



ROOT & MICROBE

For use during Propagation, Transplanting, Feeding and Building beneficial microbes in your soil or media. Also use as a compost starter.

The Key component in the BIO-VEGANIC GROWING SYSTEM.

Instructions for Use:

ROOT & MICROBE (R&M) is the key formula in the BIO-VEGANIC lineup. R&M is used in every phase of growth from propagation to harvest. R&M contains a wide diversity of beneficial soil microbes, 20 different strains of Beneficial Bacteria, 11 kinds of Mycorrhizal Fungi and 7 types of Trichoderma. R&M is fortified with growth factors and nutrients to feed large populations of beneficial microbes when brewed aerobically. The blend will double their populations every 20 minutes in a simple aeriated container such as a compost tea brewer, therefore efficiently and economically produce tremendous concentrations of these wonderful natures helpers.

A brew time of only 24 hours will be all you need to make the Stock Solution for all the following purposes. Be sure to treat all plants 1 X per week, use on nursery stock, parent plants, all veg & flowering plants.

Instructions for ROOT & MICROBE Stock Solution.

- Use only pure chlorine free water.
- ½ Teaspoon or 5 ml R&M per 1-gallon brew water. (Will treat up to 15 plants)
- 1 Tablespoon or 15 ml R&M per 5-gallons brew water. (Will treat up to 45 plants)
- ½ cup R&M per 100-gallons brew water. (Will treat up to 4500 plants when mixed with enough delivery water)

Mix into an aeriated container such as a compost tea brewer and aerate brew for 24 hours. The concentrated brew may need to be diluted with enough water to carry the microbes into the root area, normally the amount of water needed for regular watering will be the amount to use as the delivery water to treat all plants, this is the Stock Solution.

TIP: During the Flowering Phase, it is beneficial to brew the Stock Solution for 36 hours. This allows the slower growing Mycorrhizal Fungi to build larger colonies, as they are very helpful during the later growth and Flowering Phase.

Do not mix more than will be used in 12 hours after brewing, do not try to store leftovers, just use it, you can't use too much R&M, it's very safe to use.

Veganic - Safe for the environment. Use only as specified on label. Store in refrigerator between use. Store between 60 & 90 deg. F. Store away from direct sunlight & all EMF's.

Non-pathogenic. Not intended for human consumption. Wash exposed areas thoroughly with soap and water after handling and before eating.

Keep away from children; do not take internally; skin and eye irritant; replace cover after partial use; recycle empty container immediately; always apply proper hygiene at all times. In case of eye contact, flush with water. If swallowed, drink water and consult physician. Do not expose to open flame or extreme heat. The buyer assumes all responsibility for safety and use not in accordance with directions. Under normal conditions this product is reasonably fit for its intended purpose. Factors that affect the shipping, storage, handling and use of this product are beyond our control. No warranty is expressed or allowed concerning this product contrary to label directions or under conditions which are abnormal or not foreseeable. The user assumes all risks of using this material. Good Rayne, LLC warrants that this product conforms to the description and percentages listed on the label.

Contents: 2 cups – 16 ounces net wt.
(32 Tbsp.)



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PROPAGATION: It is recommended the mother plants that you are propagating from, be grown with the BIO-VEGANIC growing system and have some special treatments to prepare them prior to taking cuttings. Maintain the mother plants by root feeding and foliar feeding with **VEG&GRO** and **ROOT&MICROBE**. Take care to foliar spray with **ROOT&MICROBE** 24 hours before taking a batch of cuttings. To make chemical free, robust rooted cuttings. Make a 24-hour aerated brew of **1 Tablespoon R&M per 5-gallons water**. Start by collecting the first cuttings off the parent plant and immediately immersing them into a small container of the R&M Solution, finish collecting as many as you need. This will act as initial soak, this will hold them until you trim them to stick. Once trimmed and ready to stick, place the trimmed end down, back into the solution for 10 minutes, then stick them into the rooting media, cubes, plug or soil that has been completely soaked in the R&M Solution. Now the cutting and the rooting media have been inoculated to root vigorous healthy clones. Root as normal in your domed trays, spray with R&M Solution to keep tray moist as needed.

TRANSPLANTING: To transplant rooted clones or rooted seedlings, pre-soak soil or media with the Stock Solution, place the cutting into the soil media and water in with more Stock Solution. You may use pure water or R&M Solution to water the first week or so before using any plant food. Start feeding very slowly with 400ppm of BIO-VEGANIC **VEG&GRO**. For older nursery stock water in a 50/50 mix of Stock Solution and the Bio-Veganic Plant Food at each transplanting.

VEG-GROWTH and FLOWER PHASES: It is important to water plants with R&M Solution at least **1x weekly**. It may be mixed with any of BIO-VEGANIC plant foods at all phases of growth or watered separately between feeding. Use **1 x weekly** from Start to Harvest.

Foliar Treatments: During the Vegetative and early Flowering phases of growth spraying the R&M Solution with a low-pressure sprayer can be very beneficial to overall plant health and pest resistance. Dilute the Stock Solution 50/50 with pure water. Spray to cover top and bottom of foliage. Spray 1 x weekly or 2 x monthly. May be sprayed in combination with plant foods to feed as well as inoculate in one application. Dilute Stock Solution with BIO-VEGANIC **VEG&GRO** or **FLOWER** that has been diluted with pure water 4 x normal strength. **End foliar treatments after flowers start forming.** Spray R&M Solution at the first sign of any pest or disease issues, many times the powerful action of the microbes are all that will be needed.

Derived from:

Soil Microbe Blend, Kelp Extract (*Ascophyllum nodosum*) & Humic, Fulvic & Ulmic Acids (From freshwater humate sources).

Microbial Analysis

Beneficial Bacteria: 20,000,000CFU per gram(each) : *Bacillus Subtilis*, *Bacillus Licheniformis*, *Bacillus Azotoformans*, *Bacillus Megaterium*, *Bacillus Coagulans*, *Bacillus Pumilus*, *Bacillus Stearothermophilus*, *Bacillus Thuringiensis*, *Bacillus Amyloliquefaciens*, *Paenibacillus Polymyxa*, *Paenibacillus Durum*, *Paenibacillus Florescence*, *Paenibacillus Gordonae*, *Azotobacter Chroococcum*, *Azotobacter Polymyxa*, *Pseudomonas Aureofaciens*, *Streptomyces Lydicus*, *Streptomyces Griseus*, *Streptomyces Coelicolor*, *Pseudomonas Putida*

Trichoderma: 10,000,000 CFU per gram (each) : *Trichoderma Viride*, *Trichoderma Harzianum*, *Trichoderma Reesei*, *Trichoderma Hamatum*, *Trichoderma Polysporum*, *Trichoderma Koningii*, *Trichoderma Virens*

Mycorrhizal Fungi: propagules per gram (ppg) *Glomus Intraradices* (30), *Glomus Mosseae* (33), *Glomus Aggregatum* (30), *Glomus Etunicatum* (31), *Rhizopogon Villosullus* (1600), *Rhizopogon Luteolus* (1700), *Rhizopogon Amylopogon* (1750), *Rhizopogon Fulvicleba* (1800), *Pisolithus Tinctorius* (125,000), *Scleroderma Cepa* (3250), *Scleroderma Citrinum* (3250) *Saccharomyces Cerevisiae* (600,000 CFU per gram)



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