MANGO & BLOOD SUGAR:
Glucose Stability, Insulin Sensitivity & Metabolic Regulation

Emerging evidence suggests fresh mango may influence glucose regulation and insulin, providing a foundation for investigating how mango may support steady, sustained energy.

Mango provides naturally occurring carbohydrates alongside fiber and bioactive compounds. Current research is exploring how these components may influence post-meal glucose, insulin response and longer-term metabolic regulation.

WHAT CURRENT RESEARCH SHOWS

The current evidence base examining mango and glucose control ranges from acute, single-serving studies to interventions lasting up to 24 weeks. Most studies have included healthy adults or adults with overweight/obesity.

*While further research is necessary for broader applicability, these findings contribute to the growing evidence linking mango consumption to glucose stability, insulin sensitivity & metabolic regulation.

SHORT-TERM: GLUCOSE & INSULIN RESPONSE

Fresh mango has shown favorable post-meal glucose and insulin responses, though findings vary by population

Acute studies provide an important first look at how the body responds to mango after eating:

Studies suggest fresh mango may produce **favorable post-meal glucose responses** compared with some refined carbohydrate controls.[1,2]

In a small study of postmenopausal women, mango produced **lower overall glucose and insulin responses** compared with a calorie- and carbohydrate-matched serving of white bread; insulin also returned toward baseline more quickly after mango.[2]

Evidence in adults with type 2 diabetes is more limited, highlighting the need to better understand whether post-meal effects differ by metabolic health status.[3]

LONGER-TERM: GLUCOSE REGULATION & INSULIN SENSITIVITY

Longer-term studies suggest regular mango consumption may improve glucose regulation and insulin sensitivity

Longer interventions suggest potentially **favorable effects beyond a single meal:**

4 WEEKS: 2 cups mango/day resulted in lower fasting insulin and HOMA-IR and improved disposition index compared with the control in adults with overweight/obesity and chronic low-grade inflammation.[4]

8 WEEKS: ~280 g mango/day was associated with a 10.5% reduction in 2-hour plasma glucose following an oral glucose tolerance test in adults with overweight/obesity.[5]

12 WEEKS: 100 kcal fresh mango/day reduced fasting glucose compared with baseline in adults with overweight/obesity; insulin remained unchanged with mango but increased with the low-fat cookie control.[6]

24 WEEKS: In adults with prediabetes, 2 cups mango/day was associated with lower fasting glucose, stable HbA1c and improved QUICKI, a measure of insulin sensitivity, compared with a granola-bar control.[7]

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FROM GLUCOSE & INSULIN TO SUSTAINED ENERGY

Future research can help clarify how these interconnected responses may contribute to steady, sustained energy:

Acute response
Glucose + insulin

Metabolic adaptation
Insulin sensitivity + glucose regulation

Functional outcomes
Fuel utilization + satiety + cognition

Potential benefit of mango
Steady / sustained energy

AREAS OF INTEREST FOR FUTURE RESEARCH

CONFIRM: Confirm emerging effects on insulin sensitivity and glucose regulation using controlled, appropriately powered studies.

STRENGTHEN: Build the evidence for post-meal glucose and insulin responses, including glucose variability and longer-term metabolic regulation.

INVESTIGATE: Explore fuel utilization, satiety and other metabolic mechanisms that may help explain mango's potential role in steady energy.

EXPAND: Extend research to populations at greater metabolic risk, including adults with prediabetes, overweight/obesity or multiple cardiometabolic risk factors.

CONNECT: Integrate glucose, insulin and related functional outcomes to understand how metabolic regulation may translate to fuel availability and steady, sustained energy.

THE RESEARCH OPPORTUNITY

Mango provides a promising model for investigating how a nutrient-dense whole fruit may influence glucose stability, insulin sensitivity and metabolic regulation. to steady, sustained energy.

How does mango influence glucose and insulin, both after a meal and over time, and could these effects contribute to steady, sustained energy?

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