

Xooma's X20 registers 500 times more alkaline than the next closest product.

LAB COMPARISON OF CALCIUM and CORAL CALCIUM SUPPLEMENTS Dr. Jeff Bennert, ND, PhD

Supplemental calcium tablets sold in the stores are not always a pure form of calcium. Most have calcium components combined with stabilizers. First these tablets must be dissolved by digestive secretions (HCl) and then ionized in order to be utilized. But "Only a small part of the original compound actually gets dissolved and ionized."

Tests of over-the-counter calcium based supplements that are most often recommended by physicians and pharmacists were conducted by an independent laboratory.

COMPARISON PROCEDURES

The tests were designed to measure the pH, the oxidation-reduction capabilities, the electrical conductivity, and the ability to counteract the rouleauing effect on erythrocytes (which will vary depending on the degree of acidity within the blood serum).

PRODUCTS COMPARED

The products tested were; (1) Oscal, containing biological oyster shell calcium; (2) Natural, containing biological oyster shell calcium; (3) Bone Meal, composed of ground and powdered animal bone; (4) AdvaCal, containing biological oyster shell calcium; (5) Calcet, composed of equal part of calcium carbonate, calcium lactate, and calcium gluconate; (6) Citracal, composed of calcium citrate; (7) Mylanta, containing calcium carbonate; (8) Roloids, containing calcium carbonate; (9) Maalox, containing calcium carbonate; (10) Tums, containing calcium carbonate; (11) Source Natural Coral Calcium, (12) Coral Complex 2, (13) Coraladvantage, and (14) Ancient Wisdom, (15) **Xooma's X20**

COMPARISON METHODS AND RESULTS

Xooma's X20 registers 500 times more alkaline than the next closest product.

The tests were conducted using steam distilled water containing crushed powders of each of the products. The pH results were obtained using standardized digital pH meters. High pH test numbers equate to a high level of alkalinity. Low pH results equate to a high level

of acidity. The pH scale advances at an exponential power of 10 for each level. **Xooma's X2O registered 500 times more alkaline than the next closest product.**

Oxygen-reduction results were obtained using a standard Oxygen Reduction Potential or ORP meter. The degree of negativity of an ORP reading is an indicator of how bioavailable and bioabsorbable a product will be. The more negative the test reading, the more ions are available for body metabolic functions. **Xooma's X2O was the only product to register strong minus readings on the ORP meter.**

Electrical conductivity measurements are tested in ohms using an OHM meter. An ohm is a unit of electrical measurement which demonstrates the amount of electrical resistance of a substance. The lower the ohm reading, the easier it is for electrical impulses to be conducted through the tissues and fluids of the body. The less electrical resistance there is, the more efficiently the metabolic process progresses. This relates to ionic polarization, the osmotic gradient, and the availability of positive and negative ions within the cell membranes. A normal ohm reading for human tissue is approximately 500 ohms. **After drinking water containing 1 gm of Xooma's X2O the ohm of a human test subject dropped from 500 ohms to 40 ohm. When 1 gm of the other sample products was added to water and then consumed, there was not an appreciable difference in the ohm reading of test subjects.**

Live blood cell screening, using a phase contrast, darkfield microscope, visually shows the level of acidity present in blood serum. High acidity results in high erythrocyte rouleau (the sticking together of red blood cells creating a low oxygen carrying ability). High alkalinity creates low erythrocyte rouleau (red cells are single, not sticking together, and results in the erythrocytes having a high oxygen carrying ability). The blood serum of all tests subjects initially showed no rouleau as viewed through the phase contrast, darkfield microscope. Therefore, the blood serum of all test subjects was alkaline in nature. A cola was given to the test subjects to acidify their blood serum. Then product samples were given to the test subjects to see if the sample would restore the subject's blood serum to the "no rouleau", alkaline condition. Identical comparison tests were conducted over a five day period. The higher the pH reading advances in alkalinity, the less amount of erythrocyte rouleau is present. **Xooma's X2O was the only product that returned the blood serum of the test subjects from a highly acidic, high blood rouleau condition to a highly alkaline, no blood rouleau condition.**

Note that the LOWER the results on OPR (absortion), the better

Least: Source Nat. Coral	7.3	+281	47 ohm	High/Medium
BEST: Xooma X2O	10.5	-273	17 ohm	No Rouleau
Product Name	pH	ORP	Conductivity	Rouleau
Mylanta	6.7	+ 80	500 ohm	High
Citracal	6.8	+ 190	500 ohm	High
Rolaids	7.0	+ 64	720 ohm	High
Maalox	7.1	+ 82	280 ohm	High
Calcet	7.2	+144	350 ohm	High
Tums	7.2	+95	500 ohm	High
Natural	7.3	+47	480 ohm	Medium
Bone Meal	7.6	+40	500 ohm	Medium
Oscal	7.8	+39	300 ohm	Medium
AdvaCal	8.1	+35	260 ohm	Medium
*Source Nat. Coral	7.3	+281	47 ohm	High/Medium

