NITTEN AGREEN STRATEGY

ENGLISH

NITTEN AGREEN STRATEGY

Our projects that challenge out-of-the-box ideas.

For human health

For agriculture and dairy farming

For the global environment

There seems to be more and more that SUGAR BEET can do!

Sugar is not the only product that comes from sugar beet. It is also used to produce bakers' yeast and cattle feed.

Besides food, it can be transformed into other materials such as resin and fuel.

In the agricultural field, the CO_2-absorbing capacity of sugar beet is attracting attention.

The growth that our company, Nitten, achieved so far is inconceivable without the presence of both community and agriculture.

How can we return the favor?

Our watchword is "AGREEN."

With the power of research and passion, let's create value that doesn't exist yet.

A collaboration between Japan's "national fungus", Koji mold, and sugar.

Beet sugar molasses and koji mold are used to create next-generation proteins.

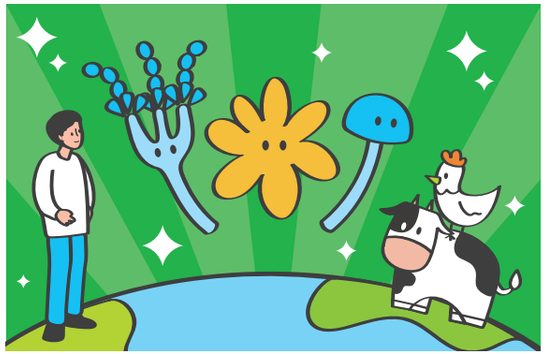
Koji mold "consumes" the molasses to produce proteins. Nippon Beet Sugar Manufacturing Co., Ltd., which possesses cultivation technology developed through yeast production, is collaborating with Norwegian company NoMy to jointly work on commercialization.

*NoMy possesses the technology to produce proteins by cultivating koji mold.

The supporting actor becomes the star of the show.

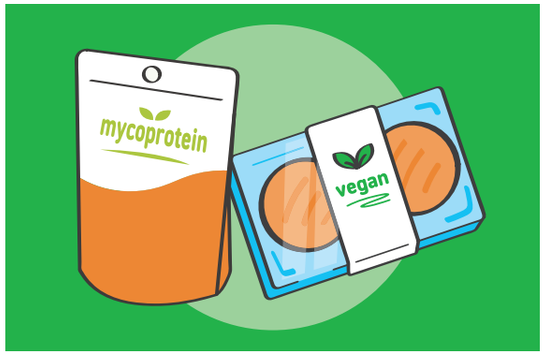
How can we make use of the leftovers after sugar production?
This is the issue we have been working on for a long time.

Solving global problems with sugar.

