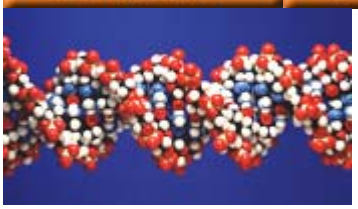

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Cloned pigs could produce healthier bacon

March 28, 2006
By Amy Norton

NEW YORK (Reuters Health) - In what sounds like a bacon lover's dream, scientists have engineered piglets to carry a heart-healthy form of fat normally found in fish.

However, it will likely be some time before the results appear on supermarket shelves, if

But the research, reported in the journal Nature Biotechnology, marks the first time that li been genetically altered to produce omega-3 fatty acids -- a type of fat, found largely in fi been linked to lower heart disease risk.

Meat normally contains only a small amount of omega-3 fats and much higher levels of o acids. Research suggests that diets with a high ratio of omega-6 fats to omega-3s -- as ir "Western" diet -- may raise the risk of heart disease, diabetes and other ills.

Oily fish, such as tuna and salmon, are the best dietary sources of omega-3 fatty acids, b people eat don't eat much fish. Fish can be expensive to eat regularly and people often ju the taste, noted Dr. Jing X. Kang, a co-author of the new study based at Harvard Medical Massachusetts General Hospital in Boston.

So Kang and colleagues at the University of Missouri-Columbia and University of Pittsbur clone piglets capable of turning some of their own omega-6 stores into omega-3 fats.

Pigs and other mammals normally lack an enzyme, called omega-3 fatty acid desaturase converts omega-6 fats into omega-3 fats.

To change that, the scientists used a gene for the enzyme, dubbed fat-1, which was take roundworm and modified. The gene was inserted into pig fetal cells, and the researchers transferred the nuclei of these cells into pig egg cells to generate embryos carrying the fa These embryos were clones of the fetal cell "donors."

The embryos were implanted into sows, which led to 10 live births. Six of these piglets ex fat-1 gene and omega-3 levels were three times higher than normal. Omega-6 fats, on th hand, were about one-quarter lower than normal.

Still, the animals' omega-3 levels were on balance "not very high," Kang told Reuters Hea next goal will be to boost concentrations of the fatty acid.

Getting approval for the genetically altered pork from federal regulators will also be a hur said.

He acknowledged the concern among some consumers about the safety and environmer genetically modified foods. But he added that since the animals will be altered to carry a h nutrient, the high-tech pork might not be a tough sell -- at least in the U.S.

"I'm optimistic about the general public accepting this," Kang said.

The public may at least have ample opportunity to accept or reject foods engineered to b
3 fats. Kang and his colleagues are planning on doing the same genetic tinkering with co
chickens.

SOURCE: Nature Biotechnology, online March 27, 2006.