*Coral Complex 2	7.6	-43	34 ohm	Medium
*Advantage	8.7	-71	26 ohm	Medium/Little
*Ancient Wisdom	8.5	+224	55 ohm	Medium/Little
* Coral Supreme	7.8	+35	29 ohm	Medium
* Coral Calcium Daily	8.0	-39	22 ohm	Medium/Little
* Nature's Sunshine CC	8.7	+47	42 ohm	Medium/Little
* Coral Sea	8.2	+59	50 ohm	Medium/Little
* Xooma X2O (bag)	10.5	-273	17 ohm	No Rouleau
* Xooma X2O (w/o bag)	9.2	-122	22 ohm	No Rouleau

(* indicates calcium made from coral sources)

PRODUCT CORRELATION

There was a high correlation between the pH level of the sample products and the amount of erythrocyte rouleau. There was less correlation between the ORP readings and electrical conductivity between the products. **Xooma X2O was the only product that showed positive biological function results in all four of the test areas.**

Xooma X2O U.S Patent 4463031 & 4540584

Search the **U.S. Patents and Trademarks Office Official Website** for the numbers above, read the patents and find out for yourself why **Xooma X2O** is superior. Not all coral is processed the same and many brands contain harmful levels of lead, mercury, cadmium arsenic etc, which **Xooma's X2O** patented process removes without disturbing the good elements.

COMMENTS

The wide range of variability displayed by the testing results seems to be linked with the bioavailability and bioabsorbability of the type of calcium being ingested. **Calcium minerals, in their elemental state, are normally only 8 to 40% biologically available**

to animals and humans. After reaching the age of 35 to 40, the availability of minerals to humans drops to 3 to 5%. Older people may not produce enough digestive acid to put calcium, magnesium, and potassium into ionic suspension.

Calcium lactate is an example of a typical supplement. A 2,000 mg tablet of calcium lactate will chemically break down to 860 mg of milk sugar or lactose and 140 mg (or 16%) of elemental calcium. The 140 mg of elemental calcium from the calcium lactate must then undergo digestion in order to become ionized calcium. The end result is that only 10% of the original elemental calcium ingested is ionized and becomes bioavailable to the human body. This means that after the 140 mg of elemental calcium from calcium lactate completes the digestive process you will end up with 10% of the original 140 mg, or 14 mg of biological ionic calcium available for metabolic use. Different types of calcium provide different percentages of elemental calcium. For example, calcium carbonate provides 40% elemental calcium, while calcium gluconate supplies 9% elemental calcium.

It is important for calcium to be consumed in healthy amounts. Although, just because it is consumed it does not always end up being absorbed by the body. Usually, between 10 to 40% of dietary elemental calcium intake is actually absorbed. However, women after menopause may only absorb 7%. Calcium from milk and milk products is absorbed at a higher percentage rate (45%) than calcium from supplements. Dietary calcium must be made soluble in the stomach and then pass to the small intestine where it combines with a calcium binding molecule so it can be absorbed (chelation). **Calcium competes with zinc, manganese, magnesium, copper and iron for absorption in the intestine, and a high intake of one can reduce the absorption of the others.**

Xooma's X2O, however, is already in ionic, biological form derived from pure Sango coral. Therefore, it is a 100% ionic, bioavailable calcium and does not have to undergo the digestive, ionizing process to which the other calcium and some coral calcium supplements must be subjected.

ADDITIONAL NOTES

The pH of the blood must remain between 7.35 and 7.45 for the body to remain healthy. According to Arthur C. Guyton, M.D., author of the "Textbook of Medical Physiology" which is used to train medical students, "at a blood pH of 7.2 and below the person will soon become exceptionally sick and soon die."

Interesting Fact:

The first documented medicinal use of coral is by the Arabs in the 16th Century. The oldest pharmacy in Spain was built in 1685 in Panaranda de Duero in northern Spain . This pharmacy, now part of a museum, displays a container of "ground up" coral with the inscription "Coral stone to purify the blood" and further states that the coral has a beneficial effect upon the heart and elevates the mood of the person taking it. Ancient cultures were aware that coral's more than 70 minerals and elements are key for the healthy to remain healthy and for the unhealthy to regain their health.