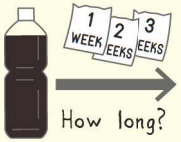
FAQ

Q The plastic bottle does not swell up. Does that mean it's not fermenting?

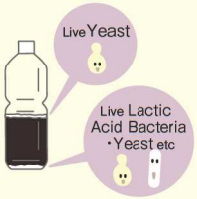
A The bottles swell when carbon dioxide is generated by microbial activities. Depending on the condition of the fermentation, it may not always be generated. Even if there's no gas, fermentation is taking place as long as it smells sweet and sour. If a pH test paper shows 3.5 or below, it's ready to use.

Q How long does it last?



A We are dealing with live microbes, and there is no specific "expiry date." However, it is recommended to use it within 1 month after Activated EM･1 is ready, as it works better when the microbes are in top condition. If it starts smelling different, use it to clean toilets or drain pipes. Diluted EM solution should be used up in a day.

Q What is the white film that appears on the surface of Activated EM･1?



A When there is air in the container, yeast gathers up to the surface and produces white film, but there is no problem using it. However, being exposed to the air for a long time gradually changes the quality. It is recommended to use it as soon as possible.

Contact your local EM Distributor about EM products, their application, and anything else about EM.
Find a distributor near you! → www.emrojapan.com/?findyourlocal

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EM BOOK

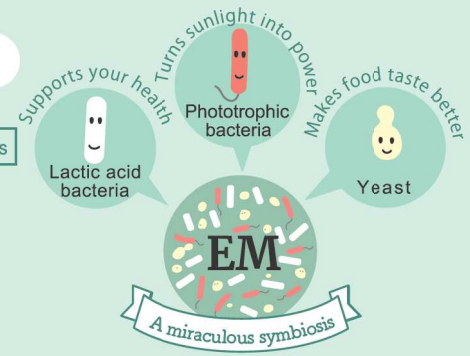
No.1

Let's start EM Life!

Let's learn about EM!

What is EM? → A group of beneficial microbes

EM is a people-friendly and environmentally safe product that achieves synergistic effects by combining beneficial microorganisms which exist in nature, such as lactic acid bacteria, yeast and phototrophic bacteria.



What can EM do? → It makes people, animals and the environment healthier

Soil Plants

Plants grow healthier and stronger in rich soil!

EM acts as a supporter of beneficial microbes that exist natively in the soil. Soil becomes richer, plants grow healthier and more resistant to diseases and harmful insects.

Farm animals

Foul odors are controlled, delicious high-quality meat is produced!

Unpleasant odors are reduced by spraying EM in the livestock barns. Adding EM to drinking water and feed makes livestock grow healthier and improves the quality of meat and eggs.

Sea Rivers

Plants grow healthier and stronger in rich soil!

By applying EM into the seas and rivers, sludge will decompose, bad odors are reduced, and aquatic life returns with greater diversity.

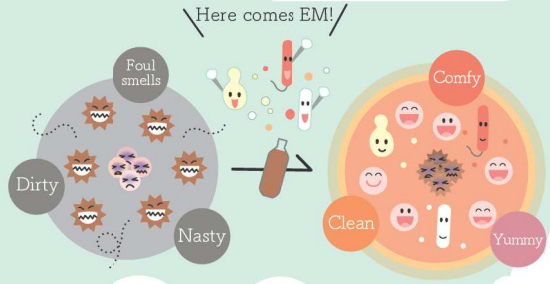
Home

Your home becomes more comfortable!

EM decomposes the precursors of unpleasant smells and dirt, as well as preventing dust. Using EM on a daily basis helps beneficial microbes make your home more comfortable.

How does EM work? → Controls harmful microbes and supports healthy microbes

Beneficial microbes contained in EM and the effective components they produce activate native microbes and control harmful bacteria in soil and water. If good microbes are dominant, they create a happy environment for all living creatures.



