



New Almond Calorie Research: What Does It Mean for the Almond Industry?

December 7, 2016




New Almond Calorie Research: What Does It Mean for the Almond Industry?

Karen Lapsley, Almond Board of California
(Moderator)

Dr. David Baer, USDA

Bill Layden, Food Minds



A close-up photograph of several green almonds on a branch, surrounded by vibrant green leaves. The background is softly blurred, showing more of the orchard. The lighting is natural, highlighting the texture of the almond skins and the veins on the leaves.

**Karen Lapsley,
Almond Board of California**

Dr. David Baer, USDA



New Almond Calorie Research: *The Clash Between Data and Food Label Policy*

David J. Baer, PhD
Research Leader

Food Components and Health Laboratory
Beltsville Human Nutrition Research Center



Disclosures for: David J. Baer

AFFILIATION/FINANCIAL INTERESTS	ORGANIZATION
Current Grants/Research Support or Previous Funding of Relevant Research:	California Walnut Commission Almond Board of California International Tree Nut Council Paramount Farms Kellogg's Hass Avocado Board Qualisoy National Cattleman's Beef Association USDA NIH
Scientific Advisory Board/Consultant (No financial relationship)	Whey Protein Advisory Panel (Dairy Research Institute) Sabra Wellness & Nutrition Advisory Board (Sabra Dipping Co., LLC) Avocado Nutrition Science Advisory Group International Life Science Institute, NA (ILSI) (Dietary Lipids Committee)
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Food **NUTRITION**

3 Surprisingly Bad Things That Can Happen If You Eat Too Many Nuts

DECEMBER 8, 2015 By [KASANDRA BRABAW](#)



DIGITAL ZOO/GETTY IMAGES

1. You gain weight—quickly.



BLEND IMAGES/JOHN FEDELE/GETTY IMAGES

Yes, there's a ton of research showing that nuts can help you lose weight. But there's a big caveat to all the studies on nuts and weight loss: The results apply if and only if you eat a moderate amount. Eat more than the recommended daily handful, and you'll quickly accomplish the exact opposite effect by gaining weight—and much more rapidly than you might by overeating other foods. That's because nuts are extra calorie-dense, meaning they have more energy per ounce than most other foods. For example, one ounce of almonds has 163 calories, while the same weight in cooked pasta has a mere 37 calories.

“That’s because nuts are extra calorie-dense, meaning they have more energy per ounce than most other foods.”

New Food Labels!

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FDA News Release

FDA modernizes Nutrition Facts label for packaged foods

Refreshed design and relevant information will help consumers make healthy food choices

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For Immediate Release May 20, 2016

Nutrition Facts	
Serving Size 2/3 cup (55g)	
Servings Per Container About 8	
Amount Per Serving	
Calories 230	Calories from Fat 72
% Daily Value*	
Total Fat 8g	12%
Saturated Fat 1g	5%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 160mg	7%
Total Carbohydrate 37g	12%
Dietary Fiber 4g	16%
Sugars 1g	
Protein 3g	
Vitamin A	10%
Vitamin C	8%
Calcium	20%
Iron	45%
* Percent Daily Values are based on a 2,000 calorie diet. Your daily value may be higher or lower depending on your calorie needs.	
	Calories: 2,000 2,500
Total Fat	Less than 65g 80g
Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g

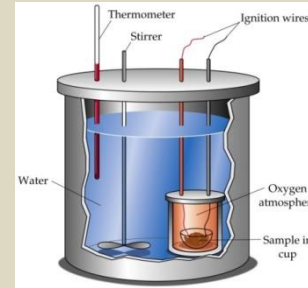
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Total Carbohydrate 37g	13%
Dietary Fiber 4g	14%
Total Sugars 12g	
Includes 10g Added Sugars	20%
Protein 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 235mg	6%
* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	

Energy (Calorie) for Food Labeling

Gross Energy

Fecal Energy

Urinary Energy

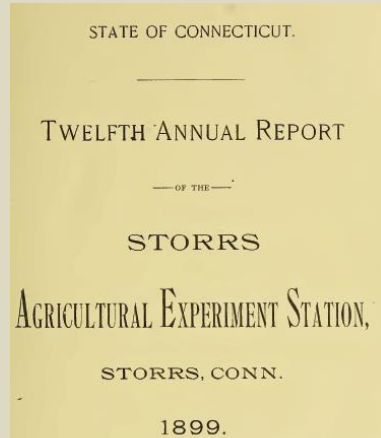


Bomb Calorimeter

Metabolizable Energy

$$ME = GE_{\text{Food}} - GE_{\text{Feces}} - GE_{\text{Urine}}$$

Wilbur O. Atwater



THE AVAILABILITY AND FUEL VALUE OF FOOD MATERIALS.

BY W. O. ATWATER AND A. P. BRYANT.

INTRODUCTION.

The Storrs Experiment Station has devoted considerable attention to the study of the food and nutrition of man. Not





Wilbur O. Atwater Mixed Diet Studies

- Approach
 - Feed mixed diet
 - Collect feces, urine, duplicate foods
 - Determine energy by bomb calorimetry
 - $ME = GE_{\text{food}} - GE_{\text{feces}} - GE_{\text{urine}}$
- Experimental details
 - N = 3 men, ages 32 y, 29 y, 22 y
 - 50 trials with these 3 men
 - Intervention length 3-8 days



Sample Atwater Diets

Sample Diet A	Sample Diet B
Beef	Beef, fried
Butter	Beef, dried
Skim milk	Eggs
Bread	Butter
Ginger snaps	Milk
Parched cereal	Rye bread
Sugar	Wheat breakfast food
	Sugar
	Baked beans
	Canned pears

- The Atwater factors for calculating energy apply to macronutrient content from a mixed diet, such as the ones shown in the table.

