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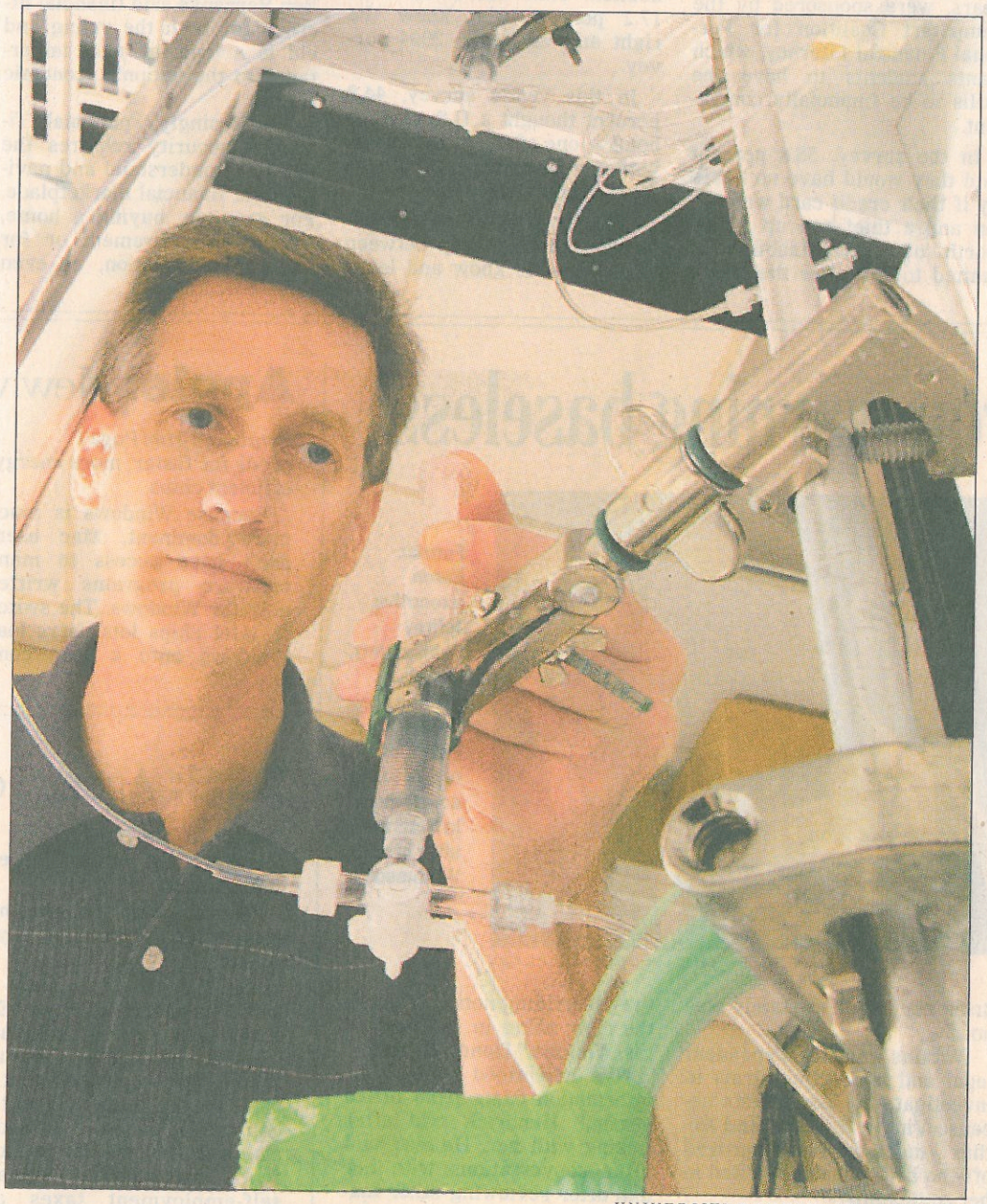
BUSINESS

Compound interest



UNIVERSITY OF NEBRASKA-LINCOLN

Tim Carr, a University of Nebraska-Lincoln nutrition scientist, has developed a beef tallow and soybean compound that shows promise in the fight against cholesterol, a waxy substance that can contribute to heart disease. Carr works in UNL's Institute of Agriculture and Natural Resources.

Breakthrough near on clogged arteries

By Joe Ruff
WORLD-HERALD STAFF WRITER

Combining ingredients found in beef tallow and soybeans significantly lowered cholesterol in hamsters and might do the same in people, officials at the University of Nebraska-Lincoln said this week.

Human studies on the findings are scheduled to begin in mid-May.

Tim Carr, a nutrition scientist in the university's Institute of Agriculture and Natural Resources, has been working for more than 20 years on the effects of fats and oils on cholesterol, a waxy substance in the bloodstream that can contribute to heart disease.

Carr said he developed this particular compound over the past four years. The university is working on patenting the product.

The school has signed an agreement authorizing further study, with $500,000 in funding from Beef Products Inc., based in Dakota Dunes, S.D. BPI is the world's leading manufacturer of boneless lean beef.

A product created at UNL may one day help lower cholesterol.

If the clinical study shows the product is effective, BPI could commercialize it as a food additive, under the agreement with the university.

The study will be conducted through MDS Pharma Services in Lincoln. Initial results are expected by fall.

The compound is a flavorless and odorless powder, Carr said. Potentially, it could be used as an additive in a wide range of products, including orange juice, granola bars, pasta and ground beef, he said.

To create the compound, Carr combined sterols, which are found in soybeans and other plants and are known to reduce cholesterol, and stearic acid, a saturated fat from tallow, or beef fat, which also lowers cholesterol.

Plant sterol and plant stanol esters help lower cholesterol, and have been used in numerous commercial products, including Benecol margarine-like spreads and Nature Valley Healthy Heart Chewy Granola Bars, Carr said.

McNeil Nutritionals, which is owned by Johnson & Johnson, says one tablespoon of its Benecol spread contains .85 grams of plant stanols, and two or three helpings a day can help lower cholesterol.

The new compound appears to be even more effective,

UNL find: Clinical study next

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Carr said.

In three studies on hamsters, which respond to cholesterol in ways similar to humans, the new compound lowered the most harmful cholesterol, low-density lipoprotein, by as much as 79 percent, Carr said. That compared with about a 10 percent reduction with commercial plant sterol additives, he said.

The hamster studies, which were done in 2004 and 2005, have not been published in a scientific journal because of the patent process, Carr said. They will be published within the year, he said.

A spokesman for the American Heart Association said more research is necessary on the effects of plant sterols and other micronutrients on cholesterol and cardiovascular disease.

Until more information is gathered and fully understood, a balanced and varied diet of fruits, vegetables and whole-grain products is recommended, said Lannie Cox, a spokesman for the association in its St. Louis offices.

Use of foods containing plant sterols also should be reserved for adults requiring lower total and low-density lipoprotein cholesterol levels because they are at high risk of — or have had — a heart attack, Cox said.

The company cooperating with the university on its clinical study, Beef Products Inc., is a closely held firm whose principal shareholders are Eldon and Regina Roth. BPI employs more than 1,300 people at production facilities in Dakota Dunes; South Sioux City, Neb.; Waterloo, Iowa; Finney County, Kan.; and Amarillo, Texas.

BPI's corporate administrator, Rich Jochum, said if the studies are successful, the company probably would make some foods using the compound. It also would market the product to other companies for use in breakfast cereals, baked goods, shortening and edible oils, Jochum said.

"With this compound, the potential certainly exists for consumers to lower their bad cholesterol counts by eating beef," Jochum said.