

Mike's Root Boost

All purpose Root Enhancer

Use with: Bulbs, Seeds, Transplants, Trees, Shrubs, Established Plants, etc.

100% organic, environmentally friendly & contact safe. Safe for use around domestic animals, pets, wildlife & children.
100% non-polluting to soils, rivers, lakes, & ground water.

Popular Uses:

- Vegetable & Flower Gardens.
- House & Office Plants.
- Fruit & Citrus Trees (Used by Orchard Growers).
- Grapes (Used by Vineyard Growers).
- Enhanced Organic Lawn Maintenance. For vigorous, naturally beautiful, low cost / maintenance lawns.
 - o Repairs Fairy Rings.
 - o Repairs Necrotic Ring Spot.
 - o Used by Lawn Care Professionals.
- Quaking Aspen & Most Shade Trees.
- Raspberries. Strawberries.
- Roses. (Used by Professional Rose Growers).
- Spirea & other popular hedge plants:
- Melons. Corn. Potatoes. Squash, etc. (Benefits over 230,000 plant species. See our application brochures for more information & details).

General Benefits:

- Helps increase plant vigor and vitality so plants resist fungal diseases and opportunistic insects.
- Sustains water and mineral nutrient flow into roots.
- More chlorophyll is present in the leaves and stems so plants may be planted in areas with low light. Plants and cuttings retain more water and take longer to wilt and dry out.
- Transplant shock losses are reduced.
- Plants produce consecutive blooms throughout the growing season.
- Plants have increased resistance to environmental stresses (too hot, wrong pH, salinity, pollution, etc.)
- Improves soil condition and allows earthworm populations to increase.

Product viability is guaranteed. Vacuum packing, mold, and strong musty odor is normal.
Due to the variability of soils and environmental conditions we cannot guarantee the benefits will occur in all locations and situations.

**A Natural Organic
Non-Plant Food Product**

Active Ingredients: Endomycorrhizae (approx. 40 - 100 spores per cc.) Ectomycorrhizae (approx. 100 - 500 spores per cc.) Bacteria: Athrobacter Globiformis, Azotobacter Chroococcum, Azotobacter Vinelandii, Bacillus Subtilis, Pseudomonas Alcaligenes, Pseudomonas Fluorescens, Pseudomonas Pseudoalcaligenes, and Pseudomonas Putida. Estimated minimum viable cells per cc: 20,000. Trichoderma Harzianum and Trichoderma Koningii, estimated minimum cells per cc: 10,000.

Directions for use: (per cup)

Transplants & Bulbs: 48 at 1 teaspoon each on plant roots.
Seeds: 192 at 1/4 teaspoon under each seed.

Established Roses & Grapes: 8 plants at 6 teaspoons each - poke six holes 8-10 inches into root zone close to plant and apply 1 tsp per hole. Cover with soil.

Bare root Rose & Grape plants: 16 plants at 1 tablespoon each - apply directly onto plant roots over planting hole.

Necrotic Ring Spot and Fairy Rings: 250 sq. ft.

Turf Grass Maintenance: 500 sq. ft.

MRB is a root growth enhancer containing Vesicular Arbuscular Mycorrhiza (VAM) which form a special symbiotic relationship with roots of plants that can enhance growth and survivability of colonized plants. Many benefits are commonly found with VAM and may result from use of this product.

Application:

MRB can be used to treat roots of most agricultural crops. Common crops benefited include asparagus, almonds, apples, carrots, cherries, grapes, lettuce, onions, peaches, pears, peppers, peonies, (Peonies are in the family **Paeniaceae.**) rice, roses, strawberries, tomatoes, pecans and walnuts. For a more extensive list, contact the distributor.

The following plant families do not respond to VAM:

Heath, pine, oak, birch, rush, orchid, protea, mustard, Carnation, eucalyptus, cabbage, broccoli, cauliflower, Brussels sprouts.

Cultural conditions:

MRB contains living microorganisms that are sensitive to certain cultural practices. To avoid inhibiting or injuring the organisms, do not use fertilizers that have an analysis greater than 10-2-3 (N-P-K). Do not use with PCNB,

(Pentachloronitrobenzene)

Late or other soil fumigants. MRB can be used in fumigated soil after a waiting period of at least 25 days. Bicides, nematocides, and insecticides are generally not inhibitory to VAM, however specific products should be checked for compatibility before use. For technical information, call the distributor listed below.

