

# Daniel Ribera: Turning food-soiled packaging into safe compost

March 5 2013, by Jean-François Haït

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Composting instead of incinerating or landfilling is a promising way that has until now been hampered by the presence of chemicals in packaging.

Designing environment-friendly compostable food [packaging](#) is the challenge that Daniel Ribera, the coordinator of the EC-funded Ecopack, tells youris.com about. Thanks to this project, he is now a man on an environmental mission, who will be able to rely on experience as a toxicologist and founder of Bio-tox, a consultancy company, based in the South of France, and specialised in sanitary and [environmental risk assessment](#).

## What happens to food packaging after use?

If it is not soiled, packaging can be recycled, which is by far the best solution. In Europe, in 2010, 63.2% of packaging waste of all categories was recycled, according to Eurostat. Among the remainder, 13% was incinerated and 23.8% landfilled. But part of it could be valorised as compost. This means that such packaging would undergo degradation by [microorganisms](#) to be turned into fertiliser for agriculture. However, it is still very infrequent in Europe, and accurate figures are difficult to find.

## Why is packaging composting so rare?

Packaging is of very different nature: it can include metal, paper, plastic... and is often composed of multiple layers. That is why most of it

cannot be composted. Plastic films used in large quantities in agriculture to protect [plantations](#) of strawberries, for instance, are also of concern. It is soiled on the ground and left in place. Only packaging made of paper, cardboard, or [biodegradable polymer](#), like those made of starch for instance, are compostable. But the latter are not widespread. As a result, there is no market, and therefore no dedicated industry in Europe.

## **But isn't composting an ecological solution?**

Yes, in theory. But there is another problem. Food packaging is printed with ink containing compounds such as [pigments](#) and anti-oxidation factors. Furthermore, they are varnished to ensure their colours remain vivid and attractive. All these chemicals are more or less toxic. As for bar-codes, their inks might contain bisphenol A, an endocrine disruptor banned in France lately. It is known to mimic human hormones and suspected of increasing the risk of illnesses such as diabetes, cancer and reproductive disorders. All these molecules will end up in the compost and contaminate the soil. Yet, the European standard EN 13432, that defines the biodegradable property of a material, imposes low environmental constraints. It only requires proof of the effective degradation by microorganisms, the disappearance of the material in the soil, and the absence of heavy metals such as lead and cadmium.

## **So what is the project's ultimate aim?**

Ecopack will assess environmental risks linked to packaging when they are composted. The ultimate goal is to help manufacturers make packaging and films for agriculture that can be as safe [compost](#). Safe means that the quantity of chemical compounds it contains poses no threat to human health. For this purpose, the research laboratories involved in the project have already checked that methods commonly used to assess toxicity of chemicals and endocrine disruption are valid

for [food packaging](#). They have selected the most relevant and accurate among these. Today, we are fine-tuning the first prototype consisting of a range of tests and procedures for packaging manufacturers that will be available at the end of the project in September 2013.

## **Is compostable packaging going to be attractive to manufacturers in the current economic context?**

This is a real challenge. First of all, tests for toxic chemicals must be affordable. Then, the risk must be considered at every stage of the package lifecycle, from raw material synthesis to composting. To this end, we are designing e-learning modules for manufacturers. Finally, we would like to assign an "Ecopack" label to packaging meeting these criteria. I am sure that manufacturers would benefit from it, as it would help them reach out to an environmentally conscious audience.

**More information:** [www.ecopack-label.eu/](http://www.ecopack-label.eu/)  
[www.bio-tox.fr/](http://www.bio-tox.fr/)  
[epp.eurostat.ec.europa.eu/port ... portal/eurostat/home](http://epp.eurostat.ec.europa.eu/port...portal/eurostat/home)

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