



Burgers made from bug-fed chicken coming to a supermarket near you

Researchers are preparing to conduct field trials of house fly larvae as a protein-rich supplement to animal feed made of cereals and corn.

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House flies can convert manure into protein faster than most other insects, and they're already present all over the world. That's why researchers at the EU-funded PROteINSECT project are working out how to produce and process them so they can be safely fed to pigs and poultry.

At the moment, researchers are investigating how to prepare the larvae. The next stage will be to try feeding them to pigs and chickens to see how efficiently the animals fatten up, and trials are planned in the UK and Belgium for next year.

According to a [2013 report](#) by the Food and Agriculture Organization (FAO) of the United Nations, insects are a nutritious and environmentally friendly food. They could provide a readily available source of high-quality proteins, minerals and vitamins, and feeding insects to pigs and poultry could save valuable farmland which is now being used to grow crops for animal feed.

Current meat production techniques, including resource-intensive livestock production, are responsible for around 14.5 % of global greenhouse gas emissions, according to a second [FAO report](#).

Ensuring the availability of and access to sufficient safe and nutritious food is one of the focus areas of [Horizon 2020](#), the EU's research funding programme which runs from 2014 until 2020.

'We have a growing global population, people are eating more and more meat, therefore we need to produce protein more sustainably. With three billion extra mouths to feed by 2050, the need to improve the efficient

use of land for protein production and the effective utilisation of waste materials has never been greater,' said Dr Elaine Fitches, from the UK's Food and Environment Research Agency (FERA), who coordinates the PROteINSECT project.

Insects are already used to feed animals in Africa and China, and the project hopes to generate data that can be used by policymakers to decide whether to allow farmers to use fly larvae as a feed in the EU.

At the moment, the use of insect protein in animal feed is prohibited under EU rules. However, regulators are investigating whether to change the law so that insects can be fed to pigs and chickens.

The results of a survey carried out by the project suggest that over 70 % of people would be willing to eat chicken, fish or pork from animals fed on an insect-based diet.

Insects eaten by humans

Insects do not only provide nutritious feed for animals, they are also seen as a tasty snack by billions of people. Global estimates suggest up to 2 000 insect species are regularly consumed as human food, particularly in Australasia, Latin America and Southeast Asia. The most commonly consumed insects are bees, beetles, caterpillars and locusts. Red maguery worms, for example, are deep-fried and eaten with tortillas in Mexico.

In the Republic of Niger, grasshoppers are considered a delicacy and are bought from food stalls at the sides of roads. In Japan, thousands of people gather to eat wasp larvae at the annual Hebo festival.

In the Central African Republic, [caterpillars are an important part of people's diet](#). In some tribes in the region, the average person eats over 40 caterpillars per day during the rainy season.

Insects such as roasted crickets, fried locusts and grasshoppers dipped in chocolate are available from specialist suppliers in Europe too. Several restaurants have insects on their menus, and we sometimes even eat insects without realising it: in the EU, the red food colouring labelled E120 (carmine) is made from an insect called cochineal.

More info

[PROteINSECT](#)

[Video from the PROteINSECT project](#)