Calculating the Energy Value of Almonds Using the Atwater Factors

Macronutrient content per serving:

- 14 g fat
- 6 g total CHO
- 3 g fiber
- 6 g protein

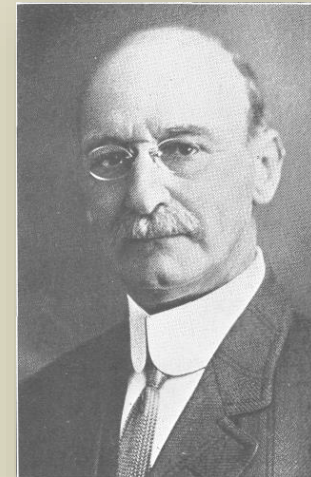
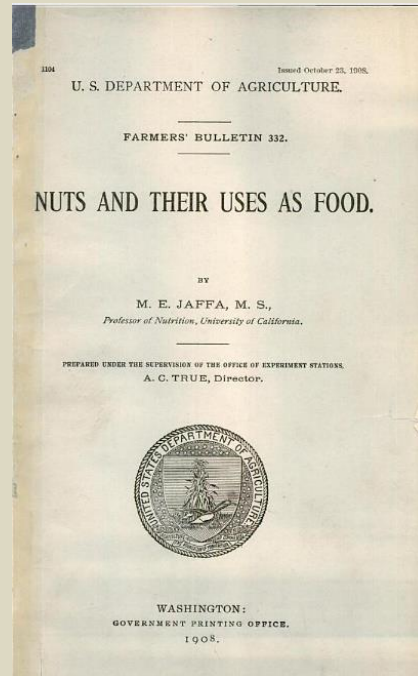
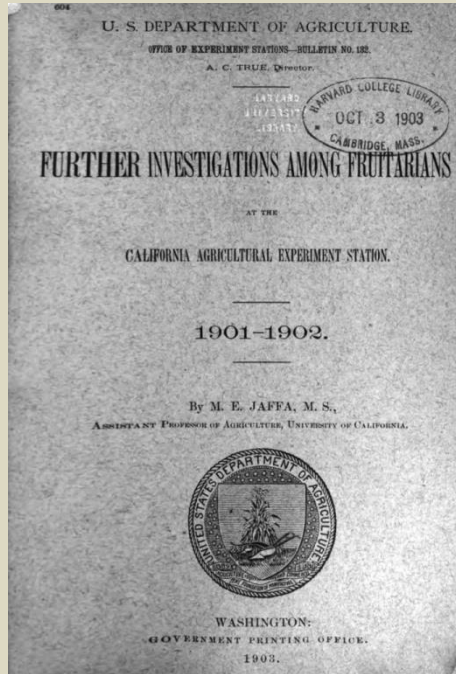
Energy content per serving:

$$\begin{aligned} & 14 \text{ g fat} * 9 \text{ kcal/g} = 126 \text{ kcal} \\ & (6-3) \text{ g CHO} * 4 \text{ kcal/g} = 12 \text{ kcal} \\ & + 6 \text{ g protein} * 4 \text{ kcal/g} = 24 \text{ kcal} \\ \hline & \qquad \qquad \qquad 162 \text{ kcal} \end{aligned}$$

Almond Nutrition Facts	
Serving Size 1 ounce (28g) or about 23 almonds	
Amount Per Serving	
Calories	160
Calories from Fat	120
	% Daily Value*
Total Fat	14g 22%
Saturated Fat	1g 5%
Polyunsaturated Fat	3.5g
Monounsaturated Fat	9g
Cholesterol	0mg 0%
Sodium	0mg 0%
Potassium	200mg 6%
Total Carbohydrate	6g 2%
Dietary Fiber	3g 12%
Sugars	1g
Protein	6g
Vitamin A	0%
Vitamin C	0%
Calcium	8%
Iron	6%
Vitamin E	35%
Folate	4%
Magnesium	20%
Phosphorus	15%

*Percent daily values are based on a 2,000 calorie diet.

Myer E. Jaffa





Myer E. Jaffa

Tree Nut Studies: Almonds

Summary of Jaffa's Almond Research: 6 trials with 2 men					
"CPH" a 60+ year old vegetarian					"AV" a young male
1	2	3	4	5	6
Almonds	Almonds	Almonds	Almonds	Almonds	Almonds
Bananas	Apples	Apples	Dates	Dates	Bananas
		Bananas	Olives	Olives	Oranges
				Granose	

- Similar trials were conducted with other tree nuts
 - Brazil nuts: 3 trials with 2 men
 - Pecans: 5 trials with 2 men
 - Walnuts: 11 trials with 3 men

ABSORPTION OF WHOLE PEANUTS, PEANUT OIL, AND PEANUT BUTTER

ALLEN S. LEVINE, PH.D.,
AND STEPHEN E. SILVIS, M.D.

HORACE Fletcher, a popular 19th-century food faddist who advocated chewing food twice for each tooth, alluded to the possible dependence of absorption on thorough mechanical breakdown of food.¹ However, it is generally believed that chewing has a minor role in the digestion and absorption of food. To study the effect of mechanical breakdown of food on fat absorption, we put subjects on a diet containing

collected during the war. Portions of the nuts were not available for lipid analysis, suggesting that other nutrients, such as protein, may also be important.

It is of interest that fat absorption was higher in high-fiber and low-fiber diets than in the whole-peanut diets, suggesting that increased fat excretion occurred on peanut-oil diets.

