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SUMMER 2025

NUTRITION BULLETIN

In this issue, we highlight newly published studies on how almonds may benefit gut health, along with brand-new professional resources on almonds and cardiometabolic health.

The Almond Board of California will be hosting a special symposium on cardiometabolic health at IUNS-ICN 2025 - we hope to see you in Paris.

RESEARCH SPOTLIGHT

A trio of new studies demonstrates how almonds are an important dietary inclusion in gut health. Almonds provide fibre, plant protein, unsaturated fats, and polyphenols to support the gut microbiome and its functionality.

Laura M. Beaver et al. **Beneficial changes in total cholesterol, LDL-C, biomarkers of intestinal inflammation, and vitamin E status in adults with metabolic syndrome consuming almonds as snack foods: a randomized controlled clinical trial.** *Nutrition Research,* Volume 139, 2025, Pages 50-65, ISSN 0271-5317, https://doi.org/10.1016/j.nutres.2025.04.011.

A new **study** led by scientists at Oregon State University (US) found that eating almonds daily led to improved markers of gut and cardiovascular health in adults with metabolic syndrome (MetS). After a 12-week clinical trial, blood tests indicated that participants who snacked on 57g of almonds daily experienced improved biomarkers of gut barrier function and intestinal inflammation, decreased total cholesterol and LDL-cholesterol, increased vitamin E, and a modest decrease in waist circumference. With an estimated 12–30% of adults globally affected by MetS, these findings suggest a simple dietary intervention of eating almonds could help slow the progression of chronic diseases such as cardiovascular disease and stroke. The study also highlights the role of inflammation and oxidative stress in gut imbalance and "leaky gut syndrome," both of which are linked to MetS.

Tahiri M and Gilbert JA. **Examining the potential prebiotic effect of almonds,** *Journal of Applied Microbiology,* Volume 136, Issue 4, April 2025, lxaf078, **https://doi.org/10.1093/jambio/lxaf078.**

This **review** paper examined evidence from in vitro studies, clinical trials, and systematic reviews to determine the prebiotic effect of almond consumption. The paper found that almonds improve gut microbiota diversity and composition, particularly increasing beneficial bacteria (such as *Bifidobacterium* and *Roseburia*) and promote the production of short-chain fatty acids (SCFAs), such as butyrate. Also, the study authors noted the presence of polyphenols contributes to almonds' antioxidative and antimicrobial properties, which further support the health of the gut microbiome.

These published findings help solidify almonds' role as a potential prebiotic food to improve cardiovascular health.

Singar S, Kadyan S, Patoine C, Park G, Arjmandi B, Nagpal R. **The Effects of Almond Consumption on Cardiovascular Health and Gut Microbiome: A Comprehensive Review.** *Nutrients.* 2024 Jun 20;16(12):1964. doi: 10.3390/nu16121964. PMID: 38931317; PMCID: PMC11207051.

This **comprehensive review** investigated the effects of almond consumption on cardiovascular disease (CVD) risk factors and gut health. Findings indicate that almonds may help:

- **lower LDL-cholesterol**
- **enhance HDL-cholesterol functionality**
- **improve glycaemic control**
- **reduce blood pressure**
- **mitigate chronic inflammation**

