

Study favours dairy calcium over fortification for bone boost

By Neil Merrett, 30-Apr-2009

New industry-funded research suggests that calcium from dairy products can help ensure stronger bones that when derived from fortified, non-milk based goods.

Researchers from Purdue University said that, over ten weeks, rats fed on a diet of non-fat dry milk products had denser, stronger and longer bones that in respondents reared on supplements like calcium carbonate.

The study, which was funded by the National Dairy Council and will be published in the August edition of the *Journal of Bone and Mineral Research*, will support wider industry efforts to back links between milk-based product consumption and bone health.

Researchers did not identify the cause for the recorded improvements of dairy calcium to any specific factor and suggested further research may be needed in identifying where potential benefits may be coming from.

Dairy push

Over the last few years, the dairy industry has moved to promote its products as being beneficial to a healthy diet for a variety of areas including heart and dental health.

While the general health messages emanating from the dairy industry have been supported by health organisations, dieticians continue to stress that moderate consumption of a balanced diet was the best option to ensure wellbeing.

Calcium variance

Professor Connie Weaver, head of Purdue University's food and nutrition department, claims the study is the first of its kind to directly compare calcium properties derived from supplements and milk.

"A lot of companies say, 'If you don't drink milk, then take our calcium pills or calcium-fortified food,'" she stated.



"There's been no study designed properly to compare bone growth from supplements and milk or dairy to see if it has the same effect."

According to the researchers, in consumers aged between nine and 18 years of age, an estimated 1,300 mg of calcium is recommended to be consumed each day as a means to maintaining 'optimal bone health'.

Weaver suggested that in dairy terms, this intake amounted to 4 cups of milk or yoghurt. However, she claimed that after nine years of age, the gap between actual and recommended calcium intake had been found to widen.

Methodology

In a bid to test potential differences between supplement and dairy derived calcium sources, the Purdue research team tested 300 rats that were all fed on the so called optimum calcium intake over a ten week period.

Of this group, half were supplied calcium through dairy intake and the other 150 were given calcium carbonate, said the researchers.

After the initial ten-week period, 50 rats were taken from each of the two groups to measure their bones for density, strength, length and weight.

According to the findings, there was a positive correlation for rats fed on dairy and their bone properties, with measurements up to eight per cent higher than those of the supplement group in some cases.

Additional testing by the researchers looked at the impact of consuming dairy as a calcium source before periods of inadequate intake, using the remaining rats over another ten-week period.

These subjects were again split in half, with one group receiving adequate calcium in carbonate or milk form and the others with a mix of the two.

"This is comparable to humans who, during their early growth, drink a lot of milk to the age of 9 to 11, or maybe even adolescence, but then get only half as much milk calcium as they need after that," Weaver claimed. "Some take calcium supplements, but few adults get adequate calcium."



Source

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"Dairy vs. Calcium Carbonate in Promoting Peak Bone Mass and Bone Maintenance During Subsequent Calcium Deficiency"

Authors: C Weaver, E. Janle, B. Martin et al.