<Bad microbes are dominant> <Good microbes are dominant>

Basic EM products for your home

Ready to use!
For home cleaning and deodorizing

EMW
500mℓ
— more on— p3

Ready to use!
For your kitchen garden

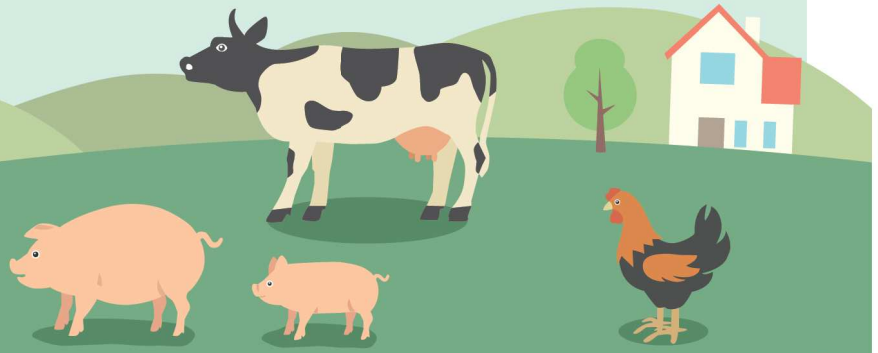
EM Garden
500mℓ
— more on— p5

Use straight or Expand!
Dr. Higa's Original

EM・1
500mℓ
— more on— p6, 7, 9, 12

Standard Feed for EM

Molasses
500mℓ
— more on — p7, 9, 12



How to use EM — Housekeeping —

Ready to use

EMW

The beneficial microbes in EM are very effective in housekeeping applications such as cleaning, deodorization, and air purification. EM decomposes dirt and foul smells, controls bad microbes, and helps to create a comfortable space at home.

Deodori-zation

Cleaner

\ Challenge! /
Expand EM at home

Let's try making Activated EM･1

Step UP!

Once you are familiar with EM, try expanding it yourself!

Go to p7 for more details

Make your room cozier!

Basic Method
Dilute EM in a sprayer. Spray and wipe with a dry cloth!

Couch, Carpet
Spray EM until wet, and tap it with a dry cloth.

Natural and safe for children!

Floor
Spray EM and mop lightly. The floor will shine when you continue mopping witn EM.

Clothes
Spray EM generously on clothes with unwanted smells like sweat or cigarettes, and you can barely smell them the next day.

Window
Spray EM and wipe with a microfiber cloth to prevent dust.

TV, PC, Home Appliances
Wiping home appliances with a damp cloth will prevent dirt and dust.

Blankets
Spray EM until wet and dry them out in the sun. The blankets will be extra fluffy.

How to use EMW and Activated EM･1

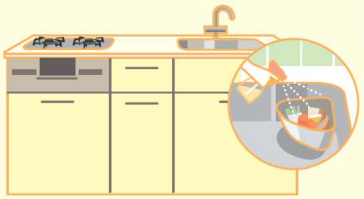
1. Dilute EM 50 fold, and make "EM dilute solution."
   This is only a guide. Measurements need not be precise.
2. Adjust the mixture according to your tools and working space.

For a 500ml sprayer

EM diluted with water does not last long. Drain if there is any leftover and wash the sprayer every day.

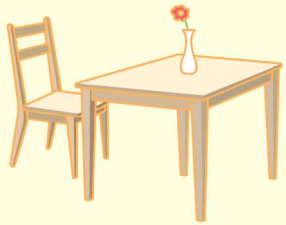
Have a sparkling kitchen!

Stove, Sink
Spray EM and wait. Wipe after the dirt is lifted up.



Ventilation Fan
Clean regularly before it gets covered with heavy dirt. Spray EM and wait. Wipe off after a while.

Garbage/Trash Can
Spray EM on kitchen waste to prevent unpleasant odors.



Pots, Pans
Add a little bit of EM when soaking dishes or pans, and dirt will come off easily.

Tables, Chairs
Use EM to keep the table clean every day.

Refrigerator
Spray EM inside the fridge and wipe. Unpleasant smells will be reduced.

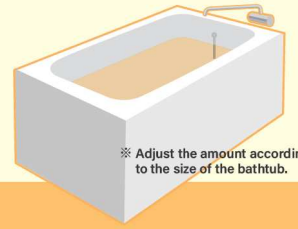
EM helps you in every aspect of your life!

Pets
Spray frequently on the cat's litterbox or the dog house.

