

ANDI (Aggregate Nutrient Density Index)

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The Standard American Diet (SAD) is made up mostly of disease-causing foods, with 30 % of calories from animal products and over 55 % from processed foods.¹ In addition, 43% of Americans polled reported that they drank at least one sugar-sweetened drink each day, 40% said that they eat 'pretty much everything' that they want, and 33% of overweight and obese individuals reported that they were at a healthy weight. Lifestyle-related diseases are the most common causes of death, but according to a 2011 poll by Consumer Reports Health, 90% Americans believe that they eat a healthy diet.²

This highlights the nutritional misinformation that abounds in our society. Most Americans do not understand that whole plant foods are the best for our health – they are led to believe that processed foods labeled “low-fat” or “low-carb,” artificially sweetened beverages, pasta, grilled chicken, and olive oil make up a healthful diet. Americans have not yet grasped the concept of nutrient density.

H = N/C (Health = Nutrients / Calories)

This simple equation defines how your health is related to the nutrient density of your diet.

Adequate consumption of micronutrients—vitamins, minerals, and many other phytochemicals—without excessive caloric intake, is the key to achieving excellent health. The nutrient density in your body’s tissues is proportional to the nutrient density of your diet. Micronutrients fuel proper functioning of the immune system and enable the detoxification and cellular repair mechanisms that protect us from chronic diseases. I coined the term, nutritarian to define a diet style which provides a high ratio of micronutrients per calorie and a high level of micronutrient variety.

To illustrate which foods have the highest nutrient-per-calorie density, I created the *aggregate nutrient density index*, or ANDI. It lets you quickly see which foods are the most health-promoting and nutrient dense. This index is currently being used at Whole Foods Market grocery stores to help customers make healthier food purchases.

The ANDI ranks the nutrient value of many common foods on the basis of how many nutrients they deliver to your body for each calorie consumed. Unlike food labels which list only a few nutrients, ANDI scores are based on thirty-four important nutritional parameters. Foods are ranked on a scale of 1-1000 with the most nutrient-dense cruciferous leafy green vegetables scoring 1000. Because phytochemicals are largely unnamed and unmeasured, these ANDI rankings may underestimate the healthful properties of colorful, natural, plant foods, so the nutrient density of natural whole foods may be even higher than ANDI scores indicate.

The ANDI demonstrates the nutritional power of green vegetables, especially compared to processed foods and animal products. Even though attention should be placed on these nutrient rich foods, it is also important to achieve micronutrient diversity, and eat a adequate assortment of lower ranked plant foods to obtain the full range of human requirements. I recommend people consume mostly foods that have an ANDI score greater than 100. Take a minute to evaluate the quality of your current diet and learn which foods you need to consume more of to improve it. A more comprehensive list of ANDI scores can be found in my Nutritarian Handbook and ANDI Food Scoring Guide.

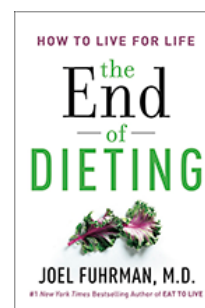
Dr. Fuhrman's Aggregate Nutrient Density Index (ANDI)

Sample Nutrient/Calorie Density Scores

Kale	1000	Sunflower Seeds	64
Collard Greens	1000	Kidney Beans	64
Mustard Greens	1000	Green Peas	63
Watercress	1000	Cherries	55
Swiss Chard	895	Pineapple	54
Bok Choy	865	Apple	53
Spinach	707	Mango	53
Arugula	604	Peanut Butter	51
Romaine	510	Corn	45
Brussels Sprouts	490	Pistachio Nuts	37
Carrots	458	Oatmeal	36
Broccoli Rabe	455	Shrimp	36

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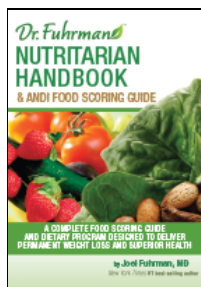
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A guide to selecting the vitamins that are right for you

Cabbage	434	Salmon	34
Broccoli	340	Eggs	31
Cauliflower	315	Milk, 1%	31
Bell Peppers	265	Walnuts	30
Asparagus	205	Bananas	30
Mushrooms	238	Whole Wheat Bread	30
Tomato	186	Almonds	28
Strawberries	182	Avocado	28
Sweet Potato	181	Brown Rice	28
Zucchini	164	White Potato	28
Artichoke	145	Low Fat Plain Yogurt	28
Blueberries	132	Cashews	27
Iceberg Lettuce	127	Chicken Breast	24
Grapes	119	Ground Beef, 85% lean	21
Pomegranates	119	Feta Cheese	20
Cantaloupe	118	White Bread	17
Onions	109	White Pasta	16
Flax Seeds	103	French Fries	12
Orange	98	Cheddar Cheese	11
Edamame	98	Apple Juice	11
Cucumber	87	Olive Oil	10
Tofu	82	Vanilla Ice Cream	9
Sesame Seeds	74	Corn Chips	7
Lentils	72	Cola	1
Peaches	65		

Nutrient Scoring Method*

To determine the ANDI scores, an equal-calorie serving of each food was evaluated. The following nutrients were included in the evaluation: fiber, calcium, iron, magnesium, phosphorus, potassium, zinc, copper, manganese, selenium, vitamin A, beta carotene, alpha carotene, lycopene, lutein and zeaxanthin, vitamin E, vitamin C, thiamin, riboflavin, niacin, pantothenic acid, vitamin B6, folate, vitamin B12, choline, vitamin K, phytosterols, glucosinolates, angiogenesis inhibitors, organosulfides, aromatase inhibitors, resistant starch, resveratrol plus ORAC score. ORAC (Oxygen Radical Absorbance Capacity) is a measure of the antioxidant or radical scavenging capacity of a food. For consistency, nutrient quantities were converted from their typical measurement conventions (mg, mcg, IU) to a percentage of their Dietary Reference Intake (DRI). For nutrients that have no DRI, goals were established based on available research and current understanding of the benefits of these factors. To make it easier to compare foods, the raw point totals were converted (multiplied by the same number) so that the highest ranking foods (leafy green vegetables) received a score of 1000, and the other foods received lower scores accordingly.



[Dr. Fuhrman's Nutritarian Handbook & ANDI Food Scoring Guide:](#)

- A concise instructional guide to the Nutritarian diet
- A comprehensive list of ANDI scores ranks foods according to micronutrients per calorie, guiding you toward the best food choices
- Side-by-side nutritional analysis of SAD and Nutritarian meals
- New recipes and menu plans

References:

1. USDA, Economic Research Service. Food availability (per capita) data system. [http://www.ers.usda.gov/data-products/food-availability-\(per-capita\)-data-system.aspx#.Ud8A6UG1GCK](http://www.ers.usda.gov/data-products/food-availability-(per-capita)-data-system.aspx#.Ud8A6UG1GCK). Lin B-H, Yen ST. The U.S. grain consumption landscape: who eats grain, in what form, where and how much. USDA Economic Research Service, Economic Research Report No. 50; November 2007; http://www.ers.usda.gov/media/216648/err50_1_.pdf.
2. Americans Falsely Believe Their Diet is Healthy. 2011. Discovery News. <http://news.discovery.com/human/americans-diet-weight-110104.html>. Accessed May, 2014.

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