

How to make your own EM-1™ inoculant

<http://www.hawaiihealingtree.org/how-to-make-your-own-em-1-inoculant-and-bokashi/>



rice water EM

Aloha thumbs and friends. I am back to give one of my biggest secrets away, it is my own homemade root inoculate or EM™/BAM(beneficial active microorganism) made with rice water, milk and sugar. There are many shelf bought version for ridiculous pricing, for those with the little know how to make ones own. House & Garden makes Root Accelerator, Hygrozyme, Sensizyme, Advanced Nutrients Voodoo Juice are some of the high priced products that my own home culture works as well as or even in some cases has even worked better. I know many growers that would not even think of culturing their own or even would have the know how to, but I offer you my knowledge for your own frugal organic gardening purposes. Not to mention how I have talked about recycling and composting with worms, now I will introduce you to the Japanese form of Bokashi

Composting or fermenting and how to make your own home made cheap alternative Bokashi Buckets and Bokashi mix.

Wikipedia:

Effective Microorganisms, aka **EM Technology**, is a trademarked term now commonly used to describe a proprietary blend of 3 or more types of predominantly anaerobic organisms that was originally marketed as EM-1™ Microbial Inoculate but is now marketed by a plethora of companies under various names, each with their own proprietary blend. "EM™ Technology" uses a laboratory cultured mixture of microorganisms consisting mainly of lactic acid bacteria, purple bacteria, and yeast which co-exist for the benefit of whichever environment they are introduced, as has been claimed by the various em-like culture purveyors. It is reported to include:

- Lactic acid bacteria: *Lactobacillus plantarum*; *L. casei*; *Streptococcus Lactis*.
- Photosynthetic bacteria: *Rhodospseudomonas palustris*; *Rhodobacter sphaeroides*.
- Yeast: *Saccharomyces cerevisiae*; *Candida utilis* (no longer used) (usually known as *Torula*, *Pichia Jadinii*).
- Actinomycetes (no longer used in the formulas): *Streptomyces albus*; *S. griseus*.
- Fermenting fungi (no longer used in the formulas): *Aspergillus oryzae*; *Mucor hiemalis*.

The concept of 'Friendly Microorganisms' was developed by Japanese horticulturist Teruo Higa, from the University of the Ryukyus in Okinawa Prefecture|Okinawa, Japan. He reported in the 1970s that a combination of approximately 80 different microorganisms is capable of positively influencing decomposing organic matter such that it reverts into a 'life promoting' process. Higa invokes a 'dominance principle' to explain the effects of his 'Effective Microorganisms'. He claims that three groups of microorganisms exist: 'positive microorganisms' (regeneration), 'negative microorganisms' (decomposition, degeneration), 'opportunistic microorganisms'. In every medium (soil, water, air, the human intestine), the ratio of 'positive' and 'negative' microorganisms is critical, since the opportunist microorganisms follow the trend to regeneration or degeneration. Therefore, Higa believes that it is possible to positively influence the given media by supplementing with *positive* microorganisms.

EM™ Technology is supposed to maintain sustainable practices such as farming and sustainable living, and also claims to support human health and hygiene, animal husbandry, compost and waste management, disaster clean-up (The Southeast Tsunami of 2004, the Kobe Earthquake, and Hurricane Katrina remediation projects), and generally used to promote functions in natural communities.

EM™ has been employed in many agricultural applications, but is also used in the production of several health products in South Africa and the USA. (fuel additive products are no longer available).

A High School in Malaysia, Sekolah Menengah Kebangsaan Dato' Onn Butterworth, Penang, are using EM to treat Greywater, minimise odour from Septic Tank & remove sludge from drains.

This is a recipe I learned from a friend along time ago. **EM/BAM**: this a trade secret! (*Lactobacillus culture*)

- 1/4 cup rice
- 1 quart Mason Jar
- 1 cup water
- 1 fine mesh strainer
- 80 oz milk depends on how much one is making
- 1 gallon container or jar
- 1 tsp. black-strap molasses



Procedure:

1. Place rice and cup of water in mason jar and shake vigorously until water is cloudy white, strain off rice kernels and discard into your compost bin or cook for dinner. I have heard of the Japanese adding a dash of nato to help ferment but not needed.
2. Place cap on loosely and store in a cabinet or cool dark place for 5-7 days.
3. Sift off top layer and strain liquid (serum)
4. Measure your rice liquid and now add a ratio of 1 part fermented rice to 10 parts milk, I would culture in a 1 gallon jar. let sit for 5-7 days.



(Rice water and milk serum fermenting 3 days - notice the lid is only sitting on top so as to not build pressure.)

5. Sift off curd settlement and add to your soil or feed your animals it is good for their digestion, then there should be a light yellow serum left this is your unactivated serum.
6. Add 1 tsp molasses to feed and keep your bacteria alive and refrigerate. should have a shelf life of 6-12 months.
7. To activate microorganism activities add to room temperature non-chlorinated water at a ratio of 1 part Serum to 20 parts water.
8. Feed to plants either straight into soil or follicular feeding.

