major challenge in agriculture, since this practice impacts the natural environment and farmers. Trehalose can help solve these problems. The use of chemical pesticides can be reduced due to trehalose's role as a biostimulant that increases the stress tolerance of plants. It also reduces pesticide exposure and protects the health of farmers. Trehalose is also used in bio-materials formulated with soil microorganisms that promote plant growth, contributing to the cultivation of organic crops.



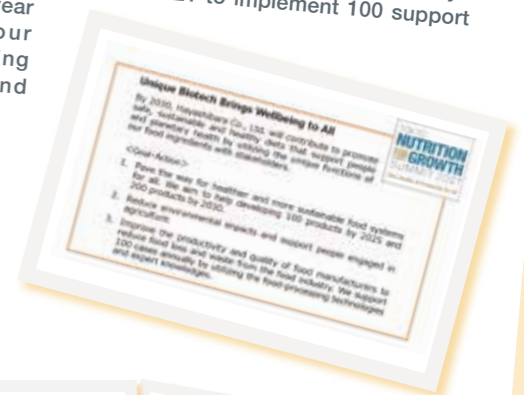
Protein alternatives to solve protein deficiency

Increased demand for food due to population growth is threatening to create a protein shortage. While various alternative proteins have been developed to supplement protein, their dry texture and distinctive odor pose a challenge. Trehalose solves these issues. We are developing recipes and making proposals to make alternative proteins tasty.



Cooperating to reduce food waste

Adding trehalose to processed foods extends their shelf lives, leading to a reduction in food waste. We develop a variety of recipes and offer suggestions to food manufacturers and other partners on how to effectively use our ingredients. We are aggressively working toward our goal set at the Tokyo Nutrition for Growth Summit 2021 to implement 100 support projects per year leveraging our food processing technology and expertise.



Materiality

3

Improvement in employee engagement



A prosperous future through a joy of work

The company and its employees should share the same vision, but be able to make the most of their diverse personalities. By respecting the well-being of our employees, we aim to be a company united in creating a better future.



Action Report

New office and company cafeteria for employees

The new office building used an open-space design based on the concepts of creating a space where employees can work energetically, an open work environment, and food satisfaction. The new cafeteria offers tasty, warm, and nutritionally balanced meals at low prices, incorporating Hayashibara's food ingredients as well. The bright and spacious atmosphere helps to invigorate communication among employees.



Mental and physical health consultation

Consultation meetings run by stationed nurses are held regularly at each business location. In addition, follow-up interviews are held for new and mid-career employees to provide mental health care. We also make efforts to maintain physical health by providing monthly online stretching instructions and one-point health advice for employees who suffer from lack of exercise due to working at home during the pandemic.



Our aspirations for the company

We have launched an initiative in which employees engage in direct dialogue with management on the theme of where they want the company to be in 2030. The program is scheduled to take place for two years, targeting all of our 640 employees, and was conducted with 270 employees in the first year. Participants commented that they realized the importance of discussing visions, a corporate culture that values people, and nurturing staffs.



Balancing work and life through work-style reforms

We have systems and structures in place to facilitate work-life balance, including a flextime system, a no-overtime day every Wednesday, a monthly My No-Overtime Day that employees decide for themselves, a day on which employees are encouraged to take annual paid leave, and the introduction of remote working. We are also engaged in study sessions and educational activities to encourage male employees to take childcare leave.