Storage: Store in a cool dry place with temperatures not exceeding 70 F or 21 C. Avoid Direct Sunlight.

Wholesale & Retail Sales:
Alaskan Organics LLC
Box 915 Sterling, Alaska 99672
907.398.6398
alaskanorganics.net
dnunley@alaskanorganics.net
alaskanorganics@gmail.com

Mike's Root Boost (MRB)

Table for general plant applications: Application Qty Per Qt. and Gal.

Seeds

| | |
|---------------------|-----------------------|
| 1/8 tsp. under seed | 1/2 cup treats 192 |
| | 1 quart treats 1,536 |
| | 1 gallon treats 6,144 |

Seedlings & Bulbs

| | |
|--|---------------------|
| 1 tsp. on roots or 1/2 tsp in each of 2 holes poked into root zone. | 1/2 cup treats 24 |
| | 1 quart treats 192 |
| | 1 gallon treats 768 |

4 inch potted plant

| | |
|---|---------------------|
| 1 tsp. on roots or 1/2 tsp. in each of 2 holes poked into root zone. | 1/2 cup treats 24 |
| | 1 quart treats 192 |
| | 1 gallon treats 768 |

8 inch potted plant

| | |
|---|---------------------|
| 1 1/2 tsp. on roots or 1/2 tsp, in each of 3 holes poked into root zone. | 1/2 cup treats 16 |
| | 1 quart treats 128 |
| | 1 gallon treats 512 |

12 inch potted plant

| | |
|---|---------------------|
| 2 tsp. on roots or 1/2 tsp. in each of 4 holes poked into root zone. | 1/2 cup treats 12 |
| | 1 quart treats 96 |
| | 1 gallon treats 384 |

Non-planted Shrubs & Trees

| | |
|-----------------------|---------------------|
| 1 tablespoon on roots | 1/2 cup treats 8 |
| | 1 quart treats 64 |
| | 1 gallon treats 256 |

Planted Shrubs

| | |
|---|---------------------|
| 1 tsp. In each of 6 probe holes 8" deep around base of plant. | 1/2 cup treats 4 |
| | 1 quart treats 32 |
| | 1 gallon treats 128 |

MRB is a tremendously valuable product and the best start you can give to your seeds, bulbs, tubers, transplants and established plants, trees and shrubs. It has been used successfully for the last 15 years, in a variety of situations and in every growth zone. The shelf life is guaranteed at one year. We recommend removing from shipping bag and placing in a water tight container, that can breath, to prevent condensation.

Applying MRB to Trees:

This procedure can be used to apply MRB to all established trees and plants. Measure the diameter of the drip line in inches, Multiply by 3.1416 and divide by 8 inches. The result is the number of holes 8 inches apart that must be made in the soil around the drip line. Use a probe to make each hole about 6 to 10 inches deep into the soil around the drip line. Put 1 teaspoon of MRB into each hole and cover with soil. Water. Each year, apply three cups of Alaskan Organics' recommended formula (or other appropriate organic plant food at recommended rates) around the drip line of the tree. If the soil is bare, mix into surface of soil.

| Application | Unit of Measure | |
|---------------------|---|--------|
| Planted Trees | 1 teaspoon in probe holes 6"-10" deep every 8" around drip line | |
| Tree drip line size | Number of trees one quart or one gallon will treat. | |
| | Quart | Gallon |
| 4' diameter | 10 | 40 |
| 5' diameter | 8 | 32 |
| 6' diameter | 6 | 24 |
| 7' diameter | 5 | 20 |
| 8' diameter | 5 | 20 |
| 9' diameter | 4 | 16 |
| 10' diameter | 4 | 16 |

Yearly re-application is recommended as per above, to increase colonization and maintain the higher level of health of your trees.

If your trees are surrounded by turf grass, we recommend treating them, (aerate and apply one quart per 2,000 sq-feet) since a lot of the feeder roots of trees are near the surface within the lawns root biomass. Treating your lawn will vector MRB's Mycorrhiza into the tree roots, helping to maintain the trees vigor and vitality, and that of your turf grass. Re-apply annually and fertilize.