We conclude that the physical breakdown of the peanuts

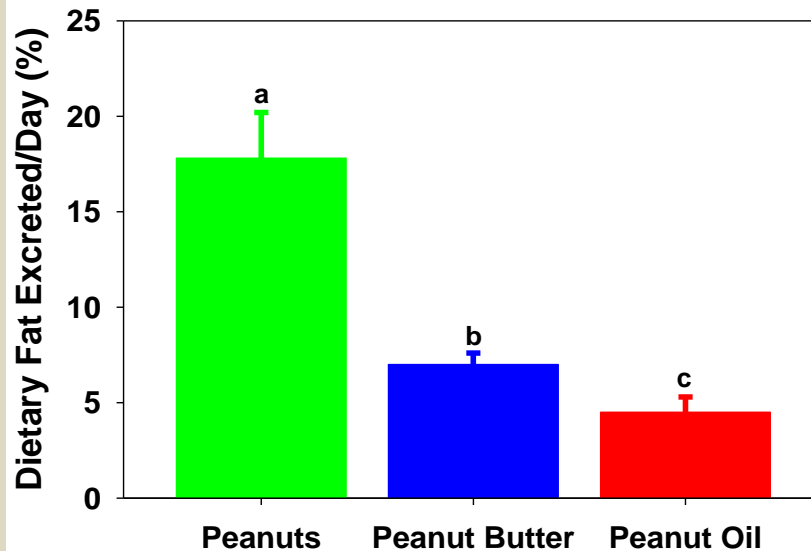


that reformation nuts,

both appearing in-ly in- and

Nut Consumption and Fat Absorption

Comparison of daily fecal excretion of fat during three dietary regimens (% of total dietary fat \pm SEM)



Background Summary

- Metabolizable energy (accounts for energy loss in feces and urine) is what we use for our food systems
- Atwater factors...mixed diets
- Eating nuts...increases fecal fat
- Body weight of nut consumers is usually lower than nonconsumers
- ...what is the energy value of nuts?
- ...do the Atwater factors work for nuts?


Objective

To measure the metabolizable energy value of nuts (almonds, pistachios, walnuts, cashews) when consumed as part of a mixed diet, and to compare the measured ME value to the calculated ME value.

Measured energy value of pistachios in the human diet

David J. Baer*, Sarah K. Gebauer and Janet A. Novotny
US Department of Agriculture, Agricultural Research Service, Beltsville Human Nutrition Research Center, Beltsville, MD 20705, USA

Received 29/11/2016




Abstract
Previous studies have shown that the metabolizable energy (ME) of almonds is less than predicted by the Atwater factor. The present study was designed to determine the ME of pistachios in a mixed diet. Eighteen healthy adults consumed a controlled almond-containing diet for 18 d. Three treatments were administered to subjects in a crossover design, and diets contained almond doses of 0, 42, or 84 g/d. During the final 9 d of the period, volunteers collected all urine and feces, and excreta were analyzed for macronutrient and energy content. The metabolizable energy content of the almonds was determined.

Discrepancy between the Atwater factor predicted and empirically measured energy values of almonds in human diets¹⁻⁴

Janet A Novotny, Sarah K Gebauer, and David J Baer

Walnuts Consumed by Healthy Adults Provide Less Available Energy than Predicted by the Atwater Factors¹⁻³

David J Baer,* Sarah K Gebauer, and Janet A Novotny
USDA, Agricultural Research Service, Beltsville Human Nutrition Research Center, Beltsville, MD 20705, USA



Abstract
Background: Previous studies have shown that the metabolizable energy (ME) of walnuts is less than predicted by the Atwater factor. The present study was designed to determine the ME of walnuts in a mixed diet. Eighteen healthy adults consumed a controlled walnut-containing diet for 18 d. Three treatments were administered to subjects in a crossover design, and diets contained walnut doses of 0, 42, or 84 g/d. During the final 9 d of the period, volunteers collected all urine and feces, and excreta were analyzed for macronutrient and energy content. The metabolizable energy content of the walnuts was determined.

Food & Function

PAPER



Food processing and structure impact the metabolizable energy of almonds^{†‡}

Sarah K. Gebauer,^a Janet A. Novotny,^a Gail M. Bornhorst^b and David J. Baer^{*a}

The measured metabolizable energy (ME) of whole almonds has been shown to be less than predicted by Atwater factors. However, data are lacking on the effects of processing (roasting, chopping or grinding) on the ME of almonds. A 5-period randomized, crossover study in healthy individuals (*n* = 18) was conducted to measure the ME of different forms of almonds (32% of total energy from almonds) in whole, natural almonds; whole, roasted almonds; whole, roasted almonds, chopped; and whole, roasted almonds, ground. After 9 days of adaptation to each diet, subjects consumed a test meal (100 kcal) from each diet. Urine and feces were collected and analyzed for macronutrient and energy content. The metabolizable energy content of the almonds was determined.

Brit J Nutr
2012;107:120-125
J Nutr 2016;146:9-13
Food & Func 2016;7:4231-4238

Summary of Studies

Almonds



- 42 and 84 g/d
- 2 studies
- Whole, roasted, chopped, butter
- Unsalted

Pistachios



- 42 and 84 g/d
- Whole, lightly roasted and salted

Walnuts



- 42 g/d
- Pieces

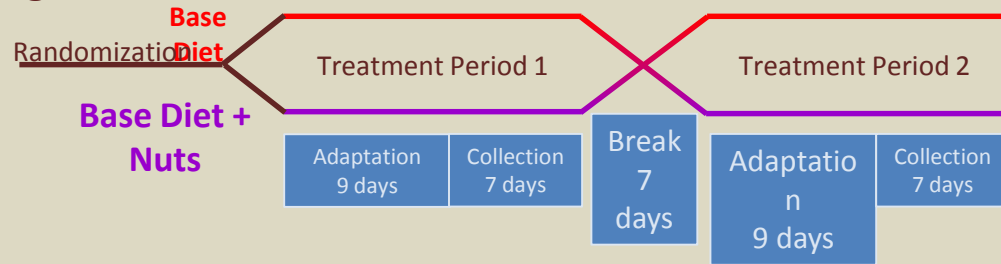
Cashews



- 42 g/d
- Whole, roasted, unsalted

Study Design

- Paired Diet
 - BASE diet without nuts
 - BASE+NUTS
- Design



Meal	Food Item	Base	Base + Almonds
Breakfast	Almonds	0	42
	Egg Beaters	65	53
	Turkey sausage	52	42
	English muffins	78	64
	Margarine	8	6
	Peaches, canned	156	127
	2% Milk	260	212
Lunch	Roast beef	65	53
	Swiss cheese	36	29
	Italian bread	72	58
	Lettuce	12	10
	Mayonnaise	13	11
	Mustard	12	10
	Carrots	39	32
	Cranberry juice	234	190
	Vanilla wafers	33	26
Dinner	Almonds	0	42
	Spaghetti	130	106
	Beef	78	63
	Pasta sauce	104	85
	Lettuce	36	30
	Shitake sesame dressing	22	18
	Dinner roll	77	63
	Margarine	7	5
	2% Milk	312	254
	Fruit cocktail	78	63
Snack	Strawberries	100	81
	Low fat whipped topping	24	20
	Angel food cake	50	41

