

Health**Calcium carrots 'may benefit health'**

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A genetically-modified carrot that provides extra calcium has been developed by scientists.

Researchers hope it will be the first in a new generation of calcium-enhanced fruits and vegetables. Adding them to a normal diet could help prevent conditions such as the brittle bone disease osteoporosis, it is claimed.

Someone eating the modified carrot absorbs 41% more calcium than can be obtained from a regular carrot. Although healthy in other ways, most plant foods are not particularly good providers of calcium, which is essential for strong bones and teeth.

Dairy products are the main dietary source of the mineral but do not suit everyone. Too much milk and cheese may also lead to excessive levels of saturated fat and increase the risk of heart disease.

Dr Jay Morris, from the Baylor College of Medicine in Houston, Texas, who led the carrot engineers, said: "The primary goal was to increase the calcium in fruit and vegetables to benefit human health and nutrition."

The new carrot has a gene altered to improve the transport of calcium across plant cell membranes. As a result, the calcium in the carrot is made more available. The researchers studied the effects of the carrot on a group of 30 men and women.

Half were given the modified carrot, called sCAX1, and half normal carrots. For the second week of the study, the groups swapped carrots, so that both tried the modified version at different times. Calcium absorption was measured by testing urine samples.

Both the men and women absorbed significantly higher amounts of calcium from the modified carrots.

Since the daily requirement of calcium is 1,000 milligrams, the new carrot would not provide an adequate source on its own. A 100 gram serving of the GM carrots provides about 60 milligrams of calcium, 42% of which is absorbable. But a diet containing many vegetables and fruits engineered the same way could become closer to meeting the daily calcium requirement, said Dr Morris.

Professor Kendal Hirschi, another member of the Baylor College team, warned that the science was still at an early stage. "These carrots were grown in carefully monitored and controlled environments," he said. "Much more research needs to be conducted before this would be available to consumers."

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