

WINTER 2022



NUTRITION BULLETIN IN THE LATEST EDITION **OF THE ALMOND BOARD NUTRITION BULLETIN:**

Welcome to 2022! The Almond Board has got you covered to help meet your clients' New Year's resolutions of healthy eating. This issue shares a new Almond Academy resource to support your social media activity and a patient tip sheet about plantbased eating. Read about a new nutrient profiling tool from Tufts University (USA) that ranks almonds high on their list of foods to recommend and the latest almond research study that explains how a small snack swap can be an empowering step in eating well. Here's to a Healthy New Year!

RESEARCH UPDATE

Brown R, Ware L, Gray AR, Chisholm A, Tey SL. Snacking on Almonds Lowers **Glycaemia and Energy Intake Compared to** a Popular High-Carbohydrate Snack Food: An Acute Randomised Crossover Study. Int J Environ Res Public Health. 2021 Oct 19;18(20):10989. doi: 10.3390/ ijerph182010989

This new study found that a snack of almonds vs. a high-carbohydrate snack food resulted in a lower blood glucose response and fewer calories consumed over the course of the day. This study was a randomized crossover design of 100 New Zealand adults who ate either at least 42.5g of unroasted almonds or a calorie-matched sweet biscuit snack (the most popular usual snack according to a survey) with a washout period between each treatment. Both snacks accounted for 10% of total calorie intake, so in some cases, the amount of snack consumed was higher.



On the test day, participants ate a standardized breakfast. Two hours later, they ate their assigned snack food. Blood glucose and appetite ratings were measured at baseline and at 15 or 30-minute intervals after they finished eating. Two hours after the snack, lunch was offered to participants, who ate as much or as little as desired and consumption was recorded. Participants then recorded their food intake for the remainder of the day.

Results showed that the blood sugar response was lower among participants after the almond snack versus the biscuit snack. Appetite ratings did not differ between groups except for the appetite score at 90 minutes, which was lower for the biscuits compared to the almonds (which was unexpected since the almond snack resulted in a more stable blood sugar response.)

There were no differences in the amount of calories eaten at lunch after the almond or biscuit snacks. However, based on the participants' food intake records, those who ate the almond snack reported eating ~150 calories less (on average) over the course of the day. If sustained, this calorie deficit could theoretically result in approximately half a kilogram of weight loss per month.

These results are consistent with findings from a previous study where a mid-morning snack of almonds (42g), compared to no snack, helped control appetite and resulted in fewer calories eaten at lunch and dinner. Results of this previous study suggest that rather than skipping out on a snack, eating almonds as a mid-morning snack may help curb hunger.

STUDY AT-A-GLANCE: THE STUDY

This study was an acute randomized crossover design involving two treatments comprised of 10% of energy from either raw almonds or sweet biscuits. Participants were randomly allocated to the intervention so that they received the two treatments in balanced order. There was at least a one-week washout between treatments which was expected to be sufficient for key outcomes to return to pre-intervention levels. 100 participants (75 women and 25 men; average BMI of 23.1 kg/ m²) completed the study. The median age was 29 years with a range from 18 to 65 years.



On the test day, participants consumed a standardized breakfast. Two hours later, they consumed the assigned snack food. Blood glucose and appetite ratings were measured at baseline and at 15 or 30-minute intervals after consumption. Two hours after the snack, lunch was offered to participants, who ate as much or as little as desired and consumption was recorded. Participants also recorded food intake for the remainder of the day.

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- The blood sugar response was lower after the almond snack than the biscuit snack. The mean (95% CI) difference in incremental blood glucose area under the curve was 53 mmol/L.min (p<0.001).
- Appetite ratings did not differ between groups except for the appetite score at 90 minutes, which was lower for the biscuits compared to the almonds. The mean satiety quotient for hunger when using the Atwater factors for energy was statistically significantly lower for the almonds compared to biscuits (p=0.037). This difference was no longer statistically significant when digestible energy was used in the equation.
- There were no differences in calories consumed at lunch between snack groups. However, those in the almond group reported consuming ~150 calories less (on average) over the course of the day compared to the biscuit snack group. There were no statistically significant differences in other nutrients, although there was a non-statistically significant tendency for lower absolute intakes of saturated fat (p=0.056) and sugar (p=0.053) in the almond treatment compared to the biscuit treatment.

LIMITATIONS

The acute nature of the study provides useful information over the short term, but results will not necessarily translate into long-term behavior. Due to the different nutrient composition of the snack foods, energy density was not controlled. Monitoring blood glucose concentrations over longer periods may have been more informative since research has shown that whole almonds reduced glycemia acutely and the effects persisted after a second meal. Finally, the participants were of normal weight or overweight, so results can not be extrapolated to other populations.

KEY TAKE-AWAY

Eating almonds as a mid-morning snack, instead of a usual biscuit snack with equal calories, improved participants' post-snack blood sugar responses and reduced energy intake over the remainder of the day. Replacing less healthy snacks with almonds may help support weight management efforts and help maintain healthy blood glucose levels.



