

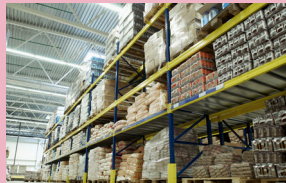


SINTEF develops plant-based bioplastic packaging and oxygen-proof materials

COMPANY/
ORGANIZATION



FOOD CHAIN
AREA



ISSUE
ADDRESSED

Significant factors in wasted food include inadequate packaging materials and inaccurate best before labels, leading to otherwise edible foods being thrown away.

SOLUTION

SINTEF has developed bio-degradable plant-based packaging with greatly improved food preservation properties. The packaging is made from PLA, manufactured by cultivated carbohydrates from bacteria, and bio-PET, macromolecules extracted from plant residues.

SINTEF's bioplastic material combats food waste by reducing the amount of oxygen that reaches the packaging's contents, thus improving shelf life. There are currently four prototypes: a blow molded bottle and a pot, designed to hold seafood, both of which are applied with an oxygen-proof exterior coating; a three-layer coating comprised of a cellulose-based film sandwiched between two biodegradable biopolymer layers that act as an oxygen barrier; and a blow molded film that can be used to make bags and oxygen-protective coverings.

Accompanying this packaging are sensors developed by SINTEF that can detect small changes in the package's contents, such as temperature or spoilage. The sensors react by releasing signal substances that change the colour of the package to alert retailers, manufacturers, and consumers that its contents are no longer edible.





SINTEF develops plant-based bioplastic packaging and oxygen-proof materials

EXPECTED BENEFITS

Extended shelf life and reduced food waste: By reducing the amount of oxygen reaching the food within its containers, SINTEF's bioplastic packaging and coatings can extend the shelf life of foods. SINTEF's sensors also provide consumers and retailers with an accurate way to detect true food spoilage, rather than relying on inaccurate best before labels.

CASE LINK

www.sintef.no

CONTACT INFORMATION

SINTEF

Mail: SINTEF, P.O. Box 4760 Torgarden, NO-7465 Trondheim Norway

Tel: +47 40 00 51 00

Email: info@sintef.no