



The sensors are made by printing carbon electrodes directly onto paper, making them biodegradable and non-toxic | Photo source [Department of Bioengineering, Imperial College, London](#).

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SPOILAGE SENSORS KNOW WHEN FOOD WILL GO BAD

 FOOD & DRINK

Sensors that can detect when food is going off could help to prevent food waste

Spotted: Researchers at London's [Imperial College](#) have developed a low-cost, eco-friendly spoilage sensor. The sensor can alert consumers when meat and fish are about to go off.

The new sensors cost only pence to produce. They are made by printing carbon electrodes directly onto paper, making them biodegradable and non-toxic. They detect gases like ammonia and trimethylamine, which build up in meat and fish when they spoil. The sensors can be connected to an app so that by holding their smartphones up to the packaging, consumers can find out instantly if packaged food is safe to eat.

The researchers hope that the sensors could eventually replace the 'use-by' date on packaging, and lead to lower food costs. They are also working on sensors that can detect different chemicals. This could give them applications beyond food processing, such as a sensing chemicals in the air or water, or detecting disease markers in breath. The technique for making the sensors could also be scaled up using methods such as screen printing to allow their widespread use.

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Takeaway:

Food waste is a growing concern, and a number of researchers are working on ways to reduce this. Around one in three consumers in the UK throw food away when it reaches its use-by date, but it has also been estimated that as much as 60 percent of that food was actually safe to eat. Ideas like this could hopefully reduce waste both at home and in stores. Springwise has spotted other recent innovations aimed at reducing food waste, including methods that replace plastic with an edible film that extends **shelf-life** and convert **food waste** into textiles.