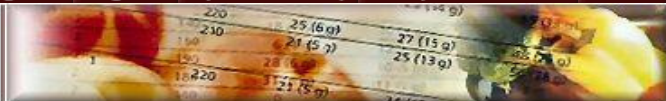


Atwater Conversion Factors



"It's not the things that we don't know that cause the problems. It's the things we think we know that aren't so." - Anonymous

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The following table shows the calories per gram for a variety of foods. The data makes it clear that although the [4-4-9 method](#) of calculating calories is an approved AOAC Method - it is also only a very crude approximation of actual values. This is why NutriBase uses the conversion factors provided by the USDA to calculate the "percent calories from" and "calories from" values for Protein, Carbohydrates, and Fat.

Food Item	Protein (cal/gm)	Carbohydrates (cal/gm)	Fat (cal/gm)	Alcohol (cal/gm)
Baked Beans with Pork, Tomato Sauce	3.50	4.00	8.80	-
Baked Beans with Tomato Sauce	3.40	4.00	8.40	-
Barley	3.55	3.95	8.37	-
Beans	3.47	4.07	8.37	-
Beans, Refried	3.50	4.10	8.90	-
Beef Tongue	4.27	4.11	9.02	-
Beef	4.27	-	9.02	-
Beef, Processed	4.27	3.68 - 3.87	9.02	-
Beer	3.87	4.12	8.37	6.93
Beet Sugar	-	3.87	-	-
Breakfast cereals	1.82 - 3.82	2.80 - 4.16	8.37 - 8.80	-
Brown Rice	3.41 - 3.82	4.12 - 4.16	8.37	-
Buckwheat	3.37	3.78	8.37	-
Bulgur Wheat	3.59	3.78	8.37	-
Food Item	Protein	Carbohydrates	Fat	Alcohol
Butter	4.27	3.87	8.79	-
Cane Sugar	-	3.87	-	-
Carbonated Soft Drinks	3.36	3.87	8.37	-
Cellophane	3.47	4.07	8.37	-
Chili with Beans	3.50	4.00	8.70	-
Chocolate	1.83	1.33	8.37	-
Chow Mein Noodles	3.93	4.12	8.93	-
Cocoa	1.83	1.33	8.37	-
Coffee	3.47	4.07	8.37	-
Corn Bran	1.82	2.35	8.30 - 8.37	-
Corn flour	2.73	3.95	8.37	-
Corn grits	2.73	4.03	8.37	-
Cornmeal, Degermed	3.46	4.16	8.37	-
Couscous	4.05	4.12	8.37	-
Egg Noodles	3.93	4.09	8.41	-
Food Item	Protein	Carbohydrates	Fat	Alcohol
Egg Noodles, Spinach	3.88	4.08	8.41	-
Eggs	4.36	3.68	9.02	-
Farina	4.05	4.12	8.37	-
Fish	4.27	-	9.02	-
Flours (average of Corn, Rice, Wheat)	2.96 - 4.04	3.78 - 4.12	8.37	-

French Fried Potatoes	2.80	4.00	8.80	-
Fruit - Flavored Drinks	3.36	3.90	8.37	-
Fruits, Canned	3.36	3.60 - 3.78	8.37	-
Fruits, Raw	3.36	2.48 - 3.60	8.37	-
Lemonade	3.36	3.80	8.37	-
Limeade	3.36	3.80	8.37	-
Long Rice Noodles	3.47	4.07	8.37	-
Macaroni, Regular	3.91	4.12	8.37	-
Macaroni, Vegetable	3.86	4.11	8.37	-
Macaroni, Whole wheat	3.59	3.78	8.37	-
Milk and Milk Products	4.27	3.87	8.79	-
Food Item	Protein	Carbohydrates	Fat	Alcohol
Millet	3.87	4.12	8.37	-
Mushrooms	2.62	3.48	8.37	-
Nuts	3.47	4.07	8.37	-
Oat Bran	1.82	2.35	8.30 - 8.37	-
Peas	3.47	4.07	8.37	-
Pork	4.27	3.68 - 3.87	9.02	-
Potato Salad	3.60	4.00	8.90	-
Potatoes	2.78	3.48	8.37	-
Poultry	4.27	3.87	9.02	-
Processed meats	4.27	3.68 - 3.87	9.02	-
Quinoa	3.47	4.07	8.37	-
Rice and Pasta with Seasonings	3.87	4.14	8.37	-
Rice Bran	1.82	2.35	8.30 - 8.37	-
Rice, Brown	3.41	4.12	8.37	-
Rice, White	3.82	4.16	8.37	-
Food Item	Protein	Carbohydrates	Fat	Alcohol
Rye	3.23	3.99	8.37	-
Semolina	4.05	4.12	8.37	-
Shellfish	4.27	4.11	9.02	-
Soba Noodles	3.37	3.78	8.37	-
Somen Noodles	3.91	4.12	8.37	-
Sorghum	0.91	4.03	8.37	-
Soy Bean Flour	3.47	4.07	8.37	-
Soy Beans	3.47	4.07	8.37	-
Spaghetti, Regular	3.91	4.12	8.37	-
Spaghetti, Vegetable	3.86	4.11	8.37	-
Spaghetti, Whole wheat	3.59	3.78	8.37	-
Spouted Wheat	3.59	3.78	8.37	-
Tea, Unsweetened (all)	2.44	3.57 - 3.80	8.37	-
Tomato Sauce	2.60	3.70	8.40	-
Food Item	Protein	Carbohydrates	Fat	Alcohol
Triticale	3.32	3.82	8.37	-
Vegetables (average of all)	2.44	3.57	8.37	-
Wheat (except Whole Wheat)	4.05	4.12	8.37	-
Wheat Bran	1.82	2.35	8.30 - 8.37	-
Wheat Germ	3.59	3.78	8.37	-
Whiskey	-	4.12	-	6.93

White Rice	3.41 - 3.82	4.12 - 4.16	8.37	-
Whole wheat	3.59	3.78	8.37	-
Whole Wheat	3.59	3.78	8.37	-
Wild Rice	3.55	3.95	8.37	-
Wine	3.36	3.92	8.37	6.93
Zucchini	2.00	3.70	8.40	-
Food Item	Protein	Carbohydrates	Fat	Alcohol



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