Treating Fairy Rings: See our Fairy Ring Brochure.

Necrotic Ring Spot: See our Necrotic Ring Brochure.

Treating Lawns:

- (1.) Mow the lawn and rake up debris.
- (2.) Core or spike aerate the lawn.
- (3.) Mix one quart of MRB with 2 quarts Alaskan Organics General Formula.
- (4.) Spread over 2,000 square feet of turf using a drop spreader set at #5.

How To Apply Mike's Root Boost root inoculate to most plant root systems.

These instructions cover the application of MRB Mycorrhiza to the most common plants: Lawns, Bulbs, Seeds, Trees, Shrubs, Transplants, and Houseplants.

Also contains information on:

- ✓ Nutrient Levels and Precautions.
 - ✓ Appropriate Fertilizers.
 - ✓ Enhancing and conditioning your soil to maximize MRB's performance with your plants - our recommended potting soil/top dressing mix.
 - ✓ Where can MRB be purchased? See our website for a list of our distributors who are stocking MRB.
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- **For transplants:**
Sprinkle on damp roots or root ball and in planting holes. Cover and water.
 - **For seeds:**
Sprinkle Inoculate in seed hole or in furrow. Sow or place seeds on top. Cover & water.
 - **Existing plants:**
May be inoculated by applying MRB into the root zone. Probe several small holes into the root zone and drop the Inoculate down the holes. Cover holes with dirt. Then water.
 - Houseplants: can be re-potted, with MRB applied to dampened roots. Then water. Can also be treated same as existing plants.
 - Use an appropriate plant food 2% or less (P). Alaskan Organics can custom mix an appropriate plant food that will not interfere with the MRB inoculate.

These application rates will cover the majority of planting situations using MRB for a wide range of applications. If you have questions or concerns about treating your plants or using MRB in your growing situation, please call or email us and we'll do our best to advise you.

Alaskan Organics Genesis Microbial Tea provides essential minerals for plant growth, which will be picked up by the Mycorrhiza and grass roots. It also serves as a carrier to spread the MRB over the rhizosphere. Our granulated formulas also have this same positive affect on the soil. Water heavy to wash MRB down to crown roots and into soil and aeration holes. **DO NOT FLOOD!** If soil is prone to water run off, run several shorter watering cycles. Reapply annually.

Sod: Prepare soil for laying sod as per normal practices,

(use AO's 6-2-4). Mix MRB and our 6-2-4 Planters Formula and drop spread, as above, at same rate BEFORE laying sod. Apply an appropriate plant food on top of sod. Water heavy to soak through and settle sod. Keep moist. Sod will root well in one week. Reapply at normal rate annually.

Newly Seeded Lawns & Over seeding: Mix 1 quart of MRB with 2 quarts of appropriate plant food and enough grass seed to cover 2,000 square feet. Set drop spreader at #7. Apply an appropriate fertilizer and peat moss over seed on newly seeded lawns. Keep moist with daily watering until grass is tall enough to mow, 3 inches or so. Reapply annually.

Weeds: DO NOT apply weed killers to newly seeded or over seeded lawns; the chemicals can injure or kill the non-established sprouting grass and newly spread Mycorrhiza. Wait until next season to address your weed problems. If possible, wait until the new sprouts and Mycorrhiza are well established. Do not over apply weed killers on MRB grown lawns. Wait at least 30 days after applying weed killers before applying MRB or minimum of 30 days after applying MRB to apply weed killer. Call or email us for recommended product list. Healthy lawns DO help control weeds and MRB significantly raises its vigor and vitality.

Nutrient levels and precautions: Appropriate types of fertilizers: Use of MRB Mycorrhiza requires that turf fertilizers have low soluble phosphorus levels. A percentage of or = to 2% by weight is safe to use. Higher levels of phosphorus are detrimental to the beneficial Mycorrhiza fungi. **BE SURE TO INFORM ALL WHO MAY SHARE IN CARING FOR YOUR TREATED PLANTS, TREES, ETC., THIS IS CRITICAL INFORMATION ABOUT HOW TO CARE FOR THEM NOW THAT THEY ARE TREATED WITH MRB.**

Examples of appropriate fertilizers:

Alaskan Organics 6-2-4, Cotton seed meal 6-2-1 and many other organic plant foods with phosphorus levels below 2%.