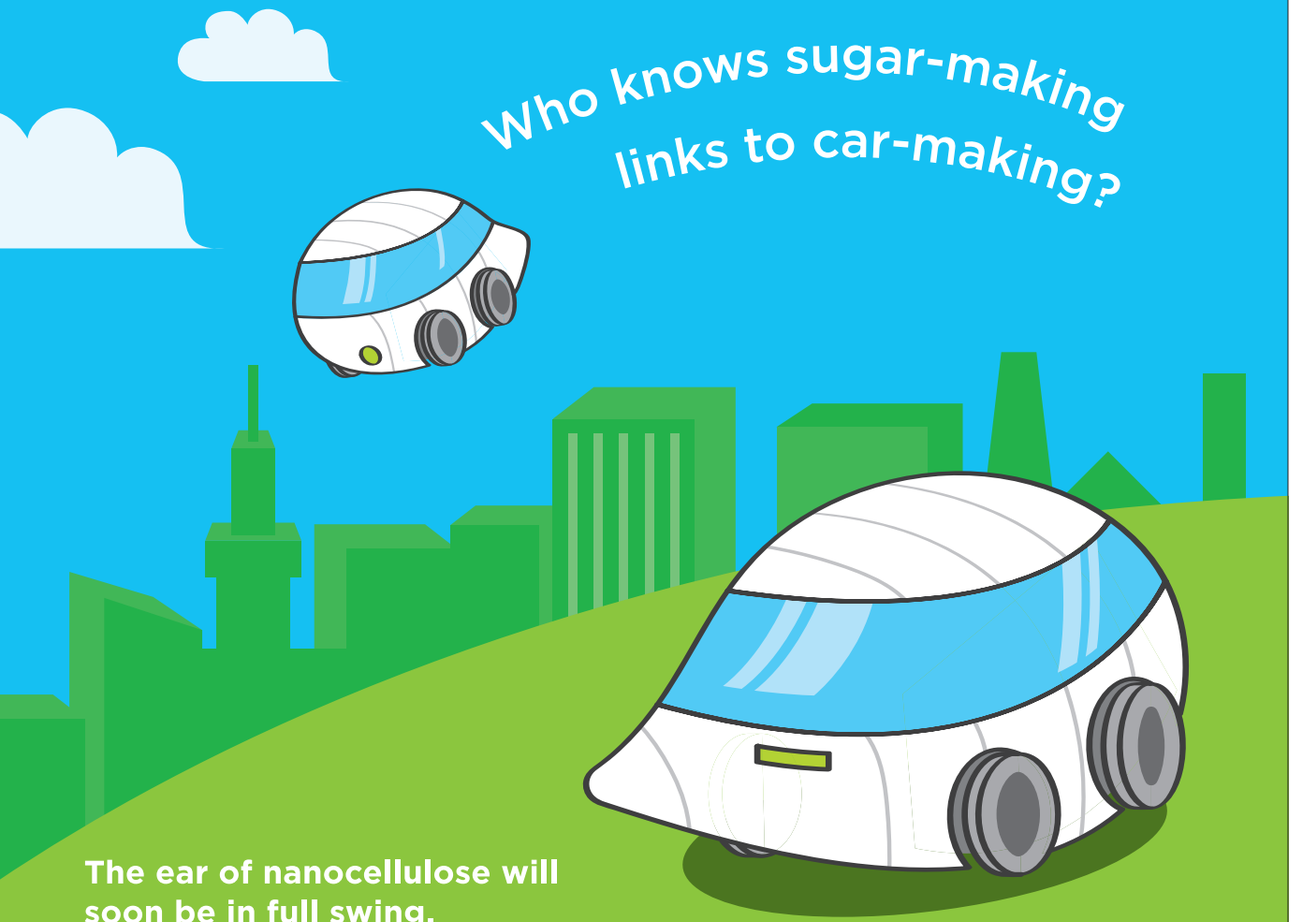


Growing demand for meat, eggs, and soy from an increasing global population has created the "protein crisis," a worldwide competition for protein. The protein made by Nippon Beet Sugar Manufacturing Co., Ltd. is a type of protein called mycoprotein. Could molasses, a byproduct of sugar production, be part of the answer?

Delicious. Safe. Sustainable. Delivers on every front.



Mycoprotein's naturally fibrous texture makes it perfect for developing meat-like products and dried powders. Free from the beany smell of soy, it is suitable for a wide range of applications and fits into vegan and halal diets. It is also highly sustainable: producing 1 kg of mycoprotein generates just 1 kg of CO_2, compared to 27 kg for the same amount of beef.



The ear of nanocellulose will soon be in full swing.

The specific acetic acid bacteria produce Nanocellulose by using molasses. Bioplastics, food products, paper, and other products containing this material will revolutionize society.
Bioplastics, which are strong and easy to process, will be put to practical use in a wide range of fields, including car bodies and parts.

“Molasses” plays a great supporting role.

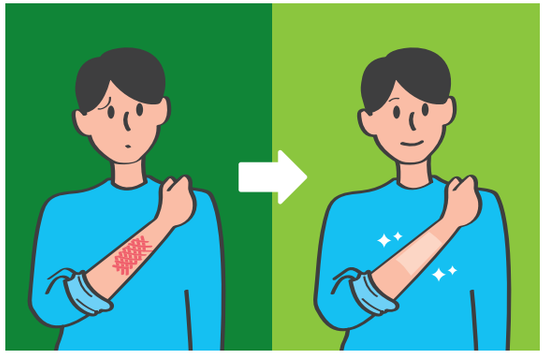
Nanocellulose is produced by the encounter between molasses and acetic acid bacteria.

Nanocellulose is the plant-derived safe material. So, it is expected to be used in various fields such as industry, medicine, and food.

