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Worm gene 'makes meat healthier'

Livestock could be genetically manipulated to produce "healthier" fats normally found in oily fish, say experts.

Would farmers pay for "healthier" animals

When a worm gene was placed into a mouse in the laboratory, omega-6 fatty acids were converted to the omega-3 version recommended by diet experts.

Harvard University scientists say this could mean cows and sheep which produce meat and milk rich in healthy oils.

Other scientists question whether breeding herds this way is justified.

There are much easier ways to boost omega-3 levels in the diet and in produce, they say.

Omega-3 fatty acids have emerged as a useful "super-food" - both appearing to protect the heart, and perhaps help brain development in children.

Oily fish

The best-known source is oily fish such as tuna and mackerel, although certain green vegetables and seeds also contain it.

Mammals on a normal diet cannot produce Omega-3 in large concentrations.

One way around this is to feed the animal on a diet extremely rich in omega-3s - and eggs produced from hens on this diet are already on sale in the UK.

'Fat' gene

The Harvard team, led by Dr Jing Kang, looked for a different way of producing a similar result.

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They found that they could take a gene called "fat-1" from the nematode worm - which, despite only being a fraction of a centimetre long, shares many genes with all other mammals, including humans.

The effect of splicing this into the genetic makeup of mice was to produce an animal which could convert omega-6s into omega-3s.

"Efforts have been made to incorporate n-3 (omega-3) fatty acids into the food supply because of their health benefits," the researchers wrote.

"Production of n-3 fatty acids by the animals themselves would be a cost effective and sustainable way of meeting the increasing demand."

However, not everyone agrees that this is a practical possibility.

Dr Harry Griffin, from the Roslin Insitute - which pioneered the production of "transgenic" animals - said that few farmers, if any, would be willing to risk the premium they would have to pay to begin building a herd of these animals.

He said: "It's a bit of a non-starter. The kind of people who are demanding omega-3 rich foods are probably those who would not eat anything taken from a transgenic animal.

"There are other ways of achieving the same effect in livestock without the financial risk and difficulty."

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