Car
Spray inside the car to remove smells such as cigarettes and sweat. Spray on the car body and windows, too, and wipe off.

Shoe shelf, Entrance
Spray plenty to reduce unpleasant odors.

Bathtub
Pour 200ml※ of undiluted solution in the bathtub. It will be easier to get rid of scum and slime.



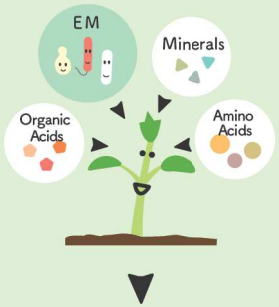
※ Adjust the amount according to the size of the bathtub.

Laundry
Soak laundry in EM overnight, and dirt and smells will come off more easily.

Toilet
Spray EM in and outside of the toilet bowl, leave it for a while, and wipe off. EM will neutralize and decompose ammonia and dirt.

How to use EM

— Home Gardening —



Ready to Use

EM Garden

EM Garden contains live microbes which exist in nature, such as lactic acid bacteria, yeast, and phototrophic bacteria, as well as nutrients which help plants grow healthy, such as organic acids, amino acids, and minerals.
Beneficial microbes create healthy environments for plants, making it hard for them to get sick, enhance their photosynthetic ability, and help vegetables taste more delicious.

\ Challenge! /
Expand EM at home

Let's try making Activated EM・1

Step UP!

Once you are familiar with EM, try expanding it yourself!

Go to p7 for more details

Expected Effects

☑ Plants grow healthier !

EM increases the number of beneficial microbes in soil. As a result, putrefactive bacteria and pests decrease, and plants grow healthier.

☑ Tastes even yummier !

In rich soil, plants do not get pests easily and do not need chemical fertilizers or pesticides. Vegetables grown without agrochemicals taste sweeter and richer.

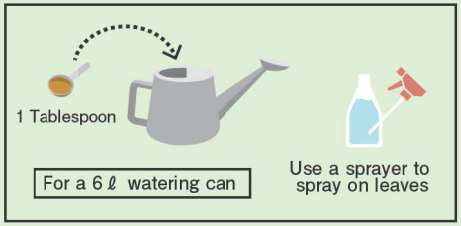
☑ Vivid colors!

Flowers bloom more vividly and leaves start to shine. Your flowerbeds will look even more beautiful. You can also enjoy the flowers longer.

How to use EM Garden / Activated EM・1

1 Dilute EM 500 fold* to make "EM dilute solution."
*EM :Water = 1 : 500

This is only a guide. Measurements need not be precise.



2 Sprinkle EM dilute solution onto soil and plants with watering cans.

every day in summer
once or twice/week in winter

Water plenty (until water comes out from the bottom of the planters).

once or twice/week

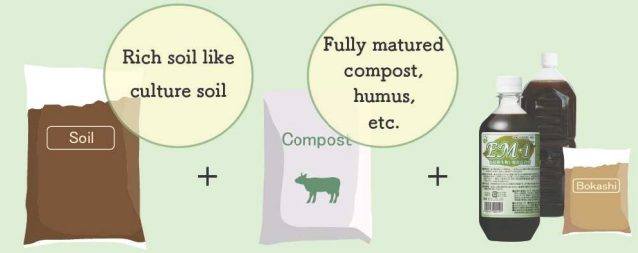
Spray the front and the back of the leaves where pests tend to attach. It keeps the plants healthy.

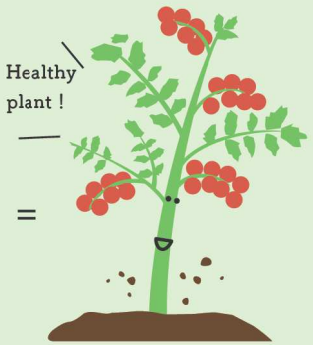
when necessary

When you apply fully matured compost or humus on the soil surface, spray plenty of EM all over.

3 essentials for plant growth

Seed and compost alone won't make plants grow. They need the help of beneficial microbes to grow up.

