

## **Effective micro-organisms, water purification, part 1: a brief review by Dr Ellis Evans**

The discoverer of EM (effective micro-organisms), Teruo Higa says that he was gifted with this approach to help solve many of our environmental problems and reduce urban and chemical wastes and smells that arise from big city living. He has also made his ideas and theory freely available to anyone with an open mind so that they can try these products for themselves.

### **Theory of EM (effective micro-organisms)**

Natural systems and everything around us are either growing or decaying i.e. 'generative' or 'de-generative'. EM can be used to switch a decaying system into a generative system. Micro-organisms have the ability to break apart substances and many species of bacteria for example do just this and are known as de-composers i.e. bacteria and other micro-organisms easily convert waste organic material from kitchen waste into compost.

The premise of the EM approach is that the author has identified which groups of micro-organisms work the most effectively in any given situation. Each group of micro-organisms have a special role to play in reducing the volume of organic waste, extracting foreign substances from water etc. based on their uniquely natural roles. Much of how EM works defies modern science yet, science is far from complete in explaining how the natural world **really** works.

Modern science for example cannot explain bacteria that thrive in conditions of extreme heat and pressure. Nor can they explain how aerobic bacteria (oxygen-loving) survive in environments where oxygen is absent. It is becoming clear that many bacteria are able to provide the stuff of life (respiration, growth etc.) from a range of elements besides oxygen. Twenty years ago bacteria were identified that were able to live off radioactive waste. These findings were not widely disseminated because (a) the process of bacterial viability in these conditions could not be explained or (b) if we used these bacteria to reduce the volume of radioactive wastes, many sectors of industry would find themselves out of a job. Therefore, there are both scientific and commercial reasons for EM not to be more widely distributed within academia and the public domain.

I briefly review an environmental use of EM in purification of tap water and the concept of magnetic resonance on human health.

### **EM ceramics:**

The surface of ceramics are impregnated with EM at high temperature i.e. the EM are 'baked' onto the surface of small ceramic rings and the ceramics are placed in water jugs, kettles etc. The ceramics (plus EM) 'scavenge' pollutants out of the water and presumably, these pollutants provide sustenance for the EM.

At the atomic level water is a molecule containing 2 atoms of hydrogen and 1 atom of oxygen. In its pure state, a molecule of water has a positive and negative charge distributed across its surface i.e. one end is positively

charged and the other end is negatively charged. The charges at either end of the water molecule attract other water molecules or pollutants which also contain a negative or positive charge. This results in clusters of water molecules plus chemically bonded pollutants. I suspect that the EM are somehow able to neutralise the attractive /opposing charges of the pollutants i.e. take the pollutants away from the water molecule to reduce the size of the water molecule clusters to a more stable configuration. In other words, EM has the ability to break chemical bonds between water and their associated pollutants and to somehow utilise these pollutants to sustain themselves. If this actually happens, it means that the EM ceramics has a finite life span and should not be used indefinitely.

Chemically pure water has a neutral pH of 7. Natural water may be either acidic or alkaline in character. This depends on where the water comes from i.e. spring, mineral or groundwaters. The human body is approximately 70% water and water is fundamental to all its biological processes. As water passes through the body its pH will change depending on how it is used by the body i.e. digestion process within the gastrointestinal tract by necessity has very acidic conditions whereas the blood may vary from acidic to neutral to alkaline conditions. Effects on health are outside the scope of this brief review but I mention briefly what the author says about oxidation reactions and their effects on the body.

### **Antioxidants and health:**

EM-purified water is water that (a) has lost its pollutant imprint and (b) contains enhanced levels of antioxidant properties. The author explains that every substance and element has a magnetic resonance 'fingerprint'. Some fingerprints are beneficial whilst others are detrimental. Oxidation reactions within the body occur naturally and are necessary for good health. However, if these oxidation /reduction reactions become excessive, the magnetic resonance point of that biological system or organ begins to function outside its tolerance zone i.e. becomes susceptible to dis-ease and ill health and it starts to break down. The author claims that the addition of EM water in these types of situations is to slow and reverse the rate of oxidation reactions which in turn returns the molecular structure of the body's organs to its original or 'pure' state i.e. reverse disease to well being. Once again, this explanation of the basis of EM defies current scientific and medical paradigms.

What is clear to me is that the human body is indeed electromagnetic in nature. That is to say that every organ in the body emits a particular frequency or rate of vibration when in perfect health. The optimum body frequency can be altered, changed or manipulated by an excess of pollutants from food, water or strong electrical fields from electrical equipment i.e. excessive mobile phone use, living next to mobile phone masts etc. Worry, stress and fear also alter the optimum body frequency to create disease, thus awareness of consciousness or mental well-being in concert with EM technology looks promising.

References: T. Higa (1998) An earth saving revolution volume II, Publishers Sunmark Publishers Inc.