Study suggests wild blueberries help burn fat

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A cup of wild blueberries a day may keep low energy at bay. The berries have long been hailed as a superfood. While they're known for a plethora of health benefits, new research from California Polytechnic State University Humboldt proves this superfruit could help burn fat during exercise.

The study, recently published in the journal *Nutrients* and the first to examine wild blueberries' fat-burning effects during exercise in non-elite athletes, suggests that wild blueberries may help accelerate fat oxidation—the process of breaking down fatty acids or burning fats for energy.

The study included 11 healthy aerobically trained males. Each was instructed to follow a diet that included consuming 25 grams of freeze-dried wild blueberries (equivalent to 1 cup of raw fruit) daily for two weeks. Participants exercised on a bike for 40 minutes at Cal Poly Humboldt's Human Performance Lab. Researchers collected urine and blood before and after cycling, and blood samples every 10 minutes during the workout.

Results showed participants burned notably more fat after consuming wild blueberries. For example, fat oxidation rate rose by 19.7%, 43.2%, and 31.1% at 20, 30, and 40 min after cycling.

Overall, the research found that consuming roughly 1 cup of wild blueberries daily for two weeks increases the ability to use/burn fat during moderate-intensity exercise, like cycling.

While it accelerates fat burning, it also decreases the use of carbohydrates. Burning more fat while using less carbs is significant for athletes, explains Cal Poly Humboldt Kinesiology Professor Taylor Bloedon, the study's lead researcher.

"Increasing the use of fat can help performance, particularly in endurance activities as we have more fat stores to keep us going longer than we do carb stores," says Bloedon. "Saving stored carbs also helps when we need to increase our intensity, often towards the end of the race or training session, or when challenged by an opponent. At these higher intensities we cannot rely on fat to fuel us as fat cannot be used as a fuel

source for high-intensity activities."

While the research shows that eating wild blueberries burns fats, therefore benefiting endurance-based exercise, Bloedon points to another exciting finding.

"Adding a natural carb source, wild blueberries, increased fat oxidation during exercise. Typically, when people want to increase fat oxidation, they drastically decrease carb intake, forcing our body to adapt to use fat," Bloedon explains. "But, as research shows, cutting carbs may lead to negative health and performance outcomes."

While blueberries are hailed for their many nutrients, one compound—anthocyanins, compounds that give fruits and vegetables their blue, red, and purple colors—may be responsible for the increased fat oxidation. Wild blueberries are rich in anthocyanins; other anthocyanin-containing foods include elderberries, blackberries, raspberries, and black and red grapes.

The research was conducted at Cal Poly Humboldt with Dave Baston—former director of Cal Poly Humboldt's Core Lab; Kari Pilolla at Cal Poly San Luis Obispo; and Boe Burrus at Gonzaga University. Graduate students from both Humboldt and San Luis Obispo—Jessie Armendariz, Tommy Morgan,and Karli McCarthy—also participated in the study.

Bloedon, who previously investigated wild blueberries' ability to combat exercise-induced oxidative stress and inflammation, was inspired to conduct the study after attending the Berry Health Symposium.

There, she learned about novel research that found that berries burned fat even for sedentary people. Knowing that the quest to enhance fat oxidation during exercise is common, Pilolla and Bloedon collaborated

to see if similar results could be seen in non-elite, active people.

But it was also her background studying the berries, and her time spent in Maine—which produces 99% of America's blueberries—that fueled her passion to learn more about the superfruit.

"They have such a diverse and prolific profile of bioactive compounds due to their struggle to survive in the unique and harsh climate of Maine," Bloedon adds. "We benefit from their resiliency and the stress they endure."

Bloedon's wild blueberry research is just beginning. This spring, she will embark on another study that includes both males and females.

The research will "take a closer look at the impact of the wild blueberries at a higher exercise intensity that you would see during a race vs. training session," Bloedon says. "Women tend to have a greater ability to oxidize fat naturally so it will be interesting to see the results."

More information: Kari D. Pilolla et al, Effects of Wild Blueberries on Fat Oxidation Rates in Aerobically Trained Males, *Nutrients* (2023). DOI: 10.3390/nu15061339

Provided by California Polytechnic State University

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