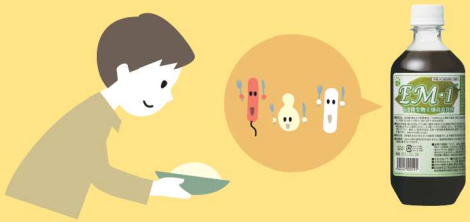




Expand EM !

Q1 What does it mean to "expand EM" ?

By feeding the microbes in EM, they become active and increase their number.

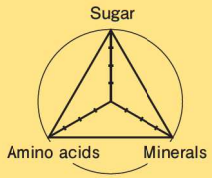


EM・1 is a basic product consisting of 3 kinds of beneficial microbes that live symbiotically. The microbes in EM・1, with some feed, work actively and increase their number .

Q2 What is the best feed ?

It is best to give feed that contains sugar, amino acids, and minerals in good balance.

Molassess



Molassess is a byproduct of sugarcane. It contains not only of sugar, but also amino acids and minerals in good balance, thus it is the best feedstock for EM.

Q3 How much does it expand?

You can make 1 bottle into 20-bottles worth.

1 bottle of EM・1(500ml) can make about 20 bottles (500ml) of Activated EM・1.

The quality is not exactly the same as EM・1, but it works in the same way as EM・1.

Q4 Why do you have to expand it?

Because you can use EM everywhere.

Experiencing the effects and comfortableness of EM makes you want to use EM wherever and whenever possible. In doing so, you can save money by expanding EM at home.

Enjoy expanding EM and start a happy EM life!

Activated EM・1 Recipe①

Molasses feed

Activated EM・1

This recipe is for Basic Activated EM, made with EM・1 and molasses. Use it for kitchen garden, deodorant, cleaning, and everything else.

Use

Kitchen Garden ★★★

Deodorant ★★★

Cleaning ★★

What to prepare

1 2ℓ plastic bottle (see the chart for other sizes.)

Point 1

Stains become hotbeds of unwanted bacteria. Make sure to wash the bottle thoroughly before use.

2 Warm water 1.8ℓ
(40℃: about the temparature of shower water)

Point 2

It is ideal if the liquid is 38℃ after mixing all the ingredients.

3 EM・1 100mℓ

4 Molasses 100mℓ

5 Other utensils

measuring cup

bowl

funnel

Choose the size to fit your lifestyle

Make sure to use strong containers.

2ℓ Standard size for plenty of uses

EM・1	100mℓ
Molasses	100mℓ
Water	1.8ℓ

1ℓ Perfect for small households

EM・1	50mℓ
Molasses	50mℓ
Water	900mℓ

The amount of EM・1 and Molasses is always 1/20 (5%) of the bottle

500mℓ To carry with you!

EM・1	25mℓ
Molasses	25mℓ
Water	450mℓ

The organic acids produced by microbes are effective for deodorizing, cleaning, and plant growth. The above recipe shows the suggested blend ratio to produce enough organic acids.

How to make Activated EM・1

Preparation (10 min)

1 Put molasses into a bowl and add warm water (500ml) . Stir until dissolved.

2 Pour the liquid into a plastic bottle using a funnel. Add the rest of the warm water (1300ml), and add EM・1.

3 Close the cap tightly and shake.

Fermentation・Storage(1 ~ 3 weeks)

4 Place the bottle in a warm place indoors and keep the liquid temparature at 25℃ or more (ideally 38℃).

5 When the fermentation is active, generated gas inflates the bottle. Make sure to let it burp occasionally.

in Winter

Let it ferment in warm places, such as...

- In the bathtub
- By the sunlit windows
- Somewhere with thermal effect

Done

After fermentation

★Store in a cool place and avcid direct sunlight.

★Continue to deflate if gas is still generated.

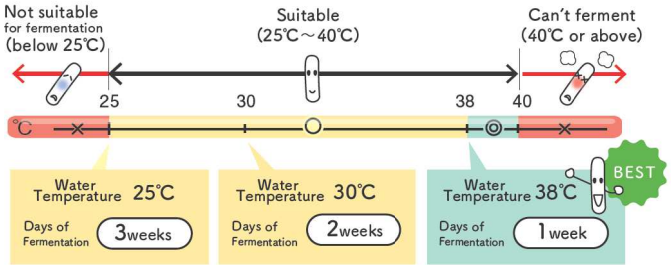
Quality Check !

