

Seed coats as inspiration for sustainable packaging

Initiative: Zirkularität mit recycelten und biogenen Rohstoffen

Ausschreibung: Kooperationsprojekte

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Recycling of current packaging solutions and materials is often impeded by difficult or even impossible separation into their original components. In nature, however, solutions for efficient and sustainable coatings and packaging are omnipresent: Plant seed coats (testa or fruit walls) are biodegradable, pack and protect embryos - even under extreme conditions such as heat, frost, radiation, chemical and microbial attack and for short as well as long time periods (up to hundreds of years). However, surprisingly little is known about these natural packaging and protection solutions. The team will monitor environmental conditions of plants with seeds with thin testa growing under extreme alpine conditions as well as those of their close relatives in low-land regions to assess environmental effects on seed coat properties and functionalities. To expand the properties range, seeds of fire-prone regions and the Arctic and Antarctic will be included. Finally, the team will transfer the knowledge into sustainable, plant-based packaging and coating prototypes.

Projektbeteiligte

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