Avoid the use of green manure. The quick release of nitrogen from green manure is not good for soil microbes. Use aged compost tea manure.

Avoid the use the use of chicken manure or Bat Guano. These substances are too high in phosphate and will damage your plants.

Certain fungicides, fumigants, and systemic substances can kill Mycorrhiza fungi. When the Mycorrhiza fungi die, it doesn't mean your plant will die, but the fungi are a primary source of nutrients coming into your plants and you may find your plants struggling to survive if they no longer have the Mycorrhizal fungi in their root systems.

Mycorrhiza cannot survive levels of steam pasteurization and fumigation, which are normally required to eliminate common soil pathogens.

Certain fungicides can also inhibit Inoculation including Arasan, Benomyl, Botran, Mylone, Thiabendazole. Other fungicides, in selected studies, have shown little or no effect on infection and development of Endomycorrhizae. These include Ethoprop, Funsophothian, Ethazole, Captan, Maneb, Ridomil, Aliette, Pyroxyzylor, and Thiophanate. Some fungicides such as Ethazole (Terrazole and Truban), when applied at low rates (10-40 ppm) and at 30 to 60 days after inoculation can stimulate Mycorrhizal infection.

Recommended potting soil and top dressing:

8 cups of your favorite organic potting soil, 2 cups gypsum, 2 cups Perlite (use in pots only), 1 cup of Alaskan Organics Starter Formula (6-2-4) ¼ cup soft rock phosphate, ¼ cup of Alaskan Organics Planters Formula (Trace mineral plant food that contains 5% calcium, 1.20% magnesium, 5% sulfur, .02% boron, 0.0005% cobalt, 1% iron, and .0005% molybdenum) This mix goes into the soil around the root ball for each new plant or tree planted. Mix well into the soil you use to fill in around the root ball. Use yearly around drip lines of trees, or as a top dressing around your plants.

Use as a quality potting soil mix for potted plants. We guarantee the viability, quality and packaged quantity of our products. It is highly probable that superior responses in plant growth, health and yield will occur from their use. Due to the variability of soils and conditions found in various locations and their affects on plant and soil responsiveness to our products, we cannot guarantee all these benefits will occur in all locations and situations. MRB's viability is guaranteed for one year from date of shipping from the manufacture.

However, we know from experience, that the shelf life of this product far exceeds our one year guarantee, as long as the product is kept dry and stored in a cool, dark place and preventative measures are taken to insure that condensate and contaminants do not enter packaging. It is a good idea to keep the parent container free from foreign pathogens that could enter from contact with contaminated measuring cups, spoons, and other reciprocals used to retrieve the product from the parent container.

Precautions should also be taken to prevent inhalation of the dust created by pouring, or other methods of retrieval. We recommend wearing a particulate mask when handling all our granulated products, especially our powdered formulas.

Alaskan Organics takes extreme measures to assure the viability and purity of our products at the time of

manufacture and packaging.

Peony Growers: This contents of this product were selected to satisfy the needs of a large variety of commercial growers. We paid close attention to the grow needs of peonies, and selected the contents with the intention of satisfying the growth needs of this particular plant. Therefore, our research has shown this product to be particularly valuable to the production of superior peony plants and blooms. Research has shown an increase in the number, size and quality of peony blooms and flowers.

All our products, when possible, are made from food grade ingredients, to insure quality and safeguard from accidental, or incidental ingestion. This does not mean we recommend that our products are made for human consumption, **THEY ARE NOT MADE FOR HUMAN CONSUMPTION.** We do not recommend the consumption of any of our products by humans or animals.

NOTE: Alaskan Organics custom mixes many blends with phosphorus levels below 2%. However, many times, the most economically feasible method is to allow the waiting period to pass before applying MRB, or vice-verse.



Alaskan Organics LLC
Box 915 Sterling, AK. 99672
ph. 907.398.6398
fax 907-262-5214
alaskanorganics.net
dnunley@alaskanorganics.net
Dave Nunley C.O.O
Mike Cooper C.E.O.