RESEARCH SPOTLIGHT:

The Food Compass: New food profiling system that includes both nutrition and health outcomes identifies almonds as a top food

Mozaffarian D, El-Abbadi NH, O'Hearn M, Erndt-Marino J, Masters WA, Jaquess P, Shi P, Blumberg JB, Micha R. Food Compass is a nutrient profiling system using expanded characteristics for assessing healthfulness of foods. Nat Food 2, 809-818 (2021). https://doi.

Food Compass Food Score Examples

The new Food Compass nutrient profiling system, developed by researchers at the Friedman School of Nutrition Science and Policy at Tufts University, incorporates cutting-edge science on how characteristics of more than 8,000 foods positively or negatively impact health. Foods scoring 100-70 are encouraged; foods scoring 69-31 can be eaten moderately; foods scoring 30-1 should be minimized.



The new Food Compass system was developed and tested by Tufts University (USA) using a detailed national database of 8,032 foods and beverages consumed by Americans. It scores 54 different characteristics across nine domains representing different health-relevant aspects of foods, drinks, and mixed meals, providing for one of the most comprehensive nutrient profiling systems in the world. The characteristics and domains were selected based on nutritional attributes linked to major chronic diseases such as obesity, diabetes, cardiovascular problems, and cancer, as well as to risk of undernutrition, especially for mothers, young children, and the elderly.

Each food, beverage, or mixed dish receives a final Food Compass score ranging from 1 (least healthy) to 100 (most healthy). A score of 70 or more indicates foods or beverages that should be encouraged. Foods with a score of 31-69 should be consumed in moderation; 30 or lower should be consumed minimally. Across major food categories, the average Food Compass score was 43.2.

Almonds - and in particular, salted almonds - are ranked as one of the top scoring foods in this system with a score of 91, which is a food that is encouraged. Almonds provide 6 grams of plant protein, 4 grams of fiber, unsaturated fats, magnesium, antioxidant vitamin E, and so much more in every healthy 30-gram portion.

- The lowest scoring category was snacks and sweet desserts (average score 16.4).
- The highest scoring categories were vegetables (average score 69.1), fruits (average score 73.9, with nearly all raw fruits receiving a score of 100), and legumes, nuts, and seeds (average score 78.6).
- Among beverages, the average score ranged from 27.6 for sugar-sweetened sodas and energy drinks to 67 for 100% fruit or vegetable juices.
- Starchy vegetables scored an average of 43.2.
- The average score for beef was 24.9; for poultry, 42.67; and for seafood, 67.0.

Food Compass is meant to be an evolving tool. Additional attributes and scoring can evolve based on evidence in areas as gastrointestinal health, immune function, brain health, bone health, and physical and mental performance; as well as considerations of sustainability.

HP CORNER

New State of the Science Guide

The Almond Board is delighted to share the State of the Science, a comprehensive guide to the latest almond nutrition research. This review was written by registered dietitians to summarize study findings, limitations, and key conclusions of almond research studies from the last 3-4 years. The guide is user friendly and organized by research areas including heart health, the gut microbiome, skin about almond nutrition topics, whether by a patient, a colleague or a journalist, consider the State of the Science as your one-stop-shop for evidence-based answers. All studies cited are open access and the full papers are available to download.

NEW ALMOND ACADEMY RESOURCE

2022 Social Media Calendar & Top Tips Guide:

The 2022 calendar is here to inspire your social media content. One key to success for an effective social media presence is having a steady cadence of posts that your followers can rely on seeing. This resource gives you monthly content ideas about cultural and sports events, and awareness days, that are

great jumping off points to talk about healthy food choices. Even better, this year's calendar features pro tips that you'll want to try. We can't wait to see your posts.

Be sure to visit the Almond Academy for a full library of handouts, videos and webinars to support your communications skills. And, the resources are endorsed by the Association of Nutrition and qualify for continuing professional development.

HP Handout:

The Power of Plant-Based Meals

January is now the time for "Veganuary," which is a theme month growing in popularity to encourage people to try plant-based eating. The handout gives some tips on how to encourage more plant-based eating in a nutritious way.

RECIPE INSPIRATION

HONEY SRIRACHA ROASTED ALMONDS:

Having delicious, nutritious snacks on hand that is half the battle won to making positive choices when feeling hungry. This roasted almond recipe is a great-tasting snack with ingredients sitting in your cupboard right now! Please note the conversions: change 2 cups of almonds to 260 grams; 1/4 cup of honey is 85 grams. Our full Recipe Centre has dozens of meal and snack ideas to inspire you. Click here to learn how to make and share the recipe.

Visit our **Recipe Centre** for full recipe details and an opportunity to browse through a delicious catalogue of easy recipes.

SHARE IT ON SOCIAL!

Don't get caught out in the cold without a snack! This savoury roasted almond recipe with a touch of spicy sriracha and honey is a perfect warming, nutritious snack. Easy to make a batch ahead so you have a perfect portion at hand. #almonds



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