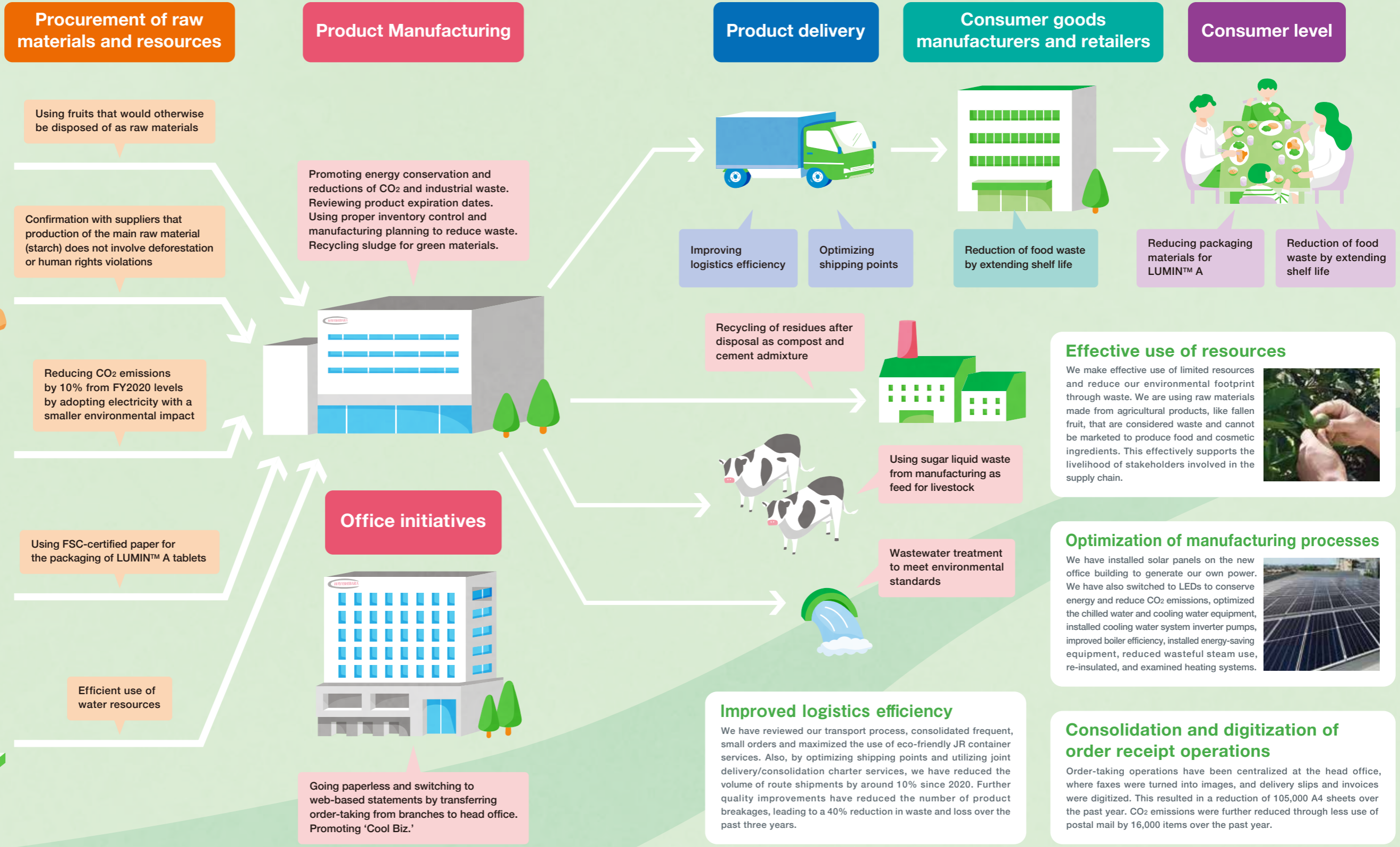
Materiality 4

Reduction of environmental impacts

We have committed to being an eco-friendly company through two policies - reducing the environmental impact of our business activities, and developing products and technologies that help solve environmental issues. We show our results through environmental performance data and work to improve them.



©Environmental performance data can be viewed by scanning this QR code.



POLICY

[Pursuing the activities]

Learning and thinking

As evangelists promoting the activities, we provided opportunities for project members to learn and think for themselves. We then held a series of discussions to promote understanding, empathy, and awareness within the company. Our advisor, Atsufumi Yokoi, professor and senior vice president of Okayama University, helped us to enhance our perspective.

Project planning

The project process was planned on the premise that all members would participate in the project. Employees who did not know each other at first were able to broaden their perspectives and develop a sense of solidarity by learning about each other's departmental situations and issues.



ACTION

[Building a framework]

We came up with ideas for creating a framework to further familiarize people in the company with sustainability and ensure that sustainability initiatives are ongoing. The ideas were categorized and will be acted upon one by one.

- Hold roundtable discussions in which employees can freely participate



- Promote recycling of unwanted items among employees



- Create videos and slides on each department's operations and materiality



- Getting employees to use their own cups and chopsticks



All-Staff Projects

The All-Staff Projects are a group of activities designed for sustainability. "Evangelists"* from each department guide projects from their overall image to the specific policies, and then roll them out to the entire company.

*"Evangelist" is a word that means a propagator of new values and technologies. At Hayashibara, an evangelist is a person in charge of promoting sustainability policies within the company, compiling opinions, and making proposals to management.

Confirming

To give employees a sense of the connection between sustainability activities and their work, specific examples from each department are shown on our internal portal, updated upon review of the results of the FY2021 survey as well as internal feedback.

Preparations

We have created an image chart entitled Sustainability Activities-Toward 2030 to share our goals throughout the company for the purpose of spreading internal awareness of our activities.



START

The President, who leads the project, asked all employees to engage in sustainability activities.

