

Magnesium in Refined vs. Whole Foods

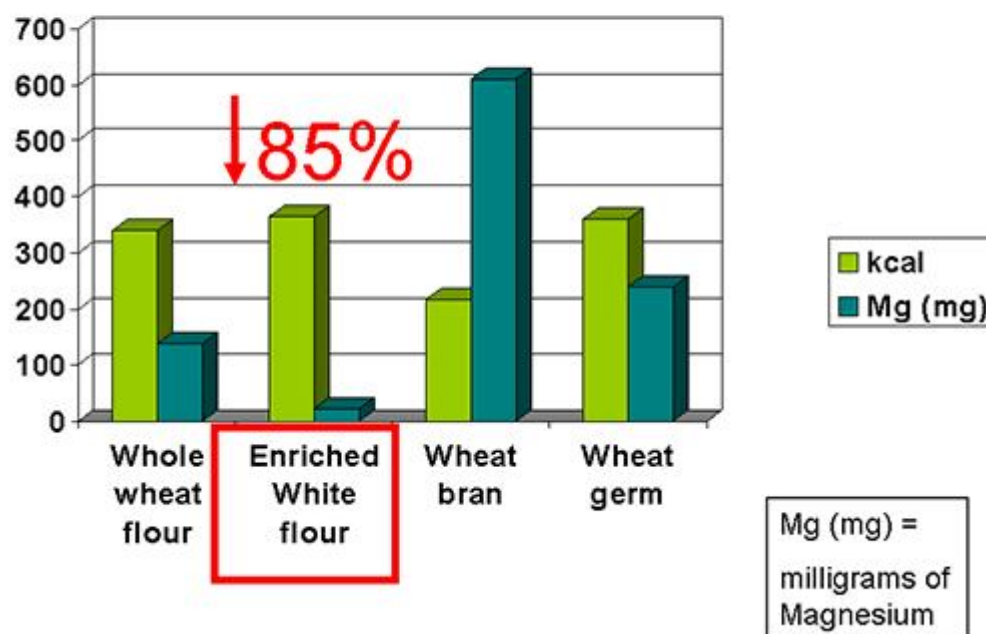
All Information on this page is derived from data from:

Source: U.S. Department of Agriculture, Agricultural Research Service. 2001. USDA Nutrient Database for Standard Reference, Release 14. Nutrient Data Laboratory Home Page. <http://www.nal.usda.gov/fnic/foodcomp/search/>

I. Wheat Flours

Energy (Kcal) & Mg Content of Wheat (per 100 grams)

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Mg (mg) = milligrams of Magnesium

Summary of Wheat graph: Whole wheat contains naturally occurring magnesium, mostly in the bran and the wheat germ. When whole wheat is processed to make flour, the bran and germ are removed, and thus the resulting flour has less than 15% of the whole wheat's natural magnesium. While flours are often "enriched" with 4 B-vitamins and iron, but no magnesium is added back.

Flour type (100 g)	Calories (Kcal)	Magnesium (Mg)	Magnesium per 1000 Kcal
Whole wheat flour	339	138	407
White, All purpose flours	364	22	60

II. Whole vs. refined Corn products

Corn.bmp

Mg (mg) = milligrams of Magnesium

Summary of Corn graph: Most magnesium in natural, whole corn is in the bran. When this bran is removed via processing into corn flour, the product has lost over 80% of its natural magnesium. When corn is processed to extract its high-fructose corn syrup, widely used in processed foods of today, all the natural corn magnesium has been lost.

III. Sugar sources and sugars

Sugar Food (100 g)	Calories (Kcal)	Magnesium (mg)	Magnesium per 1000 Kcal
granulated sugar	387	0	0
brown sugar	376	29	77
molasses	235	215	915
maple sugar	354	19	54

Cane syrup	279	4	14
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Summary of Sugar graph: Sugar, or sucrose, is refined from sugar beets and/or sugar cane. When refined from the cane, molasses is a by-product of the refining process. The molasses contains almost all of the natural magnesium that occurs in sugar cane. Brown sugar is the refined white sugar product with molasses added to it.

IV. Magnesium in Whole Foods & Oil-Seeds compared to refined oils

Oil vs. Whole Food (100 g)	Calories (Kcal)	Magnesium (mg)	Magnesium per 1000 Kcal
safflower seeds	517	353	680
safflower oil	884	0	0
olives	115	4	35
olive oil	884	0	0
peanuts	318	102	321
peanut oil	884	0	0
avocado	161	39	242
avocado oil	884	0	0

corn, cooked	108	32	296
corn oil	884	0	0

Oil.bmp

Mg (mg) = milligrams of Magnesium

V. Nutrient Density of various foods

The Bar Graph that follows is of the magnesium nutrient density of various foods: magnesium nutrient density refers to the amount of magnesium (in milligrams) one receives when consuming 1000 calories (1 kcal) of that food.

Note that the first 5 items, all products of food refining often used in processed foods, are quite low in their magnesium nutrient density while the whole foods following are much higher in how much magnesium they impart with their calories.

Nutrient Density.bmp