Check pH with a test paper. It should be pH3.5 or below.

Water Temperature VS. the Number of Days

The number of days required for fermentation varies depending on the water tempareture.

38-40℃ is the temperature at which the mibrobes in EM become active in better balance and make high-quality Activated EM・1.



Activated EM・1 Recipe ②

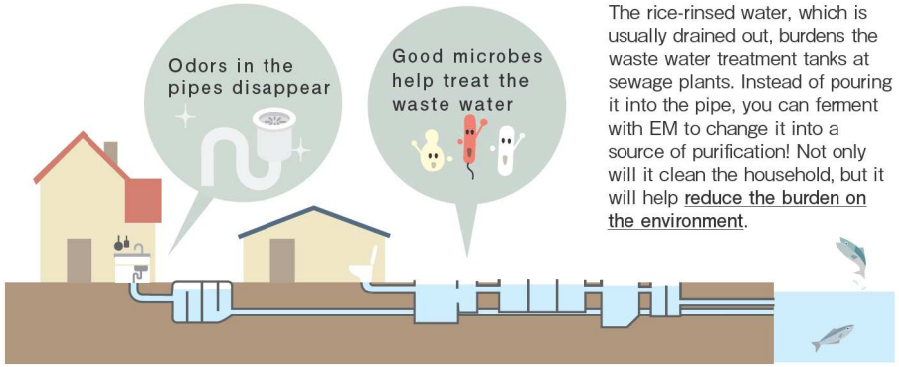
Fermented Rice-rinsed Water

Use
Kitchen Garden ★★★
Deodorant ★★
Cleaning ★★★

Utilize the water left out after rinsing rice, amd reduce waste. Use it to activate EM・1 and save the environment!

Why ferment the rice-rinsed water?

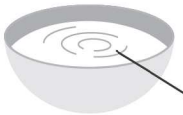
Change a waste product into a source of purification.



The rice-rinsed water, which is usually drained out, burdens the waste water treatment tanks at sewage plants. Instead of pouring it into the pipe, you can ferment with EM to change it into a source of purification! Not only will it clean the household, but it will help reduce the burden on the environment.

Fermentation helps more!

Fresh rice-rinsed water is difficult to handle as it goes bad easily due to the nutrients it contains. Fermenting it with EM turns it into something better that can be used for cleaning or watering the flowers.



starch (carbohydrate)
fat
vitamins
minerals and more

Rice-derived oil is effective at removing dust. Use it to mop the floors and corridors, and they will shine with a sparkle!

Rice-derived componets and the good microbes in EM work together to activate the good microbes in soil, which help plants grow stronger and healthier.

What to prepare

1 2ℓ plastic bottle

Point 1
Stains become hotbeds of unwanted bacteria. Make sure to wash the bottle thoroughly before use.

2 Rice-rinsed water 1ℓ

Point 2
Use rice water immediately, as it easily goes bad when germs get in.

Clean water 2/5
Rice water 1/2
EM・1 1/20
Molasses 1/20

3 Warm water
to adjust the temperature
About 50℃ in summer, 65℃ in winter
800mℓ

4 EM・1 30mℓ

5 Molasses 100mℓ

6 Other utensils

bowl

measuring cup

funnel

The above ratio works for bottles of different sizes as well.

How to make it

Preparation (10 min)

1 Pour the rice-rinsed water into a bottle. (Up to 1ℓ at the right temparature.)

2 Dissolve molasses into warm water(800mℓ) and add to the bottle.

3 Add EM・1, close the cap tightly and shake.

Fermentation・Storage(1 ~ 3 weeks)

4 Place the bottle in a warm place indoors and keep the liquid at 25℃ or higher (ideally 38℃).

5 When the fermentation is active, gas inflates the bottle. Make sure to let it burp occasionally.

※ Refer p.10 for fermentation period.

After fermentation

★Store in a cool place and avoid direct sunlight.
★Continue to deflate if gas is still generated.

Quality Check !

Check pH with a test paper.
It should be pH3.5 or below.