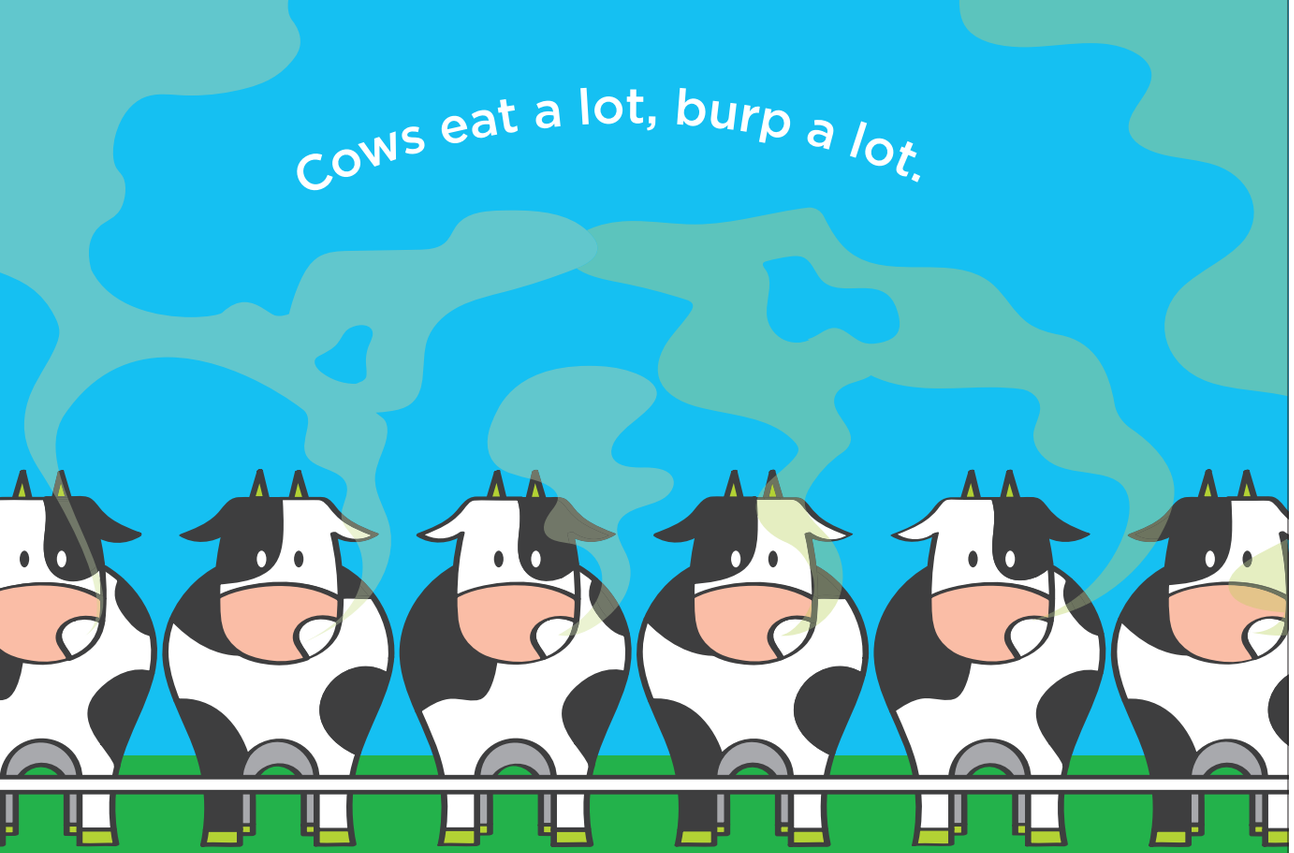
Application of Nanocellulose to food scene.

It has a Nata de Coco-like texture and improves the elastic texture of sweet confections and other products. It also has excellent water retention properties, so it can be used to prevent dripping when thawing frozen foods.

Application of Nanocellulose to the medical world.



Due to its high safety profile and compatibility with the human body, it is also used in artificial skin for burn treatment. Its “gradually absorbed” characteristics have also led to research into the development of “sustained-release formulations,” in which the effects of the drug last for a long time.



Let's develop the feed to reduce methane gas production.

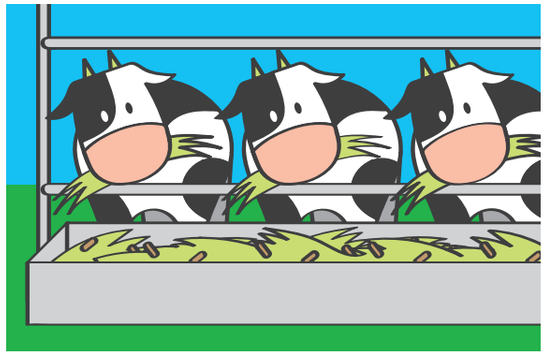
Methane gas is said to be 25 times more potent as a greenhouse gas than CO_2.
Cows have four stomachs and emit methane gas through burping.
To reduce methane emissions, we have developed a special seaweed called “Kagikenori (Red Sea Plume)*”.
We are researching the development of formula feed that suppresses the emission of methane gas.

**Asparagopsis taxiformis* is the scientific name of Kagikenori (Red Sea Plume).

Contribute to the dairy kingdom of Hokkaido.

