

Plant oil may hold key to reducing obesity-related medical issues, researcher finds

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Sterculic oil is extracted from seeds of the *Sterculia foetida* tree. The oil contains unique fatty acids known to suppress a bodily enzyme associated with insulin resistance, which could indirectly help with reducing belly fat. Credit: Keith Montgomery/University of Missouri

Scientists have known for years that belly fat leads to serious medical problems, including diabetes, cardiovascular disease, hypertension and stroke. Now, a University of Missouri researcher has found a plant oil that may be able to reduce belly fat in humans.

In his latest study, James Perfield, assistant professor of food science in the College of Agriculture, Food and Natural Resources (CAFNR), found that a specific plant oil, known as sterculic oil, may be a key in the fight against obesity. Sterculic oil is extracted from seeds of the *Sterculia foetida* tree. The oil contains unique [fatty acids](#) known to suppress a

bodily enzyme associated with insulin resistance, which could indirectly help with reducing belly fat. Previous studies show that reducing the enzyme in rodents improves their metabolic profile, improving insulin sensitivity and reducing chances for later [chronic diseases](#).

"This research paves the way for potential use in humans," Perfield said. "Reducing belly fat is a key to reducing the incidence of serious disease, and this oil could have a future as a nutritional supplement."

To study the compound, Perfield added sterulic oil to the feed of rats that are genetically disposed to have a high amount of abdominal fat. He tested the rats over the course of 13 weeks and found that rats given a diet supplemented with sterulic oil had less abdominal fat and a decreased likelihood of developing diabetes. Perfield gave the rats a relatively small dose of oil each day, comparable to giving three grams to a 250-pound human.

[Belly fat](#), clinically known as intra-abdominal fat, is between internal organs and the torso. Intra-abdominal fat is composed of "adipose" deposits. Unusually high adipose levels trigger health problems that may induce [insulin resistance](#), which causes the body to have difficulty maintaining blood sugar levels. Initially, the body is able to compensate by producing more insulin, but eventually the [pancreas](#) is unable to produce enough insulin, thus increasing excess sugar in the bloodstream and setting the stage for diabetes, [cardiovascular disease](#) and other obesity-associated health disorders.

Perfield plans to conduct further studies of sterulic oil in hopes of developing a natural nutritional supplement. He says future research will focus on the effectiveness of the oil in humans, as well as any side effects.

"The oil from this seed is very similar to other vegetable oils," Perfield

said. "It shares many of the same chemical properties, which could allow it to be easily substituted with other oils. While eating the seed directly may be possible, it's easier to control the amount of oil if you extract it directly."

Provided by University of Missouri-Columbia

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