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POC: SEAGRASS-BASED FOOD PACKAGING MATERIAL TO REDUCE WASTE

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8 August 2017

Much of the plastic we use consists of the packaging of food products. This single-use plastic is thrown away, only to add to the growing piles of plastic in our landfills. In an attempt to reduce the amount of waste from packaging material, designer [Felix Pöttinger](#) created biodegradable packaging material called POC, which is made from seagrass fibres. In addition to reducing the amount of plastic used,

the antibacterial properties of seagrass, the packaging could also increase shelf life.

The [seagrass](#) that is used is a waste material, which can be collected on the beaches of the Mediterranean, where it washes on shore. Instead of throwing it away, as commonly happens when governments clean up the beaches, the fibres can be used to make the packaging material.



To create the packaging material, a binder is extracted from the seagrass fibres, which is mixed with the intact fibres. The mass is then pressed into a metal mould and baked at 180 degrees Celsius (356 degrees Fahrenheit) until it has completely dried. POC is completely biodegradable, as even the binder is made of seagrass.

In addition to being biobased and biodegradable, seagrass has antibacterial properties, which can help extend the shelf life of food products.

The material has been tested in various independent materials labs for its antibacterial and structural properties.

However, it is still in the development stage and has to be tested if it fulfils all EU regulations for food packaging.

With a global food waste of 1.3 billion tonnes (1.4 billion US tons) and 15 million tonnes (16.5 US tons) of food related plastic, we definitely need alternative packaging materials. For more packaging at Materia, click [here](#).

Photos: Felix Pöttinger

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Reggy Seña says:

[August 12, 2017 at 10:51 am](#)

What specifically is the “binder” extracted from the seagrass fibres?



Sigrid says:

[August 16, 2017 at 8:56 am](#)

Hi Reggy,

According to the designer, “This particular fibre has a high cellulose content (like many other natural fibres). So basically you can extract this cellulose and produce a cellulose based binding agent.”

I hope this helps!

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