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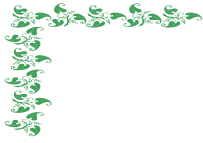


SINCE 1996

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Empty Harvest



This excerpt is from the book, Empty Harvest by Bernard Jensen and Mark Anderson (1990)

Unfortunately, modern man cannot live by food alone.

When we think of health, we usually don't think of dirt. But dirt, or soil, is the primary factor in maintaining our nutritional health because all our food comes from the earth. Since our bodies are literally composed of the "dust of the earth," meaning minerals, healthy bodies are connected to healthy soil. If any element is missing from the soil, then it will be missing from the foods we eat and as a result, we will not be properly nourished.

Unfortunately, our commercial methods of agriculture are not only depleting the soil of precious trace minerals, they are also destroying the ability of plants to be able to utilize those elements. Hence, our food is nutritionally deficient right from the start. To make matters worse, our food gets refined and more of its nutritional content is removed in the process.

While there are still those diehards in the medical community who preach the old dogma that supplements aren't necessary if you eat a "balanced diet," it is nonetheless a fact that animal feeds ALL contain nutritional supplements. Agricultural experts recognize that farmers must supplement animal feeds. They know that the grain and other foodstuffs do not contain enough nutrients to maintain healthy livestock without adding supplements. If animals can't stay healthy eating our modern crops, how can human beings?

Modern Chemical Farming

Here is the story of how this tragic situation came to be. Prior to the 1800s, farmers all over the world fertilized their crops with organic material. However, in the previous century, a well-meaning chemist burned plant material and analyzed the ashes which remained. He discovered that the ashes were primarily composed of nitrogen, phosphorous and potassium and erroneously concluded that these were the minerals plants required to grow. Unfortunately, he lacked the equipment to detect the minute amounts of other minerals present in the plant ashes which are also needed for plant growth. Irregardless, the modern N,P,K fertilizers were born.

When farmers started applying these three elements to their soil, they did get bigger yields at first. However, with repeated use, problems began to arise. This was because the soil was gradually being depleted of its trace minerals.

As the soil became depleted the plants were not as healthy. Insect damage and disease increased. But instead of adding organic matter to the soil to correct the mineral imbalances, chemistry was there to "correct" these problems with herbicides, fungicides and pesticides. Unfortunately, these chemicals compound the problem.

You see, healthy soil is teeming with microorganisms. Bacteria in the soil break down organic material from dead animals and plants to recycle it for use by other plants. Mycorrhizafungi, which grow on the roots of plants, protect growing plants against these bacteria (fungus and bacteria are natural antagonists). These fungi also help the plants assimilate the minerals they need.

The use of toxic chemicals gradually sterilizes the soil, killing the microorganisms that live there. It is much like the problem of antibiotics, which kill the friendly flora in the intestinal tract as well as the harmful bacteria. Though the antibiotics appear to solve the problem of infection, in reality, their long term use weakens the body's natural defenses and increases the likelihood of future infections. Likewise, as the friendly microorganisms in the soil are destroyed, the plants lose the ability to assimilate the proper balance of minerals from the soil. Hence, the plants become even more susceptible to insect damage and disease.

Revealing Research

The truth of this assertion is demonstrated by one simple fact. In spite of the fact that insecticide use has increased tenfold since World War II, crop loss due to insect damage has doubled, from 7 to 14 percent in the same period of time. Here are two other studies which also illustrate the problem.

A four-year study cited in World Health and Ecology in 1976 involved 4,000 grain samples from four Midwestern states. These samples were then analyzed for their mineral content. Over a four year period it was determined that the mineral content of corn dropped significantly. Here are the percentages of mineral loss.

Copper 68%
Sodium 55%
Calcium 41%
Potassium 28%
Iron 26%
Magnesium 22%
Zinc 10%
Manganese 8%
Phosphorus 8%

Interestingly enough, phosphorus and potassium are elements which are added to the soil in commercial fertilizers. This shows that the plants were not able to utilize these elements even though they were present in the soil.

Another study by Firman E. Baer of Rutgers University compared the mineral content of organically-grown foods with non-organically grown foods. The study showed significant differences in the mineral content of these foods. Sample results from that study are shown in the table below.

From this study you can clearly see the problem we are facing. Look, for example, at the differences in the iron content of snap beans and spinach. Organically grown snap beans had over 22 times more iron than its commercial counterpart, while organically grown spinach provided 80 times more iron than the non-organic variety. Although all of the figures are not that dramatic, one can readily see that the organically grown food has at least twice as much mineral content in nearly every case.

Nutritional Herbology

When plants have the minerals they need, then they are able to produce chemicals such as volatile oils, saponins, tannins, etc. which protect them against insect damage and disease. These are also considered the "active components" of herbs. The fact that "medicinal" herbs contain higher percentages of these chemicals than ordinary foods suggests that these chemicals are essential to immune system function in human beings. The fact that they are produced as a part of the plant's immune system gives credence to the idea that plants with strong immune systems provide the nutrition that people and animals need for strong immune systems.

These "medicinal" chemicals in our foods are also largely responsible for their characteristic taste and smell. Thus, plants which have good mineral content will have stronger odors and flavors than plants which do not. Just pick up the produce in the supermarket and smell it and you will discover how sickly the food is. If it were not being "protected" by chemical poisons, nature would destroy these sickly plants.

In contrast, in an organic garden, herbs which have strong fragrances and tastes are often planted to discourage disease and insect damage. Thus, we can see the connection between the foods we are eating and the overall decline in our health.

Mineral Content Of Organically Grown And Non-Organically Grown Vegetables					
Minerals Food	P	Ca	Mg	K	Fe
+++ Snap Beans	0.36	40.5	60.0	99.7	227.0
*Snap Beans	0.22	15.5	14.8	29.1	10.0
+++ Cabbage	0.38	60.0	43.6	148.3	94.0
*Cabbage	0.18	17.5	15.6	53.7	20.0
+++ Spinach	0.52	96.0	203.0	257.0	1584.0
*Spinach	0.27	47.5	46.9	84.6	19.0
Key:	+++ Organically grown		*Non-organically grown		
P=Phosphorus, Ca=Calcium,	Mg=Magnesium, K=Potassium,		Fe=Iron		

(Reference: Empty Harvest by Bernard Jensen and Mark Anderson, Garden City, New York: Avery Publishing, 1990).