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THE ZESPRI BIOSPIFE

Scion has developed technologies to use fruit waste as feedstocks for biopolymers or functional additives useful in bioplastics. This fruit-modified bioplastic also offers end of life compostability.

DESCRIPTION AND OVERVIEW

Scion is working with New Zealand kiwifruit producer ZESPRI® to replace their current petrochemical-based (conventional plastic) spife with an environmentally-friendly version. A spife is a spoon-knife utensil for cutting, scooping and eating kiwifruit. It is sold in retail packs of ZESPRI kiwifruit.

The biospife is made using technology developed by Scion which transforms kiwifruit residues into a plastically processable material which can then be formulated with other plastics, such as polylactic acid (PLA).

ENVIRONMENTAL AND ECONOMIC BENEFITS

Like all conventional plastic products, the current spife is based on non-renewable resources, is unable to be composted and therefore is usually tossed in the bin. This adds around 3% to ZESPRI's carbon footprint - too much for the eco-conscious company that markets its products around the world.

The biospife, is both renewable and compostable. In an industrial composting facility a spife will degrade within 6 months. It will break-down in a garden compost, but at a slower rate.

Currently, thousands of tons of kiwifruit waste are dumped each year. This adds overhead costs to the industry. These valuable raw materials could be converted into bioplastics and used to make a range of innovative new products.

FUTURE DEVELOPMENTS

Although not yet commercially available, the biospife is proof that the concept works. It was produced in an industrial facility to demonstrate the product is compatible with existing plastics machinery. It is hoped, through the Scion-ZESPRI collaboration, that conventional plastics used in kiwifruit growing and packaging can be replaced by biodegradable or renewable bioplastics. These bioplastics based on kiwifruit residues are a win-win for everyone. Excess fruit material is converted into a higher value product, the carbon footprint for ZESPRI is reduced and there are clear point-of-difference marketing benefits.

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