Example Menu

- 1 of 7 days
- Paired diet approach
- Gram amounts of food for a 2600 kcal/d menu
 - Base ~2600 kcal/d
 - Base+Almonds ~2600 kcal/d
- Typically consumed foods
- Scaled to caloric need
- Nuts at breakfast and dinner
- Isocaloric across treatments
 - No over- or under-feeding
- Allows determination of energy content of a single food

Calculation of Energy Value

$$\mathbf{ME} = \mathbf{GE}_{\text{Food}} - \mathbf{GE}_{\text{Feces}} - \mathbf{GE}_{\text{Urine}}$$



$$\mathbf{ME} = \mathbf{GE}_{(\text{Food1} + \text{Food2} + \dots \text{Foodi})} - \mathbf{GE}_{\text{Feces}(\text{Food1} + \text{Food2} + \dots \text{Foodi})} - \mathbf{GE}_{\text{Urine}(\text{Food1} + \text{Food2} + \dots \text{Foodi})}$$






$$\mathbf{ME} = \mathbf{GE}_{(\text{Almonds})} + \mathbf{GE}_{(\text{Base diet})} - \mathbf{GE}_{\text{Feces}(\text{Base diet plus almonds})} - \mathbf{GE}_{\text{Urine}(\text{Base diet plus almonds})}$$



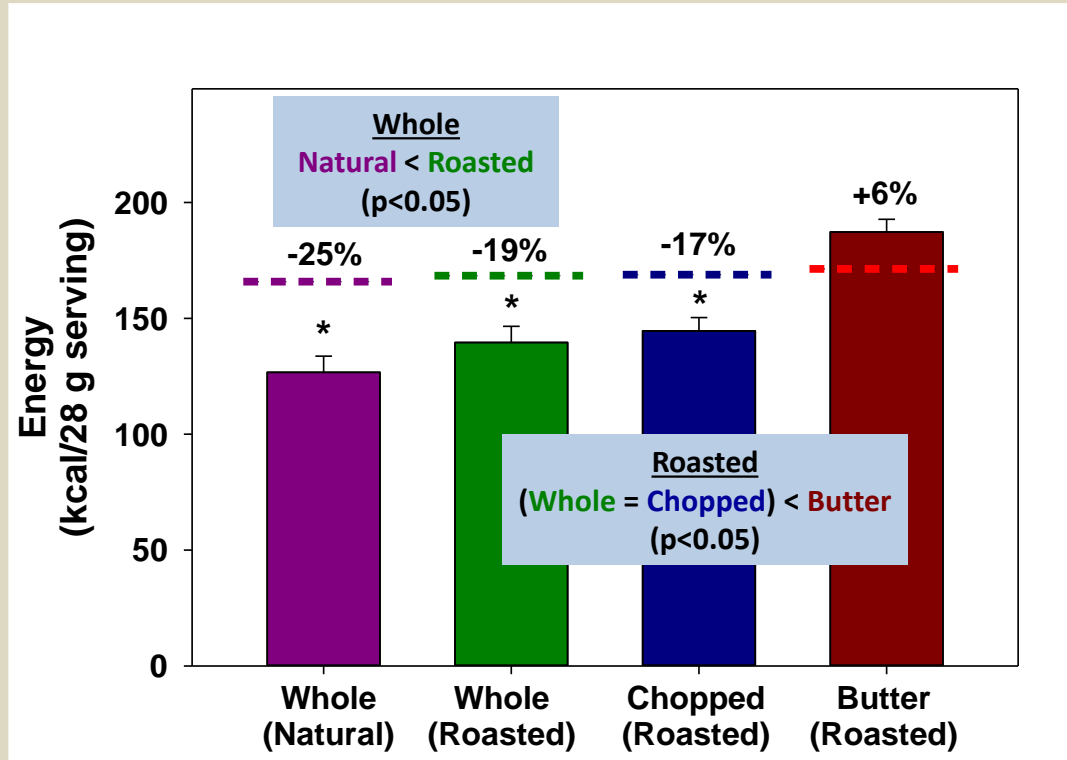
$$\mathbf{ME}_{\text{Almond}} = \mathbf{ME}_{\text{Base Diet Plus Almonds}} - \mathbf{GE}_{\text{Almonds}} \left[\frac{\mathbf{ME}_{\text{Base Diet}}}{\mathbf{GE}_{\text{Base Diet}}} \right]$$

- Where ME is the metabolizable energy intake (kcal/d)
- GE is the gross energy
- Permits determination of the metabolizable energy content of a single food consumed as part of a mixed diet

Summary of Tree Nut Caloric Value

	Typical Database and Label Value (kcal/serving)
Almonds 	164 (USDA Data) 170 (Label)
Walnuts 	185 (USDA Data) 190 (Label)
Pistachios 	159 (USDA Data) 170 (Label)

Food Form and Energy Availability



New Food Labels!

