



Once-maligned nitrates, nitrites touted as beneficial

It is popular to recommend avoiding foods that have ingredients that sound like strange chemicals. Certainly, aiming to eat wholesome natural foods is a good goal. But read on for a story about a food additive that was falsely accused of causing cancer and is now praised for not only making food safer, but also for providing health benefits.

Food additives called nitrates and nitrites have been used in meat products for a long time. They prevent the growth of dangerous microorganisms (like those that cause deadly botulism and listeriosis) and help to maintain color in cured meats.

However, as early as the 1950s, concerns were raised about the potential for these substances to be converted into a cancer-causing chemical called nitrosamine. Decades of research provided a good deal of evidence that this was incorrect, but the concept had taken hold and these additives were almost banned from the U.S. food supply in the early 1970s.

QUESTION: Are nitrates and nitrites unnatural food additives?

ANSWER: These compounds are found naturally in foods. They are especially high in some green

vegetables like spinach. Perhaps this was the first hint that nitrates are not bad for your health. To put this into perspective, spinach contains about 80 times as much nitrate as hot dogs and about the same amount of nitrite. Beets also are high in nitrate, containing about 25 times as much as a hot dog.

Q: What do nitrates and nitrites do in the body?

A: Researchers have found that nitrates can be converted into nitrites in the body, and these can be further converted into a very beneficial chemical called nitric oxide. Nitric oxide, or NO for short, is a molecule produced naturally in the body that helps to relax and expand blood vessels. A common amino acid found in proteins (known as arginine) has been well studied for its ability to contribute to NO production. Arginine is sometimes prescribed as a dietary supplement for people with high cardiovascular risk factors.

Q: Do nitrates and nitrites have beneficial effects?

A: As researchers have expanded their study of nitrates and nitrites, evidence has continued to indicate that these substances may be one reason for some of the benefits

linked to vegetables in the diet. Studies using nitrate supplementation and foods like high-nitrate beet-root juice show beneficial effects on blood pressure and the enhancement of some types of exercise performance. So, clearly, the newer research direction related to nitrates and nitrites is toward learning more about their health benefits.

Q: Are athletes taking nitrates to enhance performance?

A: Although taking supplements of straight nitrates is generally discouraged, one of the hottest items in the sports nutrition marketplace is high-nitrate beet-root juice. Some, but not all, forms of exercise have been shown to be enhanced by consuming beet-root juice prior to the activity. When benefits are observed, it is usually assumed to be a result of blood vessel diameter expansion allowing more blood flow to working muscles.

Always keep in mind the importance of moderation. Researchers are still sorting out why a high intake of processed meats that contain nitrates and nitrites is linked to increased risk of stomach cancer.

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