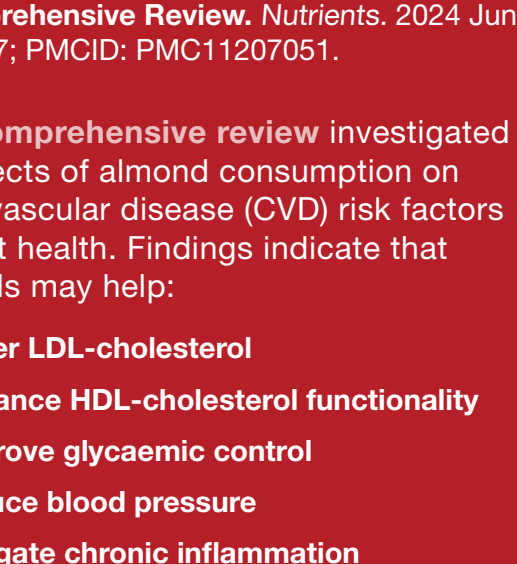
Additionally, almonds appear to support healthier body composition by decreasing body fat percentage and central adiposity, while enhancing satiety to aid in weight management. The review also explores the emerging gut–heart axis, highlighting how almonds may beneficially modulate the gut microbiome. Collectively, these effects underscore the anti-inflammatory and cardioprotective properties of almonds, reinforcing their relevance in dietary guidelines and public health strategies aimed at reducing CVD risk.

These new studies corroborate gut microbiome findings identified in the almond cardiometabolic **consensus paper**[1] which concluded regular almond consumption may positively alter the gut microbiome by promoting the growth of healthy gut bacteria and increasing production of SCFAs including butyrate.

LEARN MORE ABOUT CARDIOMETABOLIC HEALTH BENEFITS – IN PERSON OR ONLINE

The Almond Board of California convened a global panel of scientists and physicians to review the body of research on almonds. The roundtable resulted in a newly published landmark consensus paper. The experts agreed that daily almond consumption:

- Reduces LDL-cholesterol (5.1mg or ~5 average reduction in pooled results).
- Reduces diastolic blood pressure in small but significant amounts (0.17-1.3 mmHg reduction in pooled results).
- Does not result in weight gain; higher amounts (at least 50g) may be associated with weight loss.
- Aids gut health by increasing beneficial gut bacteria, which may improve metabolic health.
- Can reduce fasting blood glucose and HbA1C in some groups of people.



IUNS
INTERNATIONAL UNION OF NUTRITIONAL SCIENCES

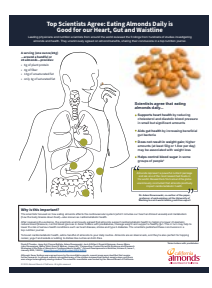
We would like to invite you to the IUNS-ICN 2025 Almond Board of California sponsored symposium featuring top cardiometabolic health research scientists on **Tuesday, 26 August, from 16:45 – 18:15.**

From Evidence to Action: Expert Consensus on Cardiometabolic Health Strategies

This expert-led session will bridge decades of research with practical strategies to support cardiometabolic health and public health. Drawing from a comprehensive body of research and expert consensus, attendees will learn how almonds, as part of a healthy diet, promote weight management, heart health, and beneficial gut bacteria.

If you are not attending IUNS-ICN, we've got you covered with new online resources including:

- An **infographic** that showcases how eating almonds daily improves cardiometabolic measures.
- A **deep dive** summary of the consensus paper methodology, findings and public health impact - for Health Professional use.



ALMONDS NUTRIENT OF INTEREST: VITAL VITAMIN E

Antioxidants may be the hardest working biological substance for their ability to neutralize harmful free radicals in the body, which prevents or delays cellular damage caused by oxidative stress. Vitamin E is a powerful antioxidant that reduces oxidative stress across the entire body, including protecting the skin from multiple environmental stressors. Vitamin E also aids in heart health thanks to its role in vasodilation and inhibition of platelet aggregation. A 30-gram serving of almonds contains a whopping 60% of the daily NRV – a huge health helper in a small handful.

1. Paula R Trumbo, Jamy Ard, France Bellisle, Adam Drewnowski, Jack A Gilbert, Ronald Kleinman, Anoop Misra, John Sievenpiper, Maha Tahiri, Karol E Watson, James Hill, Perspective: Current Scientific Evidence and Research Strategies in the Role of Almonds in Cardiometabolic Health, *Current Developments in Nutrition*, Volume 9, Issue 1,2025,104516, **https://doi.org/10.1016/j.cdnut.2024.104516**.

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