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FDA News Release

FDA modernizes Nutrition Facts label for packaged foods

Refreshed design and relevant information will help consumers make healthy food choices

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For Immediate Release May 20, 2016

Nutrition Facts	
Serving Size 2/3 cup (55g)	
Servings Per Container About 8	
Amount Per Serving	
Calories 230	Calories from Fat 72
% Daily Value*	
Total Fat 8g	12%
Saturated Fat 1g	5%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 160mg	7%
Total Carbohydrate 37g	12%
Dietary Fiber 4g	16%
Sugars 1g	
Protein 3g	
Vitamin A	10%
Vitamin C	8%
Calcium	20%
Iron	45%
* Percent Daily Values are based on a 2,000 calorie diet. Your daily value may be higher or lower depending on your calorie needs.	
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Total Fat	Less than 65g 80g
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* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	

Recent Developments

USDA United States Department of Agriculture
Agricultural Research Service
National Nutrient Database for Standard Reference Release 28

NDL Home Food Search Nutrients List Ground Beef Calculator Documentation and Help- Contact Us

Enter one or more terms Select Food Group Select Manufacturer Select Source

USDA United States Department of Agriculture

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www.usda.gov

News Release

Release No. 0198.16

Contact
Office of Communications 202-720-462.

USDA Announces New Open Data Partnership for Public Health

Branded Food Products Database Launched with Nutrition Details on Over 80,000 Brand Names

NEW YORK, September 16, 2016 - Agriculture Secretary Tom Vilsack today officially launched the [JSDA Branded Food Products Database](#), a free online resource for families, the food industry and researchers containing nutrition details on more than 80,000 name brand prepared and packaged foods available at restaurants and grocery stores. The announcement was made at the Global Open Data for Agriculture and Nutrition (GODAN) Summit.

- USDA Standard Release
 - 12 “almond” entries
- Branded Foods Database
 - 100s of “almond” entries

Sources of Information on Almonds

- USDA Standard Release Database
- USDA Branded Foods Database
- Almond Board of California marketing materials
- Food Label

USDA United States Department of Agriculture
Agricultural Research Service
National Nutrient Database for Standard Reference Release 28

NDL Home Food Search Nutrients List Group

Enter one or more terms Select

almond All foods

USDA United States Department of Agriculture

News Release

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release No. 0198.16

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Office of Communications 202-720-463

USDA Announces New Open Data Partnership for Public Health
Branded Food Products Database Launched with Nutrition Details on Over 80,000 Brand Names
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Nutrition by the Numbers

There's power in the crunch of almonds, with 6 grams of energy-giving protein, hunger-slaying fiber and essential nutrients in every heart-healthy handful!

Ounce for ounce, almonds are the tree nut highest in protein, fiber, calcium, vitamin E, riboflavin and niacin (1 mg/oz.). They're also an excellent source of magnesium.

FIBER & PROTEIN
Fiber and protein can help provide that satisfied feeling everyone wants after a meal or snack. Ounce for ounce, almonds contain more dietary fiber (4 grams per ounce) and protein (6 grams per ounce) than any other tree nut.

GOOD FATS
Heart-smart, nutrient-rich almonds help maintain your weight and healthy cholesterol levels. One serving of almonds contains 13 grams of unsaturated fat and only one gram of saturated fat!

POWERHOUSE NUTRIENTS
Almonds are one of the highest dietary sources of magnesium (76 mg/oz.) and also are an important heart-boosting source of

Nutrition Facts
Serving Size 1 ounce (28g)
or about 23 almonds

Amount per Serving
Calories 160 Calories from Fat 130

	% Daily Value*
Total Fat 14g	22%
Saturated Fat 1g	5%
Polyunsaturated Fat 3.5g	
Monounsaturated Fat 8g	0%
Cholesterol 0mg	0%
Sodium 0mg	0%
Potassium 200mg	6%
Total Carbohydrate 6g	2%
Dietary Fiber 4g	16%
Sugars 1g	
Protein 6g	
Vitamin A 0%	Vitamin C 0%
Calcium 0%	Iron 0%
Vitamin E 100%	Folate 2%
Magnesium 100%	Phosphorus 15%

*Percent Daily Values are based on a diet of other people's secrets.

Heart Smart & Satisfying

Almonds are a deliciously tempting option for smarter meals and snacks and a satisfying, versatile way to fuel healthy, active lifestyles. What's more, nearly two decades of research shows that almonds can help maintain a healthy heart!



Snacking for Success

Snacking can be a healthy habit and a nutritious part of your day. Whether you're striving to lose weight, manage blood sugar or simply get more natural nutrients every day, almonds help you get more of the good things your body needs. At home, at work or on the go, almonds are a convenient, filling snack that provides a satisfying crunch and powerful nutrients.

Here are some ways to measure the perfect portion every time:



Nutrition Facts

8 servings per container
Serving size 2/3 cup (55g)

Amount per serving
Calories 230

	% Daily Value*
Total Fat 8g	10%
Saturated Fat 1g	5%
Trans Fat 0g	
Cholesterol 0mg	0%
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Summary...

