



EATING MANGOS MAY IMPROVE AFTER-MEAL BLOOD SUGAR CONTROL AND IMPACT THE “FEELING TO EAT MORE” COMPARED TO WHITE BREAD

Effects of fresh vs dried mango consumption on satiety and postprandial glucose in healthy adults

Research shows healthy adults who eat a 100-calorie serving of either fresh or dried mangos vs. an isocaloric serving of white bread had significantly lower blood sugar levels between 30 and 90 minutes after the meal.

Additionally, participants felt that they could eat significantly less food following each mango meal, compared to the meal with white bread; a feeling that lasted for 30 minutes after eating dried mangos and 45 minutes after eating fresh mangos.

WHY IS THIS TOPIC IMPORTANT?

Obesity and type 2 diabetes prevalence continue to rise in the United States. Fruits are well accepted as a ‘high satiety food’, and as part of a balanced diet, may help lower the risk for overweight/obesity and type 2 diabetes. Fruits and vegetables also have fiber and bioactive compounds which have been shown to positively impact blood sugar control. There is an urgent need to encourage the consumption of fruits and vegetables to improve Americans’ health; **mango, a nutrient-dense fruit, may be part of the solution.**

STUDY APPROACH:

The study included 34 generally healthy, normal weight adults: 5 males and 29 females. Participants participated in three feeding interventions, once per week over a three-week period in a lab setting. Each week, participants either at a 100-calorie serving of white bread, 100-calorie serving of dried mango or a 100-calorie serving of fresh mango. On each lab visit, participants had blood drawn for blood sugar testing and were given a series of satiety questionnaires.

STUDY FINDINGS: MANGOS VS. WHITE BREAD

After-meal blood sugar control was better maintained with mangos vs. white bread



30-to-90 minutes after eating fresh or dried mango there was a significant decrease in blood sugar levels compared to white bread.

60-to-90 minutes after the fresh mango meal, there was a significant decrease in blood sugar levels compared to both dried mangos and white bread.



STUDY FINDINGS: MANGOS VS. WHITE BREAD



Participants' subjective feelings on 'How much [they] think [they] could eat right now' lasted longer when both fresh and dried mangos were eaten vs white bread

These feelings lasted for 30-minutes after eating dried mangos; and up to 45-minutes after eating fresh mangos.

Fresh Mango vs Dried Mango

15-to-90 minutes after eating the fresh mango meal, participants felt they could eat less food compared to when they ate the dried mango meal.

MORE ABOUT THE STUDY

Adults between the ages of 18–50 years old were included in the study. Participants were excluded from the study if they identified with one or more of the following criteria: a known chronic medical condition required that dietary supplement use, smoking, pregnancy, and allergy to the intervention foods provided (e.g., mango or gluten).

Participants completed a 24-h recall prior to each intervention to consider diets from the previous day that could influence the intervention results.

On each lab visit, participants measured their blood sugar prior to eating, then again, every 30 minutes up to 90 minutes after eating. Participants also completed a series of satiety questionnaires at the start of each lab visit and then again, every 15-minutes up to 90-minutes after eating. The questionnaire consisted of 5 questions related to satiety. Specifically, the questions were; "How hungry are you?", "How full are you?", "How strong is your desire to eat?", "How much do you think you could eat right now?", and "How thirsty are you?".

This study was relatively small and short-term. In the future, larger, longer-term, studies that include more blood sugar and satiety measured time points and satiety hormones would be beneficial to better understand the effects of the interventions on satiety, and help to build on the body of evidence on the health benefits of mango consumption.

The study's generalizability is limited by the number, health status, age and ethnic/cultural background of the participants.

Eating Mangos May Significantly Improve After-Meal Blood Sugar Control and Have a Greater Satiety Effect Compared to White Bread

For about 70 calories, a 3/4 cup serving of Mango provides:

More than 20 vitamins, minerals, antioxidants

7% of your daily Fiber Needs

+Bioactive Compounds

CULINARY CORNER

Food Combinations to Improve Satiety & Blood Glucose Control

Mangos' sweet profile elevates the flavor of oatmeal and results in a nutrient-dense meal. This perfect pairing also helps bulk up fiber intakes in the morning, a nutrient linked to improved satiety and better blood sugar control.



Mango Steel Cut Oatmeal

Ingredients

- 1 Cup Steel Cut Oats
- 1 Ripe Mango
- 1/2 Tsp Fine Sea Salt
- 2 Tbsp Coconut Sugar
- 4 Cups Water
- 1 Tbsp Coconut Oil or Butter
- 1 Tsp Vanilla Extract
- 1/4 Tsp Cardamom (Optional)
- Additional Fresh Mango and Almond Butter, For Serving

Instructions

1. Place oats, water, mango, coconut oil, salt, and cardamom (if desired) in a pot.
2. Stir to combine and bring to a boil.
3. Reduce heat to the lowest setting and simmer for about 22 minutes, stirring well every 5 minutes.
4. The oatmeal is done when it still looks somewhat soupy as it will continue to thicken as it cools.
5. Remove from heat and stir in coconut sugar (add more to taste if desired) and vanilla extract.
6. Portion into bowls and top with fresh mango plus a drizzle of almond butter.