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From Times Online

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GM mice produce healthy fatty acids

By Mark Henderson, Science Correspondent

A BATCH of genetically modified mice, engineered with a gene from microscopic worms, could lead to healthier meat, milk and eggs that help to prevent heart disease.

Scientists in the United States have successfully produced GM mice that make their own omega-3 oils — the beneficial fatty acids normally found in fish, that improve human cardiovascular health.

If the advance, by a team at Harvard Medical School in Boston, Massachusetts, can be repeated in farm animals, it could allow the breeding of livestock and chickens that produce omega-3 oils in their meat, milk and eggs.

Mammals cannot normally make their own omega-3 oils and rely instead on sources from fish. Many farm animals are fed fishmeal to ensure that their food products contain the fatty acids for human consumption, but this is expensive.

Genetic modification could provide a much cheaper and more effective means of producing healthier animal produce, the researchers said.

"Efforts have been made to incorporate omega-3 fatty acids into the food supply, because of the health benefits," Jing Kang, who led the research, said.

"Our findings suggest a new strategy for producing food that is enriched in omega-3 fatty acids from livestock carrying an omega-3 desaturase transgene. At present, farm animals are fed fishmeal and other marine products but this is time-consuming and costly and is limited by the quantity of the source.

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

In the study, details of which are published today in the journal *Nature*, Dr Kang's team took a gene known as fat-1 from the nematode worm *Caenorhabditis elegans* and added it to mice.

The GM animals then began to make omega-3 fatty acids in their bodies and the beneficial oils were also found in the milk of nursing mothers.

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