LLU Shows Antioxidants in Pecans May Contribute to Heart Health & Disease Prevention

LOMA LINDA, Calif., Feb. 1, 2011 /PRNewswire/ -- A new research study from Loma Linda University (LLU) demonstrates that naturally occurring antioxidants in pecans may help contribute to heart health and disease prevention; the results are published in the January 2011 issue of The Journal of Nutrition.

Pecans contain different forms of the antioxidant vitamin E—known as tocopherols, plus numerous phenolic substances, many of them with antioxidant abilities. The nuts are especially rich in one form of vitamin E called gamma-tocopherols. The findings illustrate that after eating pecans, gamma-tocopherol levels in the body doubled and unhealthy oxidation of LDL (bad) cholesterol in the blood decreased by as much as 33 percent. Oxidized LDLs may further contribute to inflammation in the arteries and place people at greater risk of cardiovascular problems.

"Our tests show that eating pecans increases the amount of healthy antioxidants in the body," says LLU researcher Ella Haddad, DrPH, associate professor in the School of Public Health department of nutrition. "This protective effect is important in helping to prevent development of various diseases such as cancer and heart disease."

These findings are from a research project designed to further evaluate the health benefits of pecans, according to Dr. Haddad. She analyzed biomarkers in blood and urine samples from study participants (a total of 16 men and women between the ages 23 and 44) who ate a sequence of three diets composed of whole pecans, pecans blended with water, or a control meal of equivalent nutrient composition. The pecan meals contained about three ounces of the nut. Samples were taken prior to meals and at intervals up to 24 hours after eating.

Following the test meals composed of whole pecans and blended pecans, researchers found that amounts of gamma-tocopherols (vitamin E) in the body doubled eight hours after both meals, and oxygen radical absorbance capabilities (ORAC—a scientific method for measuring antioxidant power in the blood) increased 12 and 10 percent respectively two hours after the meals. In addition, following the whole-pecan meal, oxidized LDL cholesterol decreased by 30 percent (after 2 hours), 33 percent (after 3 hours), and 26 percent (after 8 hours).

"This study is another piece of evidence that pecans are a healthy food," says Dr. Haddad. "Previous research has shown that pecans contain antioxidant factors. Our study shows these antioxidants are indeed absorbed in the body and provide a protective effect against diseases."

Research from Loma Linda University published earlier in the Journal of Nutrition showed that a pecan-enriched diet lowered levels of LDL cholesterol by 16.5 percent—more than twice the American Heart Association's Step I diet, which was used as the control diet in that study. Similarly, the pecan-enriched diet lowered total cholesterol levels by 11.3 percent (also twice as much as the Step I diet).

Loma Linda University is a health science university with more than 4,000 students in eight schools: Allied Health, Dentistry, Medicine, Nursing, Pharmacy, Public Health, Religion, and Science & Technology. The campus is located about 60 miles east of Los Angeles.

The School of Public Health's department of nutrition has conducted many controlled studies on the health effects of nut consumption since the early 1990s. In 1993, the New England Journal of Medicine published Loma Linda University's groundbreaking study establishing for the first time the link between nut consumption and favorable blood lipid changes.

For more information about the department's current and previous studies on nuts, visit www.nutstudies.org. In addition to conducting research, the department offers coursework leading to a master's degree and a doctoral degree in public health nutrition.

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