Mice bred to produce omega-3 fatty acids

By Karla GaleLast Updated: 2004-02-06 14:57:38 -0400 (Reuters Health)

NEW YORK (Reuters Health) - Genetically engineered mice have been made to produce hig heart-healthy omega-3 fatty acids in their tissues and organs, according to a brief commu science journal Nature.

Adapting this technology to livestock could mean meat, milk and eggs enriched with omeg acids, the authors suggest.

Mammals are unable to produce omega-3 fatty acids because they lack the enzyme that c omega-6 to omega-3 fatty acids, Dr. Jing X. Kang and colleagues at Harvard Medical Scho report. The researchers transferred the fat-1 gene, which encodes the necessary enzyme, raised them on a diet high in omega-6 and lacking omega-3 fatty acids.

In regular mice raised on the same diet, tissue polyunsaturated fatty acids consist primaril and arachidonic acids, both omega-6 fatty acids. In contrast, the engineered mice produce mix of omega-6 to omega-3 fatty acids in muscle, milk, and other tested organs, the repo

The animals appear to be normal and healthy.

Kang's team is now attempting to cross fat-1-producing animals with obese mice that deve "Then we can see if introducing this gene into this model can change the disease process c development," Kang told Reuters Health.

In fact, since his group's report appeared online two days ago, he said, he has been inund requests for the animals by other research groups wanting to test the effects of omega-3 f animals the simulate other human diseases.

Government regulations will probably delay efforts to bioengineer livestock to produce mea consumption, Kang said, but it may still provide a more cost-effective way of enriching far feed with omega-3 fatty acids than the current use of fishmeal and other marine products.