

- USE IN
- V**
VEG
- B**
BLOOM
- S**
SOIL
- C**
COCO
- H**
HYDRO

Key To Life®



DON'T
buy
water

HOW + WHEN TO USE IT...

- Use at transplant to reduce stress. Lightly dust root zone
- Use when any nutrient toxicity/deficiency or PH issue is present
- Use In foliar feeding at 2-5 grams per gal in the veg phase till week 3 in bloom
- Sprinkle slowly into reservoir.
- Aeration will extend the life of your reservoir

ROOT DRENCH (PER GAL)

	VEG				BLOOM								
	1	2	3	4	1	2	3	4	5	6	7	8	9
tsp	1/2	1/2	1/2	1/2	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
grams	2	2	2	2	1	1	1	1	1	1	1	1	1

Microbes

WHAT IS IT...

Beneficial Bacteria/Soil Inoculant

Use to give plants rapid growth, strength and an incredible immune system. These MICROBES make enzymes, nitrogen, phosphorus, potassium, chitin and many other nutrients available. Some of them even help to regulate the soil food web.

3 WEEKS AFTER TRANSPLANT



HOW IT WORKS...

When introduced, Bacillus has an impact on plant health through promoting plant health & nutrition as well as boosting

plant defenses. When a biological community is composed of specific species that use distinct resources, there is less free room for invading species to establish themselves.

Most importantly microbes need food to be able to reproduce just like you and me. Our Microbes are bound to sucrose, dextrose, amino acids, brewers yeast, and other microbial foods. Couple this with the highest CFU's, more species and balanced ratios we know you'll love our Microbes.

When a root system is inoculated with a wide diversity of microbes, it encourages the entourage effect and allows maximum nutrient delivery at multiple PH ranges. It allows the plant to use its energy toward growth and fruit production. Healthy Roots = Healthy Fruits!

CONVERSION

MICROBES	
Volume	Weight (g)
1 tsp	3.5
1 Tbsp	10.2
1 Cup	171.3



BENEFITS...

- Growers have had plants that they could grab by the base stem 14 days after transplant and easily pick up the 20 gal wet pot the plant was in without any sign of the trunk moving.
- Perpetual harvest in MASS has compared it to all microbial products in store, he now ONLY carries our microbes and removed everything else from the shelf
- 5 microbial products in 1

COST PER DOSE

MICROBES		
Size	1 g/gal	2 g/gal
Cost per Dose		
2 oz.	\$0.352	\$0.704
8 oz.	\$0.264	\$0.529
16 oz.	\$0.227	\$0.454
32 oz.	\$0.187	\$0.375
2 Gal. (4lb)	\$0.190	\$0.380
5 Gal. (10lb)	\$0.177	\$0.354
20 lb.	\$0.145	\$0.290
50 lb.	\$0.104	\$0.209

HOW MANY GALLONS

MICROBES		
Size	1 g/gal	2 g/gal
Total Gallons Made		
2 oz.	64.2	32.1
8 oz.	257.0	128.5
16 oz.	514.0	257.0
32 oz.	1028.0	514.0
2 Gal. (4lb)	2055.9	1028.0
5 Gal. (10lb)	5139.8	2569.9
20 lb.	10279.7	5139.8
50 lb.	25699.2	12849.6

PRO TIPS...

- Pre populate the microbial community in a smaller container with an airstone by brewing for 1-24 hrs. Then add to your res mix.
- Use with MOLASSES MAGIC and REVITALIZE to drive microbial populations
- Use with FOLIAR to speed up veg, increase yield and quality.
- Use with ANCIENT SECRET in compost tea for a place for your microbes to live and thrive.†
- Higher temp waters will allow microbes to populate faster for a quicker mix. However this means food and oxygen run out faster as well.
- DO NOT INHALE!

RESERVOIR DOSAGE

MICROBES		
Reservoir Size (Gal)	1 g/gal	2 g/gal
	Total Nutrient Input (g)	
5	5.0	10.0
25	25.0	50.0
50	50.0	100.0
100	100.0	200.0
250	250.0	500.0

Active Ingredients: 79% Dextrose (microbial food & carrier) * At least 5.124 billion cfu/tsp

MICROBIAL SPECIES		
SPECIES	CFU	FUNCTION
B. subtilis	1.00 x 10 ⁸ (100,000,000)	One of the most common bacteria. it is a plant growth promoting rhizobacteria.
B. firmus	1.00 x 10 ⁸ (100,000,000)	Provides a barrier to protect plants from voracious nutrient robbers such as nematodes.
B. amyloliquefaciens	1.00 x 10 ⁸ (100,000,000)	Able to hydrolyze colloidal chitin. Great at consuming Bio slime.
B. licheniformis	1.00 x 10 ⁸ (100,000,000)	Protects plants from fungal pathogens. Produces an anti fungal enzymes like alpha amylases and proteases.
B. polymyxa	1.00 x 10 ⁸ (100,000,000)	Fix & absorb nitrogen & phosphorus. Produce hormones like cytokinins, auxins, ethylene and gibberellins. Produces anti bodies & hydrolytic enzymes.
B. megaterium	1.00 x 10 ⁸ (100,000,000)	An endophyte and is a potential agent for the biocontrol of plant diseases. Nitrogen fixation has been demonstrated.
B. pumilus	1.00 x 10 ⁸ (100,000,000)	Found to have high salt tolerance & generally show high resistance to environmental stresses, including UV light exposure, desiccation, and the presence of oxidizers such as hydrogen peroxide.
B. azotoformans	1.00 x 10 ⁸ (100,000,000)	Nitrate, nitrite, and nitrous oxide are denitrified with production of nitrogen by this bacteria.
B. coagulans	1.00 x 10 ⁸ (100,000,000)	A lactic acid-forming bacterial species. Is also a probiotic in plants, pigs, cattle, poultry, and shrimp.
Paenibacillus polymyxa	2.00 x 10 ⁷ (20,000,000)	Helps to fix nitrogen, produce hormones that promote plant growth, produce hydrolytic enzymes, and to produce antibiotics against harmful plant microorganisms.
Paenibacillus durum	2.00 x 10 ⁷ (20,000,000)	Produces energy through photosynthesis. Capable of fixing nitrogen and fixation without inhibition by nitrate.
Pseudomonas aureofaciens	2.00 x 10 ⁷ (20,000,000)	Naturally occurring bacterium that is widespread in soil and found near plant roots. The bacterium controls certain fungi that cause disease in plants.
Pseudomonas fluorescens	2.00 x 10 ⁷ (20,000,000)	Resides in the plant's rhizosphere and produces a variety of secondary metabolites including antibiotics against soil borne plant pathogens. It also consumes pollutants.
Streptomyces lydicus	2.00 x 10 ⁷ (20,000,000)	Protects the plant against a range of root decay fungi. Great for powdery & downey mildew control. Able to colonize on plant leaves and roots.
Streptomyces griseus	2.00 x 10 ⁷ (20,000,000)	Producers of 32 different types of bioactive compounds. Found predominantly in soil and in decaying matter, is a spore producer. Is noted for their distinct "earthy" odor.
Trichoderma reesei	2.00 x 10 ⁷ (20,000,000)	Conversion of cellulose, a major component of plant biomass, into glucose.
Trichoderma harzianum	2.00 x 10 ⁷ (20,000,000)	Rhizosphere fungi that release anti-pathogen substances and promote plant growth. Helps to produce root nodulation and check root system pathogens.

*these are not Key To Life claims, simply data extracted from Wikipedia & Google Scholar, etc.