

GM goats raised to produce human breast milk

Goats are being genetically modified to produce the same milk as a human mother.

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Scientists hope the treatment will allow mothers who cannot breastfeed their children to give milk which contains as much goodness as breast milk, according to reports.

The move, by experts in Russia and Belarus, also involves of the development of medicines exploiting the antibiotic qualities of lactoferrin, a protein found in women's milk but which can be added to goat's milk through genetic modification.

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Dr Elena Sadchikova, who is leading the project, said the research followed trials on which male mice were implanted with human genes. "This led to surprising amounts of lactoferrin being produced in their female offspring - 160grams per litre of milk," she said.

Ninety female offspring from genetically modified male goats are now being raised on a farm outside Moscow in the hope they will produce milk with the same – or higher - amounts of lactoferrin than found naturally in human breast milk.

"The new programme will be aimed at producing milk with the human protein, as well as making medicines from it," said Dr Pyotr Vitsyaz, of the Belarussian National Academy of Sciences.

The scientists say that the medicines will be used to treat cancer and illnesses of the immune and digestive systems.

Similar projects are being carried out in Netherlands and in China. Dutch scientists have created a transgenic cow producing the protein, but in small quantities. Goats were chosen over cows for the Russian-Belarusian study because they produce more milk in proportion to their weight and are less dependent than cows on external factors such as temperature.

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