

# Boron: The Whole-Body Balance Mineral



Boron from calcium fructoborate (or CFB) is one of the most important nutrients, and it's not as ubiquitous on store shelves as you would think. In fact, only a few nutritional supplement companies offer it. This may change in years to come when awareness of the benefits has grown. At Vibrant Health, boron from calcium fructoborate can be found in Green Vibrance, Maximum Vibrance, Joint Vibrance and as a stand-alone product, Super Natural Boron.

## Boron is essential for all life on earth

Boron is an essential nutrient for all life on earth. Without it, plants don't grow. In August 2014, researchers at the University of Missouri found that boron is crucial to the stem cells of plants. Meristems, a part of plant anatomy, are made of stem cells, which are capable of giving rise to all the different cells that make up a plant. Without boron, these meristems wither and die.

Boron is woefully lacking in American soil and consequently the American food supply. Scientists have known for several decades that the depletion of boron in soil, due to chemical fertilizers and poor crop rotation, has increased the rate of certain bone and joint related diseases around the world.

Interestingly, boron is believed to have been delivered to earth via meteorite 3 billion years ago.

## The best boron: calcium fructoborate

Calcium fructoborate, or CFB for short, as a dietary supplement is a patented compound composed of calcium bound to boron (from plants) and is a source of soluble boron that's bio-identical to the boron that's found in fruits and vegetables. Calcium fructoborate is the most scientifically studied boron-based dietary supplement.

## Boron-rich foods

While it's difficult to get adequate boron levels from diet alone, the following foods contain higher levels of boron: dandelion root, honey, flaxseed, apples, figs, raisins, tomato paste, and more.

## The benefits of boron

Boron has been proven to be an important trace mineral because it:

- is essential for the growth and maintenance of bone
- greatly improves wound healing
- beneficially impacts the body's use of estrogen, testosterone, and vitamin D
- reduces levels of inflammatory biomarkers, such as high-sensitivity C-reactive protein (hs-CRP) and tumor necrosis factor α (TNF-α). A high level of CRP in the blood is a marker of inflammation and can lead to infection, cancer and a higher risk of heart attack. Boron in the form of CFB was clinically shown to lower CRP by 37% to over 60%.
- raises levels of antioxidant enzymes, such as superoxide dismutase (SOD), catalase, and glutathione peroxidase

- protects against pesticide-induced oxidative stress and heavy-metal toxicity
- boosts magnesium absorption
- improves the brain's electrical activity, cognitive performance, and short-term memory for elders
- influences the formation and activity of key biomolecules, such as S-adenosyl methionine (SAM-e) and nicotinamide adenine dinucleotide (NAD+)
- may help ameliorate the adverse effects of traditional chemotherapeutic agents

## Sources

1. Lara Pizzorno, MDiv, MA, LMT, *Nothing Boring About Boron* (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4712861/>)
2. *Calcium Fructoborate for Bone and Cardiovascular Health* (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4930945/>)
3. *Short-term efficacy of calcium fructoborate on subjects with knee discomfort: a comparative, double-blind, placebo-controlled clinical study* (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4051624/>)

**Scientists have known for decades that the depletion of boron in soil due to chemical fertilizers and poor crop rotation has increased the rate of arthritis around the world.**

COUNTRY AND SOURCE	DAILY INTAKE (MG) BORON	INCIDENCE ARTHRITIS	REMARKS
Jamaica 1974 soil analysis	< 1	70%	All food crops deficient
Mauritius sugarcane analysis	< 1	50%	Most food crops deficient
Fig Indians	< 1	40%	Eat mostly rice
Native Figians	3–5	10%	East mostly root vegetables
USA food analysis	1–2	20%	Most elderly arthritic
UK food analysis	1–2	20%	Most elderly arthritic
Australia food analysis	1–2	20%	Most elderly arthritic
Xhosa Tribe/Transkei	2–5	3%	Eat native grown maize
Xhosa Tribe in big cities	1–2	20%	Eat commercial maize
Carnarvon, Australia	6–10	1%	Soil and water (survey 1981) high boron content
Israel (Volcanic Institute)	10+	0.7%	Water (survey 1981) high boron content