

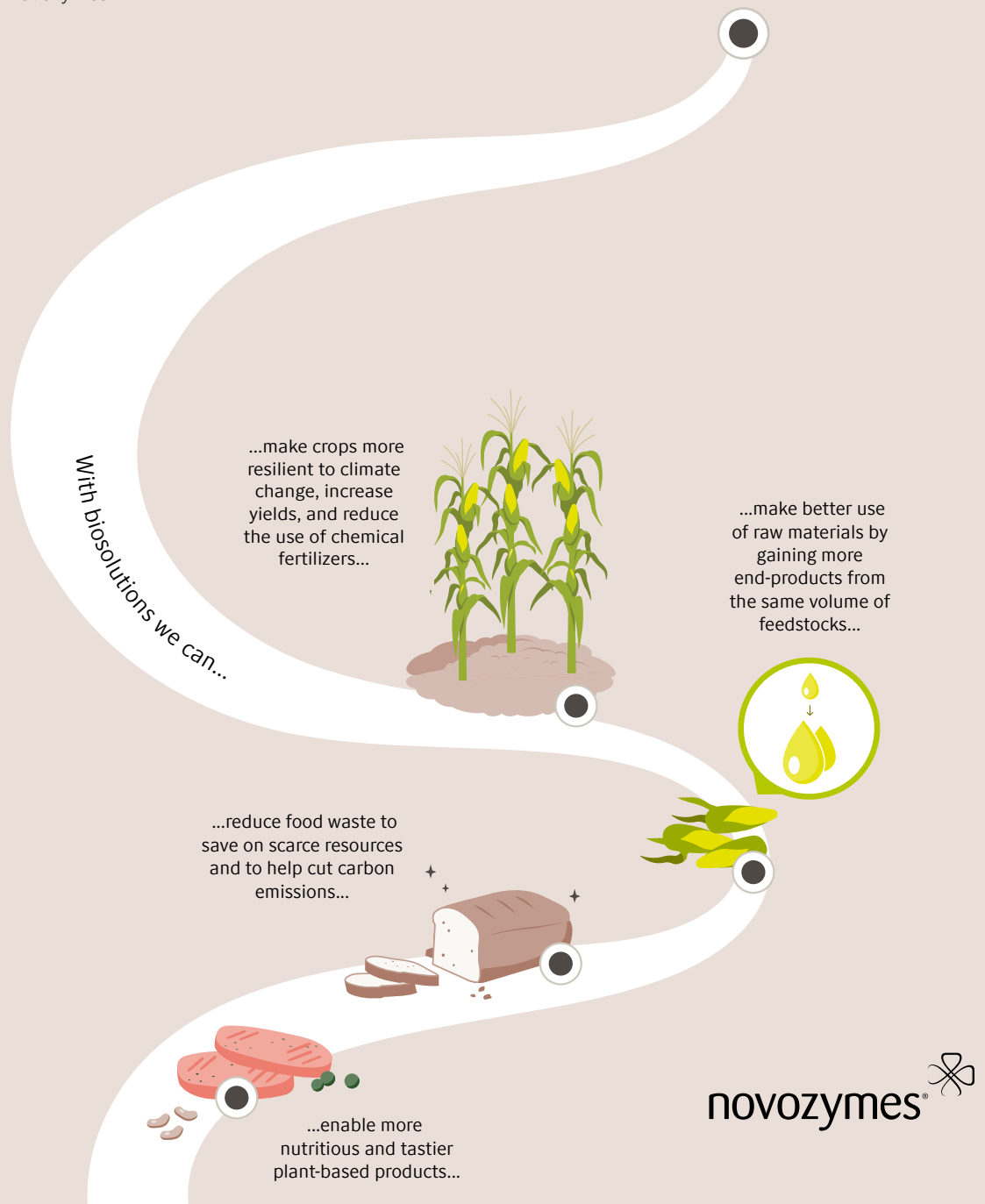
A deep dive into one of Novozymes' commitments to a healthy planet

Transforming food systems from field to fork

The world has managed to feed more and more people in recent decades, but growing populations, increasing nutritional needs, and the impact from climate change mean that we have to rethink the way we produce and consume. Novozymes' biosolutions play an important role along the entire food value chain.

"Biosolutions can help feed the world sustainably from field to fork. With biosolutions, we can help farmers produce more crops per acre, overcome tough weather conditions and increase yields for livestock – while leading to significantly less pollution and better animal health. Biosolutions also help food producers get more out of raw materials, supermarkets to reduce food waste, and consumers fill up their shopping baskets with more nutritious, healthier, and tastier foods and beverages. We are only beginning to discover the potential of biosolutions."

Morten Enggaard Rasmussen
Executive Vice President at Novozymes



Higher yields from the same crops

To transform global food systems, it is important to look at the way we grow food for people and animals.

Biosolutions can help make crops more resilient to climate change, increase crop yields, reduce the use of chemical fertilizers, and lower CO₂ emissions.

If Novozymes' biosolutions were applied to all of U.S. cornfields and all of U.S. chicken production combined, it would save 87 million tons of CO₂. This is almost twice as much as Denmark's annual CO₂ emissions.

Making better use of raw materials

The world experiences shortages of raw materials, only spurred on by the COVID-19 pandemic and geopolitical conflicts. Last year in July on Earth Overshoot Day, we had already used all the resources that the planet generates during an entire year. With biosolutions, we can make better use of the raw materials available, for example by gaining more starch and protein from corn and getting more vegetable oil from the same volume of feedstocks.

Reducing food waste

It is important to tackle food waste in order to save scarce resources, reduce carbon emissions, and tackle hunger. One approach to reducing food waste is by extending the shelf-life of baked goods. Novozymes' biosolutions help retain the freshness of baked goods such

as breads, flatbreads, tortilla wraps, and cakes for longer periods of time. For example, our fresh-keeping solutions for bread have saved approximately 80 billion loaves of bread from being thrown away. If stacked up, those loaves would reach to the moon and back ten times.

Plant-based products

To feed a growing population, the world also needs to look at different sources of protein. In fact, if 10% of protein demand was replaced with alternative proteins, it would bring enough grain savings to free up 50% of arable land in Europe.

Consumers are increasingly turning to plant-based foods, but the taste, mouthfeel, and price must be right to make these products go mainstream. Novozymes' biosolutions help improve the taste and texture of plant-based foods and beverages, for example by giving plant-based drinks the smooth feel that consumers want.

Proteins produced by fermentation can also enhance the taste, texture, and nutritional profile of plant-based meats, and they have the potential to reduce carbon emissions by up to 90% compared to animal protein. Novozymes is investing heavily in an advanced protein production facility to meet the growing demand for plant-based protein.



SDG impact

Our biosolutions improve yields in agriculture by improving plants' access to nutrients in soil and animals' access to energy, proteins and minerals in feed. This leads to better use of arable land for food and feed production, reduced use of chemicals, and reduced emissions to the environment from manure in livestock production. Furthermore, our biosolutions in Food and Beverages lower the environmental footprint of food production and consumption by reducing food waste and enabling the use of local raw materials.



Sources

Novozymes' biosolutions

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