

Berry extracts may ease age-related mental decline: Study

By Stephen Daniells, 12-Dec-2008

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Old lab rats fed a diet supplemented with a compound from berries and grapes called pterostilbene performed better in mental challenges than their un-supplemented counterparts, says a new study.

The results indicated that in aging rats, pterostilbene was effective in reversing the decline in cognitive function that occurs with naturally with age, and that precedes diseases such as Alzheimer's.

The improvements in the working memory of the animals was associated with pterostilbene levels in the hippocampus region of the brain, said the researchers from the Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University in Boston, and the ARS Natural Products Utilization Research Laboratory in Oxford, Miss..

The study, published in the *Journal of Agricultural and Food Chemistry*, adds to the growing body of science supporting intakes of berries and grapes to potential health benefits that has filtered through to consumers and boosted sales of berries and foods formulated with them.

Study details

The researchers, led by Barbara Shukitt-Hale, performed two studies. The first involved screening seven different stilbene compounds in cell cultures. This led to identification of pterostilbene as the most effective at preventing oxidative stress.

The second study involved dividing aged rats into three groups, and feeding one a control diet or the control diet adjusted to include high or low concentrations of pterostilbene. Shukitt-Hale and her co-workers report that, in ageing rats, the compound was associated with a reverse in cognitive decline and an improvement in the working memory of the animals.

Spaced out berries

The same researchers reported previously that extracts from blueberries and strawberries could protect against the oxidative stress behind aging, and could even protect astronauts from dangerous galactic radiation.

The study, partly funded by NASA and published in the journal *Neurobiology and Aging* (doi: 10.1016/j.neurobiolaging.2006.05.031), reported that rats fed a diet supplemented with either strawberry or blueberry extracts for eight weeks before exposure to the radiation were protected from some of the reductions in brain function.

And interestingly, the high-energy and charge particles found in the radiation are also found outside the Earth's magnetic field, suggesting, said the researchers, that astronauts on a manned-mission to Mars may also benefit from daily berry supplements.

They reported that the compounds in blueberries and strawberries appeared to act in different ways. *"Perhaps, the polyphenolic compounds in blueberries are working mainly in the striatum, while those in strawberries are primarily affecting the hippocampus. While these results are interesting, more testing needs to be done to confirm this suggestion,"* they said.

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"Berry Fruit Supplementation and the Aging Brain"
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