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# Online Extras

**Trace Elements in Nature's Balance Part 1**
by Maynard Murray, PhD
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Dr. Murray began his life long research in sea energy agriculture in 1936. His goal: to get the perfect chemistry (consistency, balance and proportion) of the ocean back into the depleted soils. He felt this was the key to proper nutrition, a stronger immune system and a longer, healthier life. Dr. Murray undertook a variety of experiments to unearth the secrets of the sea, often wondering why land-based animals suffered from so many forms of chronic disease while sea animals generally enjoyed vigorous health.

Over the years, Dr. Murray's research would take him across the United States, from Massachusetts to Florida, in search of answers. It was outside of Chicago that he met Ed Heine, a farmer who proved to be a great help as well as a friend, participating in many experiments.

Sea Energy Agriculture, the science that Dr. Murray uncovered, lay largely dormant during the next 20 years until a dedicated effort was initiated to rescue this essential knowledge from oblivion.

Dr. Murray began his trials with sea solids after he researched coastal waters that had become increasingly toxic and unusable. This company has shifted from using sea solids (crystals are problematic for several reasons: many elements are lost during evaporation, crystals do not go back into solution easily or reliably, they are difficult to apply and are a natural desiccant and therefore tend to clump in humid environments) back to an improved extract harvested from the deep clean ocean and suitable for all plants. This has required major investment in the design of machinery that can extract the minerals without damaging the aerobic bacteria that is abundant in seawater and is important for revitalizing damaged soils. One advantage of extracting minerals is the reduction in handling, storage and shipping costs.

The years leading to Murray's premature death in 1983 were filled with intense research on his own hydroponics farm in North Fort Myers on the West Coast of Florida. Sea Energy Agriculture, the science that Dr. Murray uncovered, lay largely dormant.

Dr. Murray experimented for many years, testing on different plants and then feeding these plants to various animals. What he had discovered was truly amazing. He concluded that lab mice that had been engineered with cancer would survive past their expected predetermined expiration date, and even found cases where the cancer went into remission. He also found that animals would pick through different feeds just to eat the fodder that was grown with these minerals. Trees that were tested and purposely infected with certain disease would not only survive, but could still produce crops; the other trees that were not treated would die. This is all documented in his book "Sea Energy Agriculture," which details the missing ingredient to what common corporate business are lacking: the honest truth about how to make foods healthy, nutrient dense, while at the same time more efficient, cost effective and better for the environment than chemical man made products.

Nitrogen will break down and a certain percentage will evaporate back into the atmosphere. When this happens it will release hydrogen back into the air and will augment with the water molecules. When this happens it increases the acidity of the water vapor, therefore, causing acid rain.

Dr. Murray also found that vegetation that had all the minerals it naturally required would be able to fend off insect and disease pressures, thereby eliminating the need for pesticides and fungicides. It's really very simple; if you feed two kids and one gets a healthy meal and the other junk food, which one do you think will be more susceptible to health problems? The same thing happens to plants. All vegetation gives off a certain frequency, and the weaker plants are different than the healthy plants, therefore, insects/fungus will attack the weaker plants.

It is well understood that there are radical health differences between plants and animals found in the sea and those on land. In the ocean, life thrives on a precisely balanced diet of inorganic nutrients while our landlocked environment has been increasingly unable to provide plants and animals with the full complement of minerals necessary for health and longevity.

In "Sea Energy Agriculture," Dr. Maynard Murray makes the following analogy:

"If a soil is like a mine with its myriad elements, then whenever man tills it, plants crops and in other ways engages in farming, he is for all practical purposes

engaged in the business of mining. Like a miner, the farmer breaks the earth with digging tools, but instead of dynamite, he plants seeds to loosen the minerals and elements from their holding matrix. And finally, he carts away his minerals in the form of food rather than ore."

Perhaps the most disturbing aspect of this mining analogy is that farmers, through conventional fertilizer strategies, often only replace three to six of the total number of elements removed from the soil. The failure to understand the importance of all elements and their role in providing complete, balanced nutrition to plants and animals has resulted in an abundance of food that is great in bulk but low in nutritional vitality.

Here is a common misconception that people are confused about: all living things require minerals and salts. If we don't have them in our body we become ill and die.

Think about this the next time you see a TV show, or you may have experienced this first hand. When you are in a car wreck what is the first thing the paramedics do? They hook you up to a Saline Solution. Why? The salts in the solution will lower the gradient pressure of the cell walls, therefore letting minerals, water and drugs to pass through the cell walls more easily. If they didn't do this they would have to wait much longer to be able to treat a person in critical need. This is the purpose for the salts; the same thing is happening to plant cells. We are able to get the minerals into the cells much faster by a direct injection through the leaves of the plants in a foliate spray. This way they do not have to be taken up by the root system to get to the exact same place.

*Excerpt from www.orsaorganix.com*

**More in-depth information from Dr. Maynard Murray's lifelong work and research will be details in upcoming issues of Maximum Yield magazine.**