

## Chia Seeds Make a Comeback, but This Time as a Food Ingredient

**Q** I've seen chia in my natural food store. What is it and is it good for me?

**A** Yes, you're not imagining it. Chia is, indeed, making a comeback. Commonly known as the quirky sprout of Chia Pet fame, chia (specifically, the seed) is reclaiming its centuries-old status as a healthful food. Native to Central and South America and the southwestern U.S., this edible seed comes from the desert plant, *salvia hispanica*, a member of the mint family. Its rich history dates back 3,000 years when it became known as the "running food" by the Aztecs and Mayans, who hailed its many uses as food, medicine and religious offering.

**Chia nutrition.** The chia seed makes up for its diminutive stature with sizeable nutrition. No bigger than a poppy seed, chia supplies a large amount of omega-3s (in the form of alpha-linolenic acid) and protein, compared with other grains.

When you feed chickens and cattle chia, their meat is higher in omega-3s (as are the chicken's eggs). The chia seed is also very high in antioxidant activity and delivers a hefty portion of important minerals like calcium, phosphorus and manganese. A study published in a 2007 issue of *Diabetes Care* found that chia supplementation compared with wheat bran supplementation for 12 weeks resulted in the reduction of cardiovascular risk factors in people with type 2 diabetes. Including nutrient-rich chia in your diet could be a healthy habit, but beware of overly optimistic health claims attributed to chia, which range from weight loss to anti-aging. The scientific research on chia's health benefits is in its infancy.

**Chia on the menu.** The chia's mild, nut-like flavor mixes well with a variety of foods and beverages. Mix chia with lemon or lime juice and a little sugar to make the Mexican drink, chia fresco. Whole

seeds enhance cereals, salads or yogurts, while ground seeds add a healthy boost to baked goods, soups and salsas. Chia gel (chia mixed in water) can be used as an oil or fat substitute in sauces and baked goods. Look for chia seeds to become more readily available in health stores and online. At about \$10 a pound, with a shelf life of several years, the Chia Pet may take on a whole new meaning.

### Nutrient Content of Chia Seeds

1 Tablespoon dried seeds, 10 grams

Calories:	49
Protein:	1 gram
Carbohydrates:	4 grams
Fat:	3 grams
Omega-3 fatty acids:	1755 mg
Dietary Fiber:	4 grams
Calcium:	63 milligrams
Phosphorus:	95 milligrams
Manganese:	0.2 milligrams

## Nitrates and Nitrites Found in Cured Meats: Naturally Debatable

**Q** What's the latest with nitrates and nitrites in cured meats?

**A** Nitrates and nitrites in meats are still a topic of hot debate. Nitrate, made up of nitrogen and oxygen, occurs naturally in the diet. More than 70 percent of the nitrates we consume are from vegetables which draw nitrates from the soil. Nitrates we ingest also come from nitrogen-contaminated drinking water (21 percent) and meat products (six percent.)

**Health risks.** Nitrites give cured meats like hot dogs, ham, sausage and bacon their characteristic pink color and sharp flavor. When added to meat, nitrates break down into nitrites. Nitrates can be digested by the body and removed as waste with no harmful effects. But nitrates can be converted to nitrites in the stomach, especially if the pH of the gastric fluid is high. And these nitrites can react with food proteins to form cancer-causing compounds called nitrosamines. These compounds can also be created in meats cured with nitrite, particularly when cooked at high temperatures, such as when frying. Several studies link the consumption of nitrates/nitrites and cured meat with certain cancers and conditions

such as Alzheimer's disease, though there has been conflicting evidence. Pregnant women, infants and children seem to be at higher risk for nitrate/nitrite exposure.

**On the meat processing front.** Meat processors defend the use of nitrites as a preservative and to prevent bacterial growth. Yet, current improvements in production and food storage lessen the potential for food-borne illness. And FDA restrictions on amounts used in production have led to a significant decrease in the use of nitrites. Ascorbic acid (vitamin C) and erythorbic acid (a compound similar to vitamin C) are commonly and effectively added to meats to inhibit the formation of nitrosamines.

Natural and organic meats cured with ingredients such as sea salt, raw sugar and celery juice attract consumers concerned about chemical preservatives. These ingredients may be listed as natural flavoring on labels; however, plant products can contribute to nitrate content, as well.

**Research points in another direction.** Surprising findings show that nitrates found in plant foods may not be harmful. In fact, when they occur naturally in

fruits and vegetables, they may even have heart health benefits, as reported in July 2009 in the *American Journal of Clinical Nutrition*. The researchers found that the DASH diet (Dietary Approaches to Stop Hypertension) lowers blood pressure, even though it is a very high-nitrate diet due to its emphasis on plant foods. Scientists have yet to understand why the body might process plant nitrates differently than those found in meats.

The health threat of nitrates continues to be debated, and scientists call for more research to understand the risks. Still, it's not a bad idea to keep your nitrate/nitrite intake from cured meats to a minimum; these tend to be high in sodium and saturated fat, anyway. But there's no reason to shy away from fruits and vegetables.

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