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How to Use EM Solutionⁱ

EM solution is a powerful agricultural tool that you can use in many different ways. But like all powerful tools, it can hurt you if you do not use it properly. EM solution is very strong – make sure that you mix it with the correct amount of water for the job you are doing!

What you can do with EM

Compost: spray compost piles and materials that you are adding to compost piles to:

- Reduce smells
- Speed up the composting process
- Improve the quality of the compost

Fields: spray soil and growing plants to:

- Improve the quality of your soil
- Improve root growth
- Reduce the possibility of insect infestations and disease
- Improve plant health
- Improve yield

Livestock: spray EM solution in cow sheds, chicken roosts, pig pens to:

- Reduce smells
- Reduce flies
- Improve the quality of the manure as fertilizer

Orchards: spray soil and trees to:

- Improve the quality of your soil
- Improve root growth
- Improve leaf health
- Reduce the possibility of insect and disease
- Improve yield

Organic fertilizer: spray everything you put into organic fertilizer and the final product to:

- Improve the quality of the fertilizer
- Reduce the possibility of spreading bad insects or disease

Soil: spray your soil whenever you turn, plow, mix, mulch or cover it to:

- Improve its quality
- Speed the composting of organic materials

Correct EM Mixes for Different Uses

Most of us use simple backpack sprayers, so we have the correct mixes for the most common, 16 liter sprayer here. If you have a power sprayer, you will want to make larger quantities of mix, so we have also included the correct mixes for 200 liter drums.

In the first column (Use), the dilution ratio (for example 1:1:500) says that this mix is 1 part EM, 1 part molasses and 500 parts water. If you use a 16 liter backpack sprayer or a 200 liter drum, all you have to do is to refer to is the amount of **EM Solution Used**, **Molasses Used** and **Water Used**. If you use these amounts, your mix will have the correct dilution ratio.

Use	Size/Applicator	EM Solution Used	Molasses Used	Water Used
Plants 1:1:500	16 liter backpack sprayer	30 ml/2 table spoons	30 ml/2 table spoons	15 liters
Plants 1:1:500	200 liter (55 gallon) drum	400 ml/27 table spoons	400 ml/27 table spoons	199 liters
Soil 1:1:100	16 liter backpack sprayer	150 ml/10 table spoons	150 ml/10 table spoons	15 liters
Livestock 1:100	16 liter backpack sprayer	150 ml/10 table spoons	NONE	15 liters
Livestock 1:100	200 liter (55 gallon) drum	2 liters	NONE	199 liters

ⁱ Thanks to Keith Mikkelson, *Sustainable Agriculture in the Tropics: A Natural Farming System*, 2011.