

Owner's Manual: Grains on the Go

Why whole grains should be in your training diet

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Whether you're chasing a 5K PR or preparing for your next ultramarathon, you've trained to be a high-performance running machine. You'd never think of using low-grade gasoline in a race car, so why fuel your runs with low-quality carbohydrates?

Packed with complex carbohydrates, protein and micronutrients, whole grains are the premium fuel for runners. "They are the basis for a high-performance diet," says Suzanne Girard Eberle, board-certified sports dietitian and former U.S. 5,000m track champion. "Whole grains prepare our bodies mentally and physically for running, providing our muscles with their preferred fuel," Eberle explains in her book *Endurance Sports Nutrition* (Human Kinetics, 2007).

However, runners often shy away from preparing whole grains because of their reputation for marathon cooking times. Luckily, there are a few fantastic whole grain varieties that are ready to eat in 15 minutes or less. They are nutrient powerhouses like their slow-cooking cousins, but their small grain size makes them cook in a flash.

Motivation

The magic of whole grains is the bran and germ -- little pockets of concentrated nutrients that nourish the young plant. The bran and the germ are stripped away to produce regular flour and white rice, removing almost all the protein, vitamins, minerals and micronutrients that keep runners performing at their best.

For starters, the bran and germ are rich with magnesium, a mineral that's barely present in processed grains. Many scientific studies show that magnesium is essential for optimal cardio-respiratory function and muscle activity. More recent research, published in the *British Journal of Sports Medicine*, even found a positive link between increased dietary magnesium and healthy bones in women endurance athletes. Runners lose magnesium during strenuous workouts, and whole grains are an easy way to replenish it.

Many micronutrients in whole grains, such as zinc, iron and B vitamins, also help heal injuries and strengthen the immune system. Long-term and intense training makes runners more susceptible to infections. Unlike refined starches, "whole grains contain hundreds of antioxidants and other phytochemicals that boost the immune system and help protect us from illness" says Monique Ryan, sports nutritionist and former consultant for USA Triathlon.

Most importantly, though, the whole grains contain concentrated carbohydrates that fuel our runs and refill our glycogen reservoirs. Sports nutritionists recommend 2.5-5g of carbohydrates per pound of body weight each day to ensure complete glycogen recovery. Bagels and pasta can suffice, but for a 140-pound runner, that's at least six bagels every day or more than 80 cups of pasta each week!

A better way to fill out your carbohydrate repertoire is to do so with whole grains. They're more flavorful than white rice and basic pastas but often just as easy to prepare. (Many of the quick grains cook quickly in a rice cooker.) Plus, whole grains come with many general health benefits that you miss with refined grains, like cancer prevention and lower cholesterol. "Make at least half of all the grains you consume daily the whole variety," Eberle suggests. For females, that's at least three servings, and four to five servings for males.

Fast Grains

One of the tastiest and quickest-cooking whole grains is a tiny seed from the Andes Mountains called quinoa. It's the only grain with complete protein (16g per 1/2 cup serving), and it has more than 50 percent of your daily folate, magnesium and phosphorous needs.

Often overlooked as a second-rate vegetable, sweet corn is actually a highly nutritious whole grain with three times the antioxidant activity of broccoli. Whether it's fresh, frozen or canned, corn is a great source of fiber, B vitamins and vitamin C. Polenta -- stone-ground cornmeal that's simmered in water or milk -- is the perfect corn dish for busy runners. A quarter-cup serving provides a whopping 88g of carbohydrates, and its higher glycemic index makes it ideal as a post-run snack.

If you're serious about revving up the nutrients in your carbohydrates, try a minuscule grain called teff. It's the energy source for many elite Ethiopian distance runners. Teff has five times more calcium and twice the iron of whole wheat with the protein equivalent of two eggs in only a half-cup serving. Ethiopians use teff to prepare their famous flat bread injera, but teff flour also makes tasty waffles and pancakes.

Not ready for the exotic grains of Africa and South America? Try whole-grain versions of more familiar carbohydrates. For example, whole wheat couscous tastes similar to the regular version, but the durum wheat has more fiber, protein and phytonutrients. Bulgur, pre-boiled and dried whole wheat, also has a mild flavor and is a healthy substitute for regular white rice.

And, don't forget about oatmeal. Cooking in less than one minute, "instant" oatmeal is the Usain Bolt of grains. Plus, "quick" and "instant" oatmeal is just as nutritious as whole oats because the germ and bran are retained during processing.

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