STEP 1

STEP 2

STEP 3

STEP 4

Ownership

In order to make the goals personal to the project members, a workshop was held to link their departments and their respective jobs with the action plan.

Disseminating

Through evangelists, we spread the message to each department by explaining at meetings in addition to using e-mail and bulletin boards.



'How we want things to be'

We support a dialogue among employees and management on how they want things to be. We organize a dialogue in our own division and transcend divisions to open the conversation with other divisions, taking stock of the opinions of colleagues throughout the company.

To the next fiscal year

A survey on activities in FY2021 showed that support for the sustainability policy and understanding of materiality have progressed over the previous year, however there were gaps among positions and departments. In FY2022, we will focus on promoting two-way communication and encouraging awareness that enables people to take the initiative.

Member's Voice



Daisuke Kuraoka,
Technology Development
Section, Functional Dyes Dept.

The challenge is to be more specific and create cross-section links

I had never heard of the SDGs before joining the project, and I learned a lot as I worked to spread the SDGs with my team members. By explaining the SDGs in a way that all employees can understand, I feel that the level of awareness of sustainability activities within the company has improved. However, some people are still unclear about what they can do, and how they will make business. Therefore, I thought I should give examples of activities and their relationship to business. In FY2021, we were active in spreading awareness in each department within the company, but in FY2022, we want to focus on horizontal links between departments to unify the entire company.

SINKIN

[Spreading the concept]

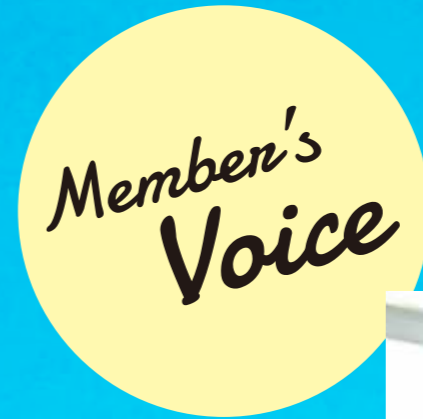
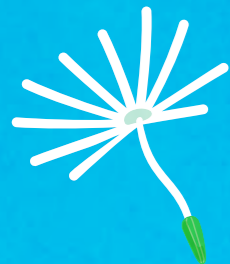
NEXT

[On to the next level]

Open Innovation Project



The Open Innovation Project aims for society to use our technology to protect the Earth and create a prosperous future for both people and nature. The Project searches for social themes, explores the assets, and links with research to create future value with partners. We have called for internal ideas and collaboration with industry and academia to achieve this. The Open Innovation Project co-creates with Okayama University. In the future, we will cultivate seeds that will change the future for the better in collaboration with other universities, research institutes, private companies, and other co-creation partners.



Emiko Ohashi,
Research & Licensing Section,
Intellectual Property Dept.,
Intellectual Property & Legal Div.

Open conversations across organizations for a better future

Staff members from different departments are generating ideas to lead to a better future. It is not easy to work on solving social issues while establishing business. However, I witnessed the potentials of conversations that transcend organizational boundaries among researchers, including professors from Okayama University, that led to breakthroughs. I also learnt about Hayashibara's strengths and challenges, and because of the limitations of a single company, we hope to accelerate research with more co-creation partners, including industry-academia collaborations. I would like to open new possibilities for Hayashibara's carbohydrate materials which will lead to a future that is good for people and where we coexist in harmony with nature.

A call for internal ideas

To create new themes, internal researchers were free to come up with ideas from a sustainability perspective, and more than 100 ideas were received. The themes were narrowed down through discussions by volunteers.



Industry-academia collaboration

We explored the possibilities to co-create by matching the seeds of innovation solicited from within the company with the research themes of professors at Okayama University. This enabled 2nd- and 3rd-stage synergy and we will make further co-creative partnerships.



Message from Hayashibara's SDGs advisor, Atsufumi Yokoi, about the All-Staff Project and the Open Innovation Project.



I would like to see the seeds for the future germinate through co-creation in close proximity to nature.

Professor **Atsufumi Yokoi,**
Senior Vice President and UNESCO Chairholder, Okayama University

I supported the projects as an advisor. Having made use of soil bacteria and innovated through nature, Hayashibara has a philosophical base congruent with sustainability. There is no doubt that this has cultivated everyone's sensibilities. I hope to see the construction of future food systems that are good for people and the Earth. I believe Hayashibara will take on complex subjects that are not easy to solve alone, and elaborate their processes and show their results. Academia is free to do research without a profit motive, and industry can commercialize products that meet the needs of society. These two can work closely, leveraging their respective strengths, to become a beacon of hope that illuminates the future. Let us accelerate the resolution of social issues through industry-academia co-creation as we bring in ever more like-minded partners.