

Belgian co licenses Hebrew U biodegradable plastic

The plastic is produced from protein-rich crops such as soy beans, canola rapeseed, and corn using existing technology.

Merav Ankori 5 Nov 07 15:27

[Yissum Technology Transfer Company of the Hebrew University of Jerusalem](#) has signed a new licensing agreement with a Belgian holding company for the commercialization of a new clean technology developed at the university. Yissum will receive a licensing fee and royalties on sales of future products derived from the technology.

Hebrew University researcher Prof. Sergei Brown has developed technology enabling the production of biodegradable plastic for the food-packaging industry, by using protein-rich crops, such as soy beans, canola rapeseed, and corn. The economic advantage of the plastic is the simple chemical reaction that replaces at least some of the primary amines in the protein-based material with a different chemical group, in order to produce a new "building unit" for construction of the plastic. The technology converts vegetable protein using a simple chemical modification into a starting material for plastic production using existing industrial technologies

The food oils and starches industry produce a surplus of vegetable proteins that can be used for the manufacture of environmentally friendly food packaging. For the sake of comparison, just 6% of surplus vegetable protein production in the US is needed to produce plastic packaging for the entire country. The global plastics packaging market was worth an estimated \$130 billion in 2006.

Yissum president and CEO Nava Swersky Sofer said, "Prof. Brown saw from his experiments that the new material could produce many products, including plastic bags, crates, and fibers, which could compete successfully with oil-based products in terms of price. The new plastic materials can be recycled, are completely degradable turning into compost, and can even be used as a food supplement for animals. We hope that Prof. Brown's invention will bring about a positive change in the plastics industry, and we're proud that this invention was made at Hebrew University."

Brown added, "Until now, the main barrier to the entry of biodegradable products into the plastics market was their high price. Biodegradable plastics, such as the popular PLA, cost five to tens times the price of ordinary packaging materials. Our invention is intended to change the market conditions and offer a cheap and available alternative that is also environmentally friendly."