

The revolution of NanoBio

Our product “NanoBio” is essentially the same as EM1 or Emplus developed by Dr. Higa from the Okinawa University, Japan. As the Canadian Government does not allow import of the original EM products, we offer Nanobio Products. The series of ceramic products is not touched by this regulations, so we sell them in their original form.

from entropy to syntropy

*"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

EM is microbial balancing

in nature only 10% of the totality of micro-organisms are harmful; and only 10% are beneficial: 80% are “wait and see”; they will turn to the party that is winning- and model their “behaviour” to suit the winner.

Composition of EM:

EM contains 17 different strands of micro-organisms; aerobe and anaerobe = they sustain each other mutually: aerobe microbes consume oxygen and discharge CO₂, while anaerobe microbes use CO₂ and discharge oxygen.

1. Photosynthetic bacteria (independent, self-sustaining micro-organisms: they use sunlight and warmth of the soil to transform organic material in bio-active substances)
2. Actinomyces (are between bacteria and fungi; create anti-microbial substances that suppress harmful fungi and bacteria; they help nitrogen assimilation on roots of legumes)
3. Lactobacillus (create lactic acid from sugars coming from photosynthetic bacteria and yeasts; they have a strong anti-septic action)
4. Yeasts (convert sugars, amino-acids from photosynthetic bacteria into enzymes and hormones)
5. Fermentative fungi (aspergillus, penicillium decompose organic material to produce alcohol and anti-microbial substances; they suppress odours and vermin)

the micro-organisms become active at 6°C; their ideal temperature lies between 25-37°C.

Activated EM has a pH of 3.2-3.9 (a little less than vinegar/leak)

Store in cool and dark place.

Water as information transmitter:

the movement of electrons around a nucleus creates a specific frequency. Every substance, as water, has such a specific frequency.

each and every life-information is magnetically saved in the water molecules; water absorbs magnetic frequencies of all materials/things with which it comes into contact – and transfers them to other materials.

this transfer of frequency/information is distorted by pollutants: the most frequent impediment of normal magnetic resonance (information transfer) is oxidation. A material that disintegrates in oxidized substances loses its resonance.

It is very difficult to erase the information of pollution saved into the structure of water (high energy UV and infra red, sunlight or transfer into steam).

EM produces a vast quantity of antioxidants, enzymes and healthy electromagnetic frequencies that can erase harmful memory in water.

ACTIVATION

The micro-organisms in the EM mother culture are dormant; to become effective they need to be activated.

Activate *EM1* to make *EMa*

- (a) 1 part EM1
- (b) 1 part blackstrap molasses
- (c) 20 parts water
- (d) 0.01% EMx ceramic powder or mineral powder
- (e) 1 tsp. sea salt (unrefined)
 1. dissolve molasses in 51°C warm water
 2. add ceramic powder and sea salt
 3. stir well and add EM1 (make sure temperature is still $\geq 43^{\circ}\text{C}$)
 4. let sit for 5 days at 35°C
 5. let sit at room temperature for another 5 days
 6. the pH should drop below 3.7

PRODUCTS

EM1 and EMplus



mother solution; needs to be activated before application

EM is completely safe for humans and animals and is an all-natural, non-genetically modified product that is approved for certified organic agriculture. EM•1[®] has a broad variety of applications around the household, as well in commercial applications. EM•1[®] naturally decontaminates and restores the microbial balance of complex living systems.

1 Liter, 1 Gallon

EMa (activated EM1 or EMplus)



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½ L, 1L, 1Gal

Blackstrap Molasses

A high quality molasses to be used in the making of Activated EM (AEM). One quart of EM•1[®] combined with one quart of the Blackstrap Molasses will produce 5 gallons of Activated EM.

Bokashi composter

The Kitchen Waste Composter is a unique in-house system designed to recycle food wastes into a valuable organic compost soil conditioner. This composting system applies a fermentation or pickling process that prevents food wastes from rotting, and therefore eliminates the foul odors and pests common to conventional composting in about half the time.

Small Beverage Ringstone.



