



## Little Organisms, Big Revolution!

*"EM® is a collection of microorganisms that do the work of revival...  
It has been shown to be perfectly safe for people and the environment.  
We can say that EM® is another indication of hado technology."*

Dr. Masaru Emoto

What if we could rapidly rid our environment of toxic wastes by naturally transforming them into beneficial byproducts? What if we could recycle our wastewaters to the point where we could reuse our waters over and over again? What if we could grow all of our foods organically at costs lower than agrochemical farming? All of this may sound like a science-fiction plot that would be too good to be true. But this scenario is actually a reality – not science fiction.

**Historic Breakthrough.** In the field of nature-based technologies, an important discovery was made by a quiet, reflective microbiologist from Japan. Dr. Teruo Higo had diligently been testing a variety of microorganisms, when he accidentally fell upon a blend of microscopic organisms that had formed a symbiotic alliance. The waste products of one created the food for the other. Dr. Higo decided to call his discovery "Effective Microorganisms™", which is now popularly referred to as EM®.

EM•1® Microbial Inoculant was first used for organic agriculture. The farmers were not only producing higher yields at lower costs, but they were simultaneously cleaning up their farming environment with this new product. This was a huge breakthrough for sustainable agriculture. Because of the economic factor of producing more for less, Higo believed it was only a matter of time before all foods would be organically grown.

But Dr. Higo began wondering if EM•1® could be used for cleaning up other contaminated environments. So he began testing EM® for cleaning up landfill sites, polluted rivers, and other chemically-impacted environments. EM•1® was triumphant in decontaminating these sites as well.

**Nature's Little Recyclers.** The reason that EM Technology® has been so successful at bio-remediation is that Dr. Higo had stumbled upon one of nature's well-kept secrets. Nature restores her health primarily through microscopic

organisms that actually consume toxins and produce beneficial byproducts such as vitamins, enzymes, organic acids, bioactive minerals, and antioxidants. These regenerative microbes are sometimes referred to as "nature's little recyclers".



EM® is being used to naturally purify hippo pond at Honolulu Zoo.

**A Nature-Based Technology.** In particular, one of the most ancient organisms, dating back over 4 billion years, is of the phototropic strains called "*rhodopsuedomonas palustris*". This anaerobic strain of bacteria primarily lives in volcanic magma. They can survive in extremely high temperatures. When the planet was forming as one huge toxic stew, these microbes could travel through the magma as it spread over the planet's surface. Here they would feast on the toxins. Once these organisms succeeded in decontaminating most of the planet's surface, they could no longer survive in their own wastes and they re-submerged underground about 3 billion years ago. Dr. Higo's breakthrough was revolutionary – as it allowed these toxin-consuming bacteria to function above ground once again in a biodynamic and symbiotic alliance.

**Shifting Paradigms.** In the microbial world, approximately 5% are defined as *regenerative bacteria* – those which heal, restore and enliven. On the other extreme, roughly 5% are defined as *degenerative bacteria* – those which break down, decompose and putrefy. Both ends of the spectrum perform important functions. The other 90% of microorganisms are generally neutral and will follow the lead of whichever alliance establishes dominance. The degenerative alliances are most predominant and essentially work on the principles of *dominance, control, and suppression*. Whereas the regenerative alliances work on the principles of *partnership, cooperation, and empowerment*.

Rather than working on the principles of suppression, the regenerative alliances have the ability to enliven that broad-based 90% of neutral microbes, so that they begin performing the many functions that they were designed to perform. The ancient phototropic bacteria found in EM•1® have the ability to act as a very strong catalyst for empowering these regenerative and toxin-consuming alliances. This is why EM•1® is quite unique over other microbial blends and is having so many profound benefits around the world.

**Restoring the Planet's Health.** EM•1® was first marketed in Japan in 1982. There are now 54 EM® production plants around the world and it is being applied in over 120 countries. EM•1® was recently used by all countries impacted by the Tsunami Wave Disaster in curbing the spread of pathogen diseases. The World Health Organization's prediction that more deaths would occur from the spread of these diseases than from the disaster never materialized. EM•1® has recently been used in cleaning up the polluted inland seas of China and Japan – where marine life and vegetation have significantly returned. EM Technology® has quietly been making history around the world.

Effective Microorganisms™ is now being used throughout the world for a broad variety of natural remediation applications such as:

- *Decontamination services for natural and man-made disaster sites.*
- *Bioremediation of toxic and hazardous wastesites and spills.*
- *Production of organic fertilizers and silage from recycled green wastes.*
- *Natural purification and treatment of wastewaters/sludge.*
- *Economical maintenance and recycling of quality drinking water.*
- *Production of renewable and clean-burning biofuels.*
- *Livestock/poultry/aquaculture natural health and environmental quality maintenance.*

- *Remediation of noxious, greenhouse gasses and odor control.*
- *Highly-nutritious organic foods and natural health care products.*

In the US, EM Technology® is relatively new. Our economy is still in the process of discovering the low-cost advantages of the all-natural and sustainable solutions offered by EM•1®. The mayor of Honolulu, Jeremy Harris, recently stated, "With EM®, there is no longer a conflict between what is good for the economy and what is good for the environment". The opportunities are enormous for those companies taking advantage of the many applications of EM•1® in the US.



EM used by every country impacted by the Tsunami Wave Disaster.

**EM® Introduced to America.** Santa Fe has the first and largest EM® retail shop in America called Emerald Earth, which opened in late 2005. "More than ever, it's time for these microscopic beings to do their magic on the Earth again!" states James McMath, co-founder of the company. "This is an incredible new technology that naturally cleans the environment without any negative side-effects. That's because it's the same technology that nature has been using for billions of years. The breakthrough is that we've learned to partner closer with nature. With EM®, wastes will become a thing of the past. Virtually anything and everything can now be recycled to produce biofuels, organic foods, recycled water, non-toxic fertilizers, natural building materials, and a host of other sustainable enterprises. It's time to put the 'eco' back in the word 'economics'."

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