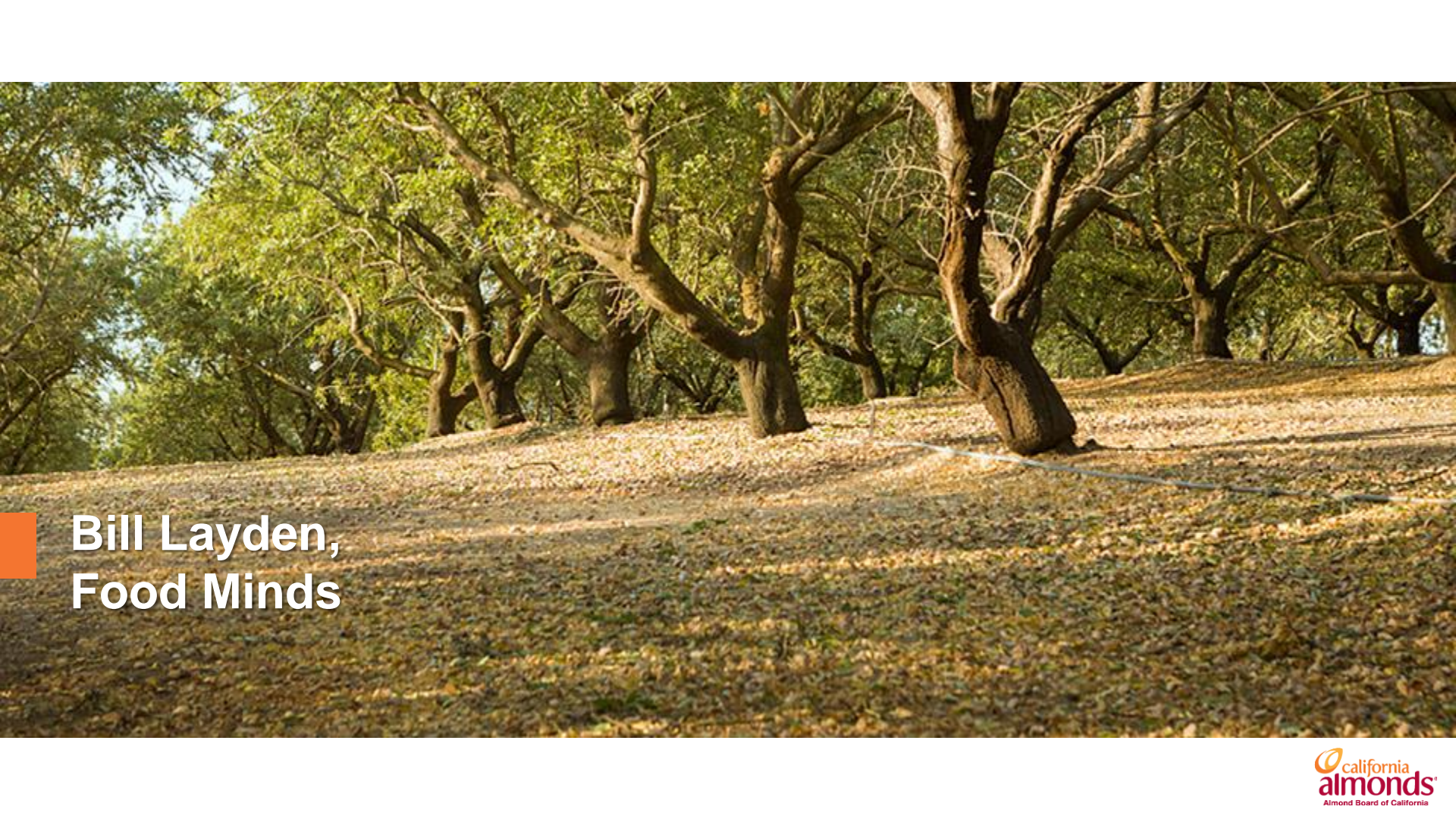
1. Calories on the food label are estimated from macronutrient composition (using Atwater factors) and not measured.
2. Estimations are based on data collected from small studies, not designed as randomized controlled trials, with short feeding periods of simple mixed diets or individual foods (not representative of how people eat).



...Summary

3. Availability of energy from nuts is lower than what is assumed by Atwater factors.
4. Therefore, measured energy value of nuts is lower than calculated energy (5-25% lower).
5. Lower measured energy content impacts the accuracy of food labeling.
6. Accurate food labels may help reduce barriers to consumption of these nutrient-dense foods.





**Bill Layden,
Food Minds**



CALORIES COUNT: TIME TO RIGHT-SIZE ALMONDS

Bill Layden, Founder
Executive Vice President

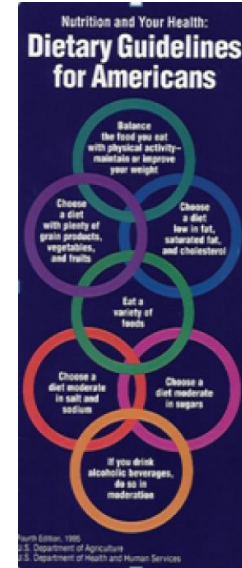


foodminds

Disclosure



 United States Department of Agriculture
Center for Nutrition Policy and Promotion



1995

Clients Served*



*Includes only clients that have authorized public disclosure.

New Interim FDA Guidelines-Almonds are HEALTHY



FDA Nutrition Labeling Changes Coming Soon

Menu		
Bacon and eggs.....	\$5	150 calories
Bagel and lox.....	\$4	480 calories
Coffee.....	\$2	2 calories
Fruit.....	\$3	140 calories
Hot Tea.....	\$1	3 calories
Salad.....	\$5	130 calories
Cookie.....	\$.50	170 calories

May 5, 2017

Nutrition Facts	
8 servings per container	
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July 28, 2018



July 28, 2018

New Nutrition Facts Label

NEW LABEL / WHAT'S DIFFERENT

Servings: larger, bolder type

Serving sizes updated

Calories: larger type

Updated daily values

Actual amounts declared

New footnote

Nutrition Facts	
8 servings per container	
Serving size 2/3 cup (55g)	
Amount per serving	
Calories	230
% Daily Value*	
Total Fat 8g	10%
Saturated Fat 1g	5%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 160mg	7%
Total Carbohydrate 37g	13%
Dietary Fiber 4g	14%
Total Sugars 12g	
Includes 10g Added Sugars	20%
Protein 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 235mg	6%

New: added sugars

Change in nutrients required

* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Calories Will Be Highlighted

Nutrition Facts	
Serving Size 2/3 cup (55g)	
Servings Per Container About 8	
Amount Per Serving	
Calories 230	Calories from Fat 72
% Daily Value*	
Total Fat 8g	12%
Saturated Fat 1g	5%
<i>Trans</i> Fat 0g	
Cholesterol 0mg	0%
Sodium 160mg	7%
Total Carbohydrate 37g	12%
Dietary Fiber 4g	16%
Sugars 1g	
Protein 3g	
Vitamin A	10%
Vitamin C	8%
Calcium	20%
Iron	45%
* Percent Daily Values are based on a 2,000 calorie diet. Your daily value may be higher or lower depending on your calorie needs.	
	Calories: 2,000 2,500
Total Fat	Less than 65g 80g
Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g

