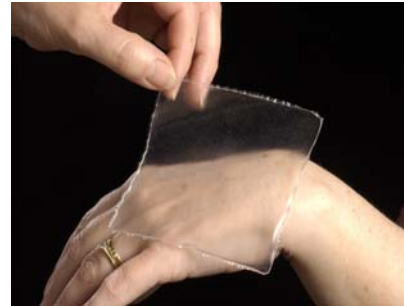


29 November 2006

Novel Wound Dressing Materials Produced from Pea Starch

A team of researchers led by Professor Cliff Hedley at the John Innes Centre (Norwich, UK) has developed range of novel starch-based films with potential applications as wound dressing materials.



The films comprised of pea starch, glycerol and water, have a unique combination of characteristics making them suitable for use in a wound dressing environment, including excellent moisture handling capabilities, oxygen permeability and antimicrobial properties. In addition, the ingredients are all derived from natural, environmentally sustainable sources, thus providing an attractive alternative to some of the synthetic polymers traditionally used in film-based dressings, and which in some cases have been found to cause allergic reactions in patients.

Through its interactions with the East of England Innovation Relay Centre, PBL has recently teamed up with Polymer Health Technology (www.polyhealth.com), a Welsh manufacturer and supplier of materials for the wound dressings industry, in order to transfer the technology out of the laboratory. Starch films have already been made using Polymer Health's cast-films manufacturing process, with conditions currently being optimised for manufacture on a much larger and more economically viable scale.

The starch films technology is the subject of pending worldwide patent applications (International patent publication no. WO 05/118729) assigned to PBL, with collaborators currently being sought to help in its further development, patient testing and commercialisation, in particular companies interested in developing new improved wound dressing products. Preliminary discussions have identified a number of potential wound dressing applications for the technology, including use on burns and various types of ulcers.

Contact: Dr Adam Hajjar

Wound dressing made from peas

29 November 2006

A team of Norwich scientists has invented a new type of wound dressing - made from peas.

The scientists at the John Innes Centre were actually researching food packaging materials when they realised that one of their discoveries was more suited for another use.

Now the starch-based film is being trialled in a factory and there are hopes that it in future will be used by hospitals across the country.

The process has been patented by PBL, a Norwich-based technology and intellectual property management company. The company is jointly owned by the John Innes Centre on Colney Lane, the Sainsbury Laboratory, itself based at the John Innes Centre, and the Biotechnology and Biological Sciences Research Council.

The East of England Innovation Relay Centre, which helps companies find and exploit new technologies, has helped to match up PBL with Polymer Health Technology, a Welsh manufacturer of materials for wound dressings. Polymer Health Technology has already made the starch film on a small scale in its factory. The next step is for it to be made on a larger scale, and PBL is looking for wound dressing manufacturer interested in taking it up.

The film was invented by Cliff Hedley, Tatiana Bogracheva and Ian Topliff at the John Innes Centre - though Mr Topliff has since moved to the Institute of Food Research.

Prof Hedley said: "These aren't the sort of peas that you usually eat, which are smaller and sweeter, this is the round sided pea, which is usually fed to animals.

"It is the same species as the garden pea, there is just one gene that is different.

"We had a link project which was looking at packaging, and we observed a material that was not good for packaging but we thought could be used for something else, in this case wound dressing. We thought it might be better than some of the things that are used at the moment, for treating burns in particular

"You make a whole range of materials, and there will be some that don't have the particular properties you want. You can either throw them out or see if there is something else that they are useful for."

Starch makes up about half of a pea's content, but is usually a by-product of making pea protein for the food industry. The structure of pea or bean starch means it makes better film than other starchy vegetables like potato or maize. And it is cheap and more environmentally sustainable than plastic films. Unlike plastic, it absorbs water, which can make it useful for treating wounds. The film's other ingredients are water and glycerol.

Adam Hajjar, business development manager at PBL, said: "It is using a readily available natural product as opposed to some of the synthetic polymers, some of which can cause allergic reactions. They seem to have anti-microbial properties which could mean they could prevent infection in a wound.

"We think they might be suitable for burns and possibly some ulcers."

The scientist's project did also produce films that were useful for food packaging, and they are currently working on starch-based films for agricultural use, for example as a biodegradable mulch.

Visit www.edp24.co.uk/business for video footage of the revolutionary dressing.

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