For water containers up to five gallons in size. Place ringstone in water container to restructure water molecules back to hexagonal clusters for 30 minutes or more. The longer the better. The water needs to be potable, drinking quality for restructuring to take place. Can also be used for cooking, boiling, and deep-frying. These ringstones can be used repeatedly for the life of the product.

Large Bath Ringstone.



For water containers five to fifty gallons in size. Works in the same manner as the small ringstone for restructuring water molecules. These ringstones do not purify water, so the water needs to be clean and drinkable for the restructuring to take place. Can also be used for cooking, boiling, and deep-frying. These ringstones can be used repeatedly for the life of the product.



EM Ceramic Necklace and Bracelets.

These beautifully designed necklaces and bracelets assist in restructuring fluids in the circulator system, which has been associated with heightened immune function, improved energy and vitality, reduced stress and fatigue, and overall greater health.



K-Type EM-X Ceramic Pipes.

These flow-through pipes are designed for restructuring and energizing clean water. Can be used for hot tubs, swimming pools, ponds, fish tanks, toilet tanks, etc. These ceramic pipes can be used repeatedly for the life of the product.



N-Type EM-X Ceramic Pipes.

These flow-through pipes are very porous and absorb ammonium nitrogen to minimize algae growth for use in hot tubs, swimming pools, ponds, fish tanks, etc. Need to be replaced about once a year.



S-Type EM-X Ceramic Pipes.

These flow-through pipes are very porous and are designed to absorb chlorine, tribromomethane, and other toxic chemicals for use in hot tubs, swimming pools, ponds, fish tanks, etc. Need to be replaced about every six months.

35mm EM-X Ceramic Pipes.

This set of two cylindrical pipes is designed for one inch flow-through pipes. Works to restructure clean, potable water. Can be used like the ringstones for drinking water and can be used repeatedly for the life of the product.



Terra EM-X Ceramic Powder.

This 650 G bag of "terra c" can be used for restructuring water, as well as for adding to EM•1[®], AEM, or Bokashi to enhance their strength. Not recommended for sprayers, as it may clog the nozzle.

Super Cera Revitalize.



The 1 kg bag is specifically designed as a soil conditioner and for pest control. It can be added to EM-1, AEM, or Bokashi and can be used for hose-end sprayers, as this is a finer grade powder.

Yugo 5mm EM-X Ceramic Balls.



This 1 kg bag of ceramic beads is designed for free use in aquariums, arranged flowers, inside pillows, etc. Works in the same manner as ringstones for restructuring clean water and can be used repeatedly for the life of the product.

Xtra Antioxidant Rice Bran Beverage - Concentrated antioxidant supplement made from nutrient rich all-natural rice bran, papaya, and sea kelp ingredients. Made through a unique fermentation process using beneficial, cleansing microorganisms. The result is a golden colored liquid extract, containing an easily assimilated filtered composite of antioxidants, vitamins, minerals, enzymes, amino acids and phytonutrients designed to synergistically maximize the overall health and immune power of the body.



AGRICULTURE

Bokashi

Use an air-tight container with bottom spout to drain excess liquid

Build-up in layers of small-cut veggie cuttings, sprayed with EMa and compressed; cover air-tight

when full, let it stand 3-4 weeks more at a warm place (no sunlight!)

Super Bokashi

- (a) 330g dry chicken shit/ dry breadcrumps
- (b) 330g ground straw/ ground dry leaves
- (c) 330g fresh veggie cuttings/ grass fresh
- (d) EM mix: 3 EL EM + 3 EL melasse + 1 cup warm water + 1TL stonepowder
- (e) mix well (should be grumbly (dryish- not smearing)
- (f) put in airtight plastic bag in warm location for 2 weeks (pH <4)
- (g) keepable for several months in dry and cool place

Bokashi application:

Never direct on plants because the pH is too acid!