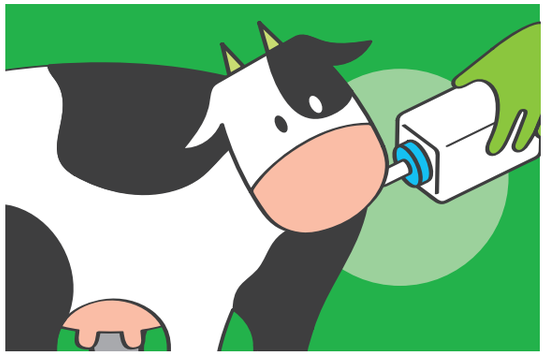
There are 1.3 million cows raised in Hokkaido.
We have made a twist on the byproduct of sugar beet production and help maintain the health of the cows.

Non-drying beet pulp is the next generation of animal feed.



Beet pulp is the byproduct of sugar production. By making silage from beet pulp without drying it, highly nutritious feed can be produced. It is expected to become the next generation of animal feed.

Oligosaccharide “DFA III” makes cows healthier.



“DFA III” is one of the specific oligosaccharides that enhance calcium absorption. It has the effect of preventing “hypocalcemia” by giving this to cow after calving.

Liquid Fertilizer GB (active ingredient betaine) expands crop potential.

Betaine, a byproduct of sugar production, is a kind of amino acids. When used in the field, it is effective in alleviating stress during crop growth, such as salt damage, drought, and high temperature injury. Several tests are being conducted on a variety of crops.

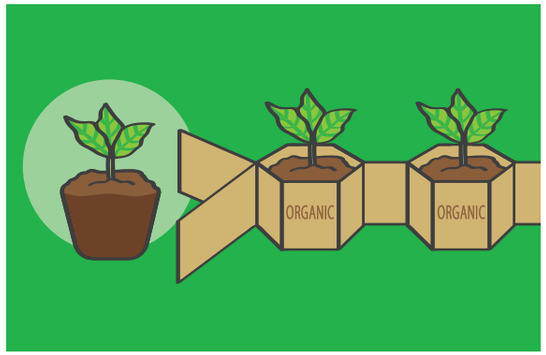
We think about the agricultural production site.

Our business cannot be possible without sugar beet.

Therefore, we do whatever we can for agriculture.

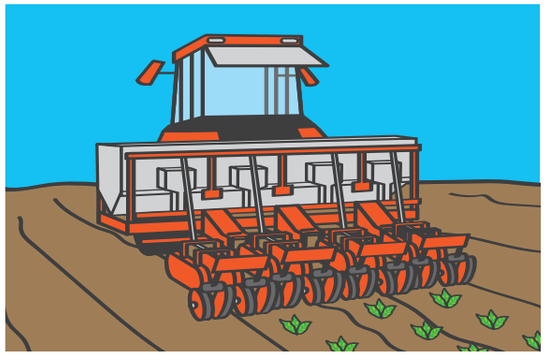
For example, we provide support in the development of agricultural materials and machinery.

Development of paper pots for organic farming.



We have developed paper pots that can be used for organic cultivation of green onions and lettuce. Furthermore, we are producing paper pots for organic sugar beet.

Manufacture of agricultural machinery for sowing and transplanting.



Along with potatoes, wheat, and beans, sugar beet is Hokkaido's main crop. To support its stable production, we are developing various machines in cooperation with manufacturers.

Creating a more sustainable future.

from company to society

NITTEN AGREEN STRATEGY

This is the overall picture of the NITTEN AGREEN STRATEGY.

In all processes of cultivation, production and deliveries, savings for energy, manpower and resources are in action.

With the aim to be carbon neutral, we recycle and reduced environmental impacts.

New Businesses

- Sugar
- Feed
- Food
- Agricultural Equipment

2030	2030	2050
Farm to Fork Strategy	**SDGs**	**Strategy for Substainable Food Systems, MIDORI**
EU	UN	MAFF

OUR PURPOSE

We determined to clearly define within our purpose the objectives of our company and how we can contribute to society. With these thoughts in mind, we put “AGREEN STRATEGY” in practices.

From the fields to the tables.
We explore the expanding possibilities of sugar beet.
With the commitment to creating products that are
both people and environmentally friendly,
we contribute not only to the future of Hokkaido
but also to the future of Japan.

日本甜菜製糖
Nippon Beet Sugar Manufacturing Co., Ltd.

NEW PRODUCTS

Nippon Beet Sugar Manufacturing Co., Ltd. produces sugar within Hokkaido with Hokkaido-grown sugar beet.

Moreover, we also produce bakers’ yeast. We cultivate bakers’ yeast using “sugar beet molasses” a byproduct from sugar production.

北海道
まろやか
てんさい糖

HOKKAIDO
DRY YEAST
十勝製造
旨パン職人

Please visit our website for the latest information on our products, recruitment, and more.
https://www.nitten.co.jp

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