

Boron: An Essential Fence Straddler!

by Charles Walters

On the silver screen when sepia tone was still a movie tint used for desert reality, Wallace Beery drove his 20 mule team to stardom, if not an Oscar. The load was a boron-containing ore from the Mojave Desert. Hardly anyone thought of the soap maker's payload as a trace mineral absolutely essential to human health.

Elements are nice, clean entries on the chemist's table, graphic or otherwise, but they are seldom gifted to mankind that way. They arrive as compounds, and the stories surrounding boron's parent material are as old as the American Frontier. Who could forget Ronald Reagan's narration of *Death Valley Days*, a series sponsored by "20 Mule Team Borax" that lasted for decades? But the Western adventures never got within a country mile of the real boron story . . .

DAVEY'S LOCKUP

Boron in fact was discovered by Sir Humphrey Davey, fitting into the Mendeleev Periodic Table of Elements at position 5, atomic weight 10.811. On Richard Olree's Standard Genetic Periodic Chart, it appears at position 31, with a codon AGU (see our *Minerals for the Genetic Code* for a full discussion). After that, the plot thickens, and the much studied (or too-little studied) nonmetallic mineral finds its niche in the protein construction process. The latest calculations have it that in the construction of the serine amino acid and nature's directed protein, the DNA-RNA code calls for 15,198,623 transactions using boron during protein construction.

This is not the plane of observation sourdoughs employed while fighting dehydration on long desert hauls. They observed a yellowish-brown crystal. They knew nothing about the element's 1808 isolation by the aforementioned Davey and colleagues Joseph Louis Gay-Lussac and Louis Jacques Thénard of France.

We, on the other hand, will invoke the state of the art knowledge about atoms

and their orbiting protons and electrons. During the mid-1900s, boron lost its curiosity status and rose to prime consideration by physicists, Ernest Rutherford included, as atomic energy and radiation swept like a storm into the republics of learning. Boron, it was learned somewhere along the line, absorbs atomic particles. The time came when scientists learned how to control neutrons involved in fission to create nuclear reactors. Boron rods are still absolutely necessary in physics as well as human health maintenance. In the first instance, rate of fission is controlled by the depth of boron rods in the reactor; in the second, by the presence or absence of boron in the human metabolic function.

It may be of lesser importance to note that boron figures in the hardening of plant stalks and that compounds of boron — titanium, thorium, molybdenum and tungsten — have their role in jet propulsion. Such revelations may seem arcane in the extreme until we point out that boron figures in human health via plant growth.

SODIUM BORATE

Its chemical name is sodium borate, or sodium tetraborate. Exposure to moist air causes crystals to cluster, for which reason most people think of borate in terms of powders, water softeners, soap. Use of various forms of boron in medicine and eyewash probably goes back to Hippocrates himself.

The biography of borax and its discovery in the Mojave Desert in 1862 may be no more than trivia to most of us, but the survival of boron in the petiole and the leaf requires us to take note. That leaf and plant delivery system invites the attention of grower and patient alike. Here again, our plane of observation shifts. It is the kind of shift made famous by the researcher Thomas Kuhn, who first peppered us with the word *paradigm*. Now we change emphasis from industrial considerations and examine anew the body's use of this magnificent mineral nutrient.

Boron is required in trace amounts for healthy bones and muscle growth. The genome code in its paper record said to be as high as the Washington Monument, has held that ACGT language in escrow for all who wish to follow every phase of the human body's functions. For our purposes here, it is enough to say that organic boron assists in the production of natural steroid compounds.

There's more. Boron is mandated for the metabolism of calcium, phosphorus and magnesium. First-rate research points to enhanced brain function when boron is in adequate supply.

In *Minerals for the Genetic Code*, boron comes off as one of four magnificent minerals — the other three being iodine, selenium and magnesium — that belong in the survival kit of most people in most parts of the country. It is probably safe to say that most physicians no longer remember — if they ever knew — that boron plays a part in the body's sugar metabolism equation. At issue is the utilization of energy.

The official assessment is that people are not generally deficient in boron because most people consume foods that contain it. Such a statement may be evasive. It loops elderly people in with the mass population. In fact, it borders on elder abuse when boron supplementation is withheld. Usually older people have problems with absorption. There's the oft-noted fact that old people in rest homes are deprived of vitamin D, the sunshine vitamin. Vitamin D deficiency is enlarged when boron deficiency is a reality, recognized or not.

Withal, the bone connection haunts and horrifies post-menopausal women. Its supplemental role is both invoked and commanded by osteoporosis. This is no off-the-wall suggestion — solid USDA research reveals that 3 milligrams of boron supplemented each day drastically reduces calcium loss, by 40 percent in approximately a week.

Richard Olree tells us that one conclusion flows from his genetic chart that can't be wiped away or ignored. The amino acid that connects with boron on the Olree Standard Genetic Periodic Chart is serine. In *Minerals for the Genetic Code*, Olree makes the chiropractic

connection and relates the above to the Chinese *I Ching*.

Boron is easily displaced by aluminum, losing three boron molecules for every aluminum molecule. In terms of utilization, it positions itself mid-fence, well under selenium and iodine. Nevertheless, the capacity for absorbing radiation makes boron a mineral for our times. It absorbs and releases without changing the neutron.

Here are a few notes from Richard Olree as codified in *Minerals for the Genetic Code*:

Boron defends the heart. The story has been told that Soviet truck drivers were offered bonuses to deliver boron to the Chernobyl site, this with the knowledge that their trip would be fatal, but families would be paid. None realized that, fortified with boron, they could have made their decision with impunity. Boron stopped the "China Syndrome" from occurring in Russia.

Boron is known as the calcium helper and for the metabolism of calcium, magnesium and phosphorus. Boron improves retention of both calcium and magnesium and elevates circulation of serum concentrations of testosterone.

Boron is found in apples, carrots, grapes, many dark-green leafy vegetables, raw nuts, pears and whole grains. "Found" means *if it is there*. As early as the 1940s, Firman Bear found a wide diversity in nutritional value according to soils and farm fertilization, especially the presence of the rare entities containing "the traces" that one might now easily supply as fertility from the ocean deep.

In passing, it might be mentioned that uptake of aluminum in the absence of boron has a role in Alzheimer's disease. The herb that best removes aluminum from the body is cilantro, this according to recently released credentialed research. It is no happenstance that na-

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