1. Indoor plants
 - a) mix bokashi with potting soil
 - b) let stand 14 days to neutralize pH and use
 - c) use EM-x ceramic powder (5ts/50L potting soil) to enhance bokashi
2. Garden plants
 - a) apply 150-200g bokashi per 10sqft
 - b) mix it into the surface
 - c) wait 14 days to neutralize pH and plant
 - d) use EM-x ceramic powder (2-10g/10sqft) to enhance bokashi
3. Lawn regeneration
 - a) 2L/100,000sqft all 2 weeks
 - b) when stabilized 1/1-2months
4. Watering:

Mix EMa 1:50- 1:100 with water for daily watering

5. Spraying:

Mix EMa 1:5 with water; for occasional use; spray undersides of leaves also

6. Cuttings for rooting:

use EMx for best results

7. Seed preparation:

- small seeds: 20-30min in 30-60ml EMa/1L water dip or spray
- medium seeds (wheat): 30-60min in 30-60ml EMa/1L water dip or spray
- big seeds (beans, potatoes): 2-3hrs in 30-60ml EMa/1L water dip or spray
- never let soak longer, the seeds will ferment and disappear
- put seeds into soil while wet
- disperse rockdust, lime from corals or montmorillonite on the soil

EM5 antipest

Mix in a plastic bottle:

1. 1000ml water (filtered tap water, no chlorine!)
2. 100 ml EM
3. 100 ml organic black strap molasses
4. mix and let stand for one week; open occasionally to vent gases
5. after one week add: 100 ml vinegar and 100 ml alcohol (whiskey or ethyl alcohol) and add: chilli pepper, garlic
6. let stand for another 2 weeks

application:

1. dilute the EM5 1:300 with water
2. spray all parts of the plant with the diluted EM5

Hydroponics, Aeroponics

- 1 part EM-1®: 1,000 parts nutrient solution for tomatoes
- 1:2000 for lettuces

Sprouts

SOAKING

1. First soak: 20 minutes in a weak hydrogen peroxide solution (1-2 tbsp. 2% hydrogen peroxide per 2 quarts of water and seeds. This is to clean the seeds thoroughly of any surface dirt, dust and spores that might contaminate the sprouting seeds.

2. Second soak: 20 minutes in a 1:100 dilution of EM-1® in water. This helps provide a probiotic environment for the sprouting seeds to ward off re-contamination by spores.
3. Third soak: 8-10 hrs., or overnight in pure, clean water. We recommend using EM-X® Ceramics to help structure the soaking water for optimum results.

SEEDING

1. use holed trays
2. lining the tray with a cheesecloth
3. put a very thin layer of peat moss (1/2 inch or less) in the bottom of the tray
4. soaked seeds are layered on top of the peat moss in one layer (A standard 10 by 20 inch tray will hold 1.5 to 2 cups of seeds)
5. give a gentle spray of water to help settle the seeds before being placed in the rack to start the germination process.
6. A dark cover is placed over the sprouts, which is typically just another empty tray.
7. Once the sprouts reach the top of the covering tray, it is removed and the sprouts are exposed to sunlight to green up.

Professional EM viticulture

1. Spring/Autumn treatments for the soil:
 - a) application with sprayer with running stirring per 2.47 acres (1ha)
 - b) 3-8t bokashi on soil
 - c) spray with mix from
 - 10kg ultra-fine biolite¹
 - 2kg EMx ceramic powder
 - 60L EMa
 - 600L water (hand warm if possible)
 - d) if no bokashi is available spray with:
 - 20kg ultra-fine biolite
 - 20kg EMx ceramic powder
 - 60L EMa
 - 600L water
 - e) cover with mulch (autumn) or lightly mix into surface (spring)
2. Spraying of plants

never in direct sunlight

 - a) in early spring, min. 2 weeks before butts grow big, during frost-free time

¹ Bioliths, or biolites, are sedimentary rocks formed by living organisms or their remains

- 300L water
 - 4kg ultra-fine biolite
 - 0.5kg EMx ceramic powder
 - 0.8L EM5
 - 10L EMa
- b) from spring after butts grow to autumn: all 2 weeks or to requirement:
- 300L water
 - 2kg ultra-fine biolite
 - 0.125kg EMx ceramic powder
 - 0.5L EM5
 - 5-10L EMa
- c) late autumn after harvest:
- 300L water
 - 4kg ultra-fine biolite
 - 0.5kg EMx ceramic powder
 - 0.8L EM5
 - 10L EMa