Nutrition Facts	
8 servings per container	
Serving size	2/3 cup (55g)
Amount per serving	
Calories	230
% Daily Value*	
Total Fat 8g	10%
Saturated Fat 1g	5%
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* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	

Food & Beverage Industry Commitments Driving to Reduce Calories

A NEW GOAL
TO REDUCE
20%
OF BEVERAGE
CALORIES
CONSUMED
PER PERSON BY
2025



15 September 2014

Her Excellency
Dr. Margaret Chan
Director General
World Health Organization
20 Avenue Appia
Geneva, Switzerland

Dear Dr. Chan,

Re: The International Food & Beverage Alliance's Enhanced Commitments on Health and Wellness

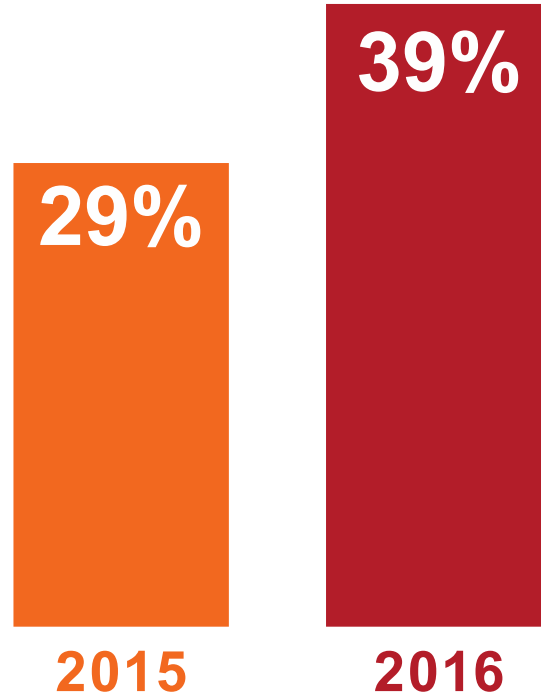
In 2008, our companies came together around a commitment to take collective global action in five key areas to support the advancement of the goals of the 2004 WHO *Global Strategy on Diet, Physical Activity and Health*. We appreciate your leadership in this field to date, as well as your continued openness to engage with our industry.

Over the past six years, we have made substantial progress in each of these areas, specifically in: the reformulation and innovation of products to help address the public health problems of under- and over-nutrition; the provision of clear, fact-based nutrition information to consumers; the adoption of voluntary measures restricting the marketing of foods high in fat, sugar and salt to children; the promotion of balanced diets and healthy, active lifestyles; and the support of public-private partnerships aimed at improving public health.

We are proud of our work, but understand that even greater efforts must be made if the goals of the 2011 UN *Political Declaration of the High-level Meeting on the Prevention and Control of Non-communicable Diseases* and the WHO *Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013-2020* are to be achieved.



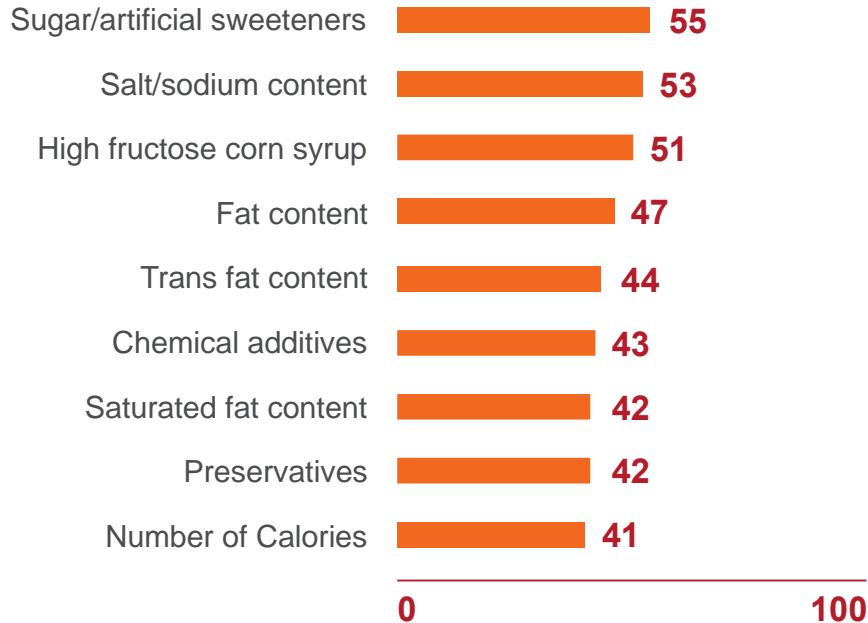
Consumers are Paying Attention to Calories



*International Food Information Council-2016 Food and Health Survey

Highlighting Calories on Labels will Attract More Consumer Attention

TOP INGREDIENTS OF CONCERN



67%

OF SHOPPERS
GENERALLY
READ THE LABELS

*Food Marketing Institute-2016 Shopping for Healthy Survey

Nutrition Labeling Education Consortium (NLEC)

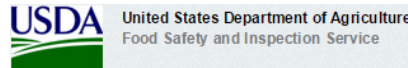
Founding Members



Members – January 2016



Gov't Liaisons/Additional Participants



Key Takeaways: FDA Report at NLEC

- The agency is highly supportive of the public-private partnership serving as a catalyst for unified consumer and health professional education efforts
- “Calories” has been identified as the first topic area to focus on
- Potential directions to take a calorie-focused campaign include:
 - Know your calorie needs and how to budget them
 - A practical guide to calories and serving sizes and their relationship to Daily Value
- Messaging should be consistent with Dietary Guidelines for Americans and be applicable across grocery, restaurant and vending channels

