



OARDC News

[Recent News](#) - [Archive](#) - [Search News](#)

03/15/2005

Study: Fats in Avocados Help Body Absorb Carotenoids

COLUMBUS, Ohio -- Guacamole lovers, take note: The fat-rich avocado just might be good for you. More evidence has mounted to show that a little fat may go a long way in helping your body absorb some key nutrients.

In a study published this month in the Journal of Nutrition, Ohio State University researchers reported that avocados, rich in monounsaturated and omega-3 fatty acids, can increase -- by as much as 15 times -- absorption of nutrients that protect against heart disease, cancer and blindness.

"People are being encouraged to eat more vegetables, many of which are very high in carotenoids and extremely low in fat," said Steven Schwartz, professor of food science and technology in Ohio State University's College of Food, Agricultural, and Environmental Sciences and one of the authors of the study. "But we're finding it takes at least a little fat to help the body increase absorption of many of those carotenoids."

In previous studies, Schwartz and other researchers found that a little fat added to salads increased absorption of the carotenoids, and that carotenoids in salads were not well absorbed when consumed with no-fat salad dressings.

Schwartz, a researcher with the Ohio Agricultural Research and Development Center (OARDC), worked on the study with post-doctoral research associate Nuray Unlu. They focused on avocado's effect on the body's absorption of four carotenoids: alpha-carotene, beta-carotene, lutein and lycopene. In one phase of the study, 11 healthy adults were served salsa with and without a mashed medium-sized avocado (150 grams, which equals about two-thirds of a cup). That amount of avocado was found to contain about 24 grams of fat.

In another part of the study, participants were served a salad of romaine lettuce, carrots and spinach that contained either a whole medium-sized avocado, a half avocado, no avocado, or 24 grams (about 5 teaspoons) of pure avocado oil.

The subjects stayed at Ohio State's General Clinical Research Center for 10 hours so the rest of their diet for the day could be controlled and their blood measured for carotenoid levels over 9.5 hours following the consumption of the test meals.

The researchers found that participants who consumed a whole avocado with their salsa absorbed nearly 4.5 more times lycopene, which has been linked to protection against prostate cancer, and 2.5 times more beta-carotene, which, along with alpha-carotene, helps protect against cancer and heart disease.

Those who had a whole avocado with their salad absorbed five times more lutein, which helps protect against macular degeneration, the leading cause of blindness in the elderly. They also absorbed seven times more alpha-carotene and 15 times more beta-carotene. The avocado oil produced results similar to those found with the whole avocado.

"In our study, adding half of an avocado to the salad was nearly as effective as the whole avocado in

increasing carotenoid absorption," said Schwartz. "It's still hard to say just how much added fat is optimal to get the most out of the carotenoids in vegetables in the diet, but it appears that at least some fat is extremely helpful."

The benefits do come at a price. While containing 10 grams of fiber, a medium whole avocado also contains about 250 calories, while 24 grams of pure avocado oil contains 212 calories. But either could be worked into an overall dietary plan without causing weight gain by reducing calorie consumption from less nutrient-dense foods, Schwartz said.

The study, "Carotenoid Absorption from Salad and Salsa by Humans Is Enhanced by the Addition of Avocado or Avocado Oil," was funded by the California Avocado Commission. None of the authors have a financial interest in the California Avocado Commission or other corporations involved in avocado production and marketing.

Writer:

Martha Filipic
filipic.3@osu.edu
(614) 292-9833

Source:

Steve Schwartz, Food Science and Technology
schwartz.177@osu.edu
(614) 292-2934

Nuray Unlu, Food Science and Technology
unlu.1@osu.edu
(614) 292-2798

[Recent News](#) - [Archive](#) - [Search News](#)