Professional Orchards

1. Spring/Autumn treatments for the soil:
 - a) application with sprayer with running stirring per 2.47 acres (1ha)
 - b) 3-8t bokashi on soil
 - c) spray with mix from
 - 10kg ultra-fine biolite²
 - 2kg EMx ceramic powder
 - 60L EMa
 - 600L water (hand warm if possible)
 - d) if no bokashi is available spray with:
 - 20kg ultra-fine biolite
 - 20kg EMx ceramic powder
 - 60L EMa

² Bioliths, or biolites, are sedimentary rocks formed by living organisms or their remains

- 600L water
 - e) cover with mulch (autumn) or lightly mix into surface (spring)
2. Spraying of trees
 - never in direct sunlight
 - a) in early spring, before flowering, during frost-free time
 - b) right after flowering
 - c) after falling of leaves before frost
 - 150L water
 - 4kg ultra-fine biolite
 - 0.5kg EMx ceramic powder
 - 0.8L EM5
 3. Watering
 - at dawn or dusk, not during dryness; just before mulching
 - 60L EMa
 - 600L water
 4. Painting tree trunks
 - a) around the tree cuts
 - EMx ceramics powder with EMa mix as a paste

Soil transition to biological

1. in the first 2 years
 - a) mix 5L EM1 + 5L Molasses + 140L water to Ema
 - b) dilute this in 600L water
 - c) spread before or during rain, 3times 50L/2.47 acres (1ha)
 - d) spray during the cultivation period 2-3x 10L EMa in 600L water
2. in the 3rd year the EM1 input drops to 3L
3. from the 5th year the EM1 input drops to 1-2L

WATER TREATMENT

EM for ponds/lakes

1. 1L EMa in 10,000 L water (0.1L pro m³)
 - a) after one week: organic matter rises from bottom to surface
 - b) stink vanishes, water becomes gradually clearer
 - c) algae start growing a lot: after 2 weeks they clump and die
 - d) after one month all the water is clear
2. make Ema with less molasses
3. micro organisms do not move well: need to spread the application
4. best results with EM-X ceramics (500g ceramic pipes for 10,000L); hang into lake at certain places
5. best results: mix EMa into zeolite/volcanic-rock-powder and grumble into lake

EM swimming pool treatment

1. 1 bag EM-X ceramic pipes (500g) in skimmer or in sand filter
2. 2L Ema

EM aquarium

always put EM directly do not activate it; to not add carbons into the water for algae explosion

1L EM : 5,000 – 10,000L water all 14 days [1:5000-10000]

add: 1x pinch of ceramic powder

add: 1 EM ceramic tube : 10L

EM for flowing water treatments

1. 1/5000 of daily flow volume
 - a) z.b:channel of 1000m long, 12m wide and 1.5m deep; flowspeed=1m/hr
 - b) formula $EM=1 \text{ (m/hr)} * 24 \text{ (hrs)} * 12 \text{ (m wide)} * 1.5 \text{ (m deep)}= 432\text{m}^3/5000=86.4\text{L}$
 - c) add some bags of EM-X ceramic pipes where the flow is greatest
 - d) best when EM is soaked into porous material (hydroclay, volcanic rock etc)
 - e) or use dried bokashi!

WASTE WATER TREATMENT

Recipe for treatment plant with min. 3 tanks:

1. per 10,000L waste water:
 - 1L EM1
 - 2L Blackstrap Molasses
 - 5-10L water
 - mix in plastic container
 - let ferment for 5 days
2. pour into system once every 4 weeks
3. after 3-4 months: once/3-4months
4. after system is stabilized, put 2-3 times/year
5. to prevent formation of sludge: aerate 2-3hrs/day
6. it helps a lot to soak autoclaved concrete blocks with EM and hang them in the 1st and 3rd tank

EM FOR ANIMALS

Additive for feeding

1. Horses, sheep, goats: 3% EMa in dry food
2. Dogs: 1Ts to 1Tbs EMa/day in water/food depending on size
3. Cats: 1Ts Ema/day
4. Hamsters: few drops Ema/day
5. Birds: 1drop EMa in water + 1 EMx ceramic pipe in water