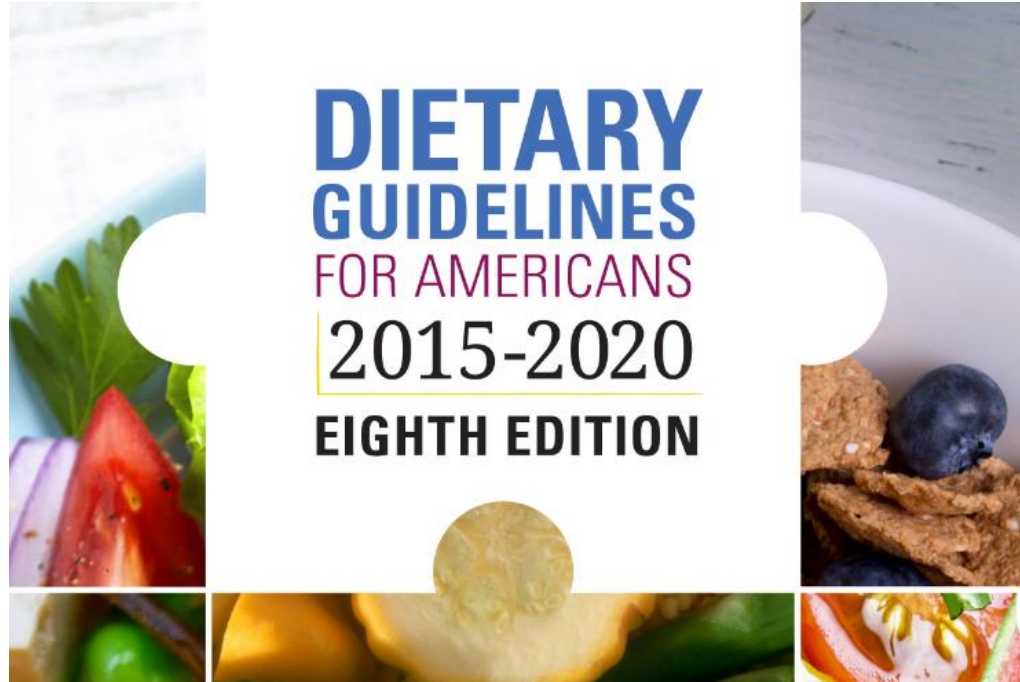
FDA Liaison to NLEC:

Robin A. McKinnon, PhD MPA

Senior Advisor for Nutrition Policy | Center for Food Safety and Applied Nutrition (CFSAN)

Office of Foods and Veterinary Medicine | FDA

Dietary Guidelines for Americans Encourage Nut Consumption



But the Recommendation Comes with a Qualification on Calories

One-half ounce of nuts or seeds counts as 1 ounce-equivalent of protein foods, and because they are high in calories, they should be eaten in small portions and used to replace other protein foods rather than being added to the diet.

Global Nutrition Profiling Coming

WHO aims to prepare a global nutrient profile model for: the marketing of food to children; school food procurement; fiscal policies; and product labelling (i.e. front-of-pack labelling).



WHO Healthy Diet Recommendations



The image shows a WHO fact sheet titled 'Healthy diet'. It features the WHO logo at the top left, the text 'World Health Organization' to its right, and 'FACT SHEET N°394' and 'UPDATED MAY 2015' at the top. The main title 'Healthy diet' is in a large serif font. Below it is a blue header for 'KEY FACTS' followed by a list of seven bullet points. A green header for 'OVERVIEW' is followed by a paragraph of text. At the bottom is a URL: <http://www.who.int/mediacentre/factsheets/fs394/en/>

 World Health Organization

FACT SHEET N°394 UPDATED MAY 2015

Healthy diet

KEY FACTS

- A healthy diet helps protect against malnutrition in all its forms, as well as noncommunicable diseases (NCDs), including diabetes, heart disease, stroke and cancer.
- Unhealthy diet and lack of physical activity are leading global risks to health.
- Healthy dietary practices start early in life – breastfeeding fosters healthy growth and improves cognitive development, and may have longer term health benefits, like reducing the risk of becoming overweight or obese and developing NCDs later in life.
- Energy intake (calories) should be in balance with energy expenditure. Evidence indicates that total fat should not exceed 30% of total energy intake to avoid unhealthy weight gain (1, 2, 3), with a shift in fat consumption away from saturated fats to unsaturated fats (3), and towards the elimination of industrial trans fats (4).
- Limiting intake of free sugars to less than 10% of total energy intake (2, 5) is part of a healthy diet. A further reduction to less than 5% of total energy intake is suggested for additional health benefits (5).
- Keeping salt intake to less than 5 g per day helps prevent hypertension and reduces the risk of heart disease and stroke in the adult population (6).
- WHO Member States have agreed to reduce the global population's intake of salt by 30% and halt the rise in diabetes and obesity in adults and adolescents as well as in childhood overweight by 2025 (7, 8, 9).

OVERVIEW

Consuming a healthy diet throughout the lifecycle helps prevent malnutrition in all its forms as well as a range of noncommunicable diseases and conditions. But the increased production of processed food, rapid urbanization and changing lifestyles have led to a shift in dietary patterns. People are now consuming more foods high in energy, fats, free sugars or salt/sodium, and many do not eat enough fruit, vegetables and dietary fibre such as whole grains.

<http://www.who.int/mediacentre/factsheets/fs394/en/>

Yes on Nuts!

Nutrition Educators and Communicating Metabolized Energy

Food & Function

Food processing and structure impact the metabolizable energy of almonds†‡

Sarah K. Gebauer,^a Janet A. Novotny,^a Gail M. Bornhorst^b and David J. Baer^{*a}

 **The American Journal of
CLINICAL NUTRITION**

Discrepancy between the Atwater factor predicted and empirically measured energy values of almonds in human diets^{1,2,3,4}

Janet A Novotny, Sarah K Gebauer, and David J Baer

Questions?