Professional Pisciculture

- 100L ground straw or bran
- 25L ground grain
- 25L legumes flower
- 150ml EM1
- 150ml Molasses
- 15L Water

Aquarium

- do not use EMa but EM1
- 1L EM1/ 5,000-10,000L water
- apply all 2 weeks
- put once: 5ml EMx ceramic powder or 1 EMx ceramic pipe/10L water

Manure

- 1L EMa/10m³ manure
- can add ultra-fine rock dust, liquid germanium
- add 1L EMa/m³ manure before spreading on soil
- spray stables with EMa to prevent flies
- spray animals with EMa to prevents smell and sickness

HUMAN CARE

Full bath

- 1-4L EMa per bathtub
- and/or EMx big ring or net bag with EMx pipes
- A 1/4 cup of EM-1® in your bath will keep the ring out of the tub and also soothe the skin. This can also keep the drain clean and odor-free.

Mouth water

- mix 1L applejuice with 1 Tbsp EMa

Phil's Grape EM (energy drink)

(for 1L)

1. 500ml hot water (46-51°C)
2. add and dissolve 40ml organic black strap molasses
3. add 20ml 100% grape juice
4. add ½ tsp sea-salt
5. add ½ tsp granulated kelp
6. add 60ml EM
7. add 220ml water (room temperature) and shake well
8. keep airspace on top of bottle of 20% of bottle volume
9. tighten lid and keep at 35-43°C for min. 3 months
 - 9.1. for 1 week de-gas every day
 - 9.2. for 3 weeks shake every day
 - 9.3. after 2 weeks add
 - a) 20ml EM
 - b) 60ml 100% grape juice

CLEANING

Spraybottle

- put 15ml EMA in 1L water (better if water is treated before with EMx rings/pipes)
- best during first 3 days

Resistant spots

- spray from spraybottle until wet
- let soak for 12 hrs

Smoke Removal

- Room or a car: 1:10 dilution of EM-1® to water
- Carpets or upholstered furniture, you will have to soak the solution in using an upholstery cleaning machine or a carpet cleaner
- For light-colored fabrics, you will have to dilute to around 1 ounce per gallon of water to avoid discoloring the fabric.

Deodorize Air (kitchen smell)

- Dilute EM-1® into water at 1:10 in a spray bottle and spritz the entire room or house.
- Vaporizer: 1/4 cup EM-1® in a vaporizer, plug it in, and let it run for a few hours. The house will smell like warm molasses while the EM-1® is fogging the room. After about 4 or 5 minutes, there will be no smell at all.

Pet Odor:

- If the animal itself smells, such as when dogs get wet, you can simply spray the animal with a 1:10 dilution of EM-1 to water. Or, you can add about 1/4 cup of EM-1® to some bath water for the animal.
- Urine and Feces: soak the area with a 1:10 dilution of EM-1 to water. After it dries, if there is still some odour, simply apply once more.
- Skunk: If the 1:10 dilution doesn't work, feel free to put it on undiluted.
- Litter Box or cages (hamsters, rats, etc.) add about 2 cups of EM-1 Rice Bran Bokashi to fresh litter. It will control the smell of urine and feces.

Cloth washing

- 1/8 cup of EM-1 per load of laundry

CONSTRUCTION

Loosen wallpaper

- mix 1/2L EMa + 18L water
- apply to wallpaper with large brush
- let rest 30min
- apply again with large brush
- let rest 30min
- strip wallpaper

Gluing wallpaper

- add 3Tbsp EMx ceramic powder/250sqft floor surface into the wall paper glue
- add 500ml EMa

Wall paints

- add 250ml EMa into 20L paint
- add also 600ml EMx ceramic powder

Oil based paints

- add 3-5vol% EMx ceramic powder to the paint
- to prevent volatile organic substances

Plaster

- mix 1 part EMa + 1000 parts water
- use this mix to make plaster, stucco, etc
- add EMx ceramic powder when using big amounts

Concrete preparation

- mix 100g EMx ceramic powder + 80-100L water
- let sit for 2 days
- prevents cracks, faster curing, corrosion of armature