

# MicrobeBio<sup>®</sup> Hydro Activator



Microbial Enhanced Fish Fertilizer Supplement  
with Vitamins and Nutrients for Plant Health

# INTRODUCTION:

- MicrobeBio® Hydro Activator naturally occurring beneficial organisms, 100% organic proteins, and key amino acids improve germination and root growth, stimulate biological activity in soils and provide essential major plant nutrients and a wide array of minor elements, vitamins, and key amino acids. Its microbial formulation is postponed in an organic humus carriers.
- MicrobeBio® Hydro Activator is all natural liquid microbial soil enhancer that can be incorporated into most nutrient programs and is a good fit for BMP (Better Management Practices) programs.
- MicrobeBio® Hydro Activator is environmental friendly, non-toxic, safe to used around children, adults, pets, and livestock, and reduces the time between harvest intervals.

# MENHADEN FISH PLUS PROBIOTIC BACTERIA:

- Produced from Menhaden fish.
- Rich in Omega 3 Fatty Acids.
- High in vitamins and minerals.
- Good source of proteins for plant nutrition.
- Slow Release characteristics for season long feeding.
- Supplemented with beneficial soil and plant promoting bacteria.
- High concentrate root growth promoting microbial organisms.



# PRODUCT SPECIFICATIONS:

PROXIMATE COMPOSITION	TYPICAL	RANGE
Crude Protein	30.0	27.2 – 34.4
Fat	7.9	6 – 10
Moisture	53.3	50 – 54
pH	3.9	3.8 – 4.0
TVN	0.4	0.3 – 0.6
Nitrogen	4.8	* Min. 4.4 – 5.6
P <sub>2</sub> O <sub>5</sub>	1	* Min. 0.8 – 2.2
K <sub>2</sub> O	1	* Min. 0.8 – 2.2
Sulfur	1	* Min. 0.8 – 2.2

# PRODUCT SPECIFICATIONS (cont.):

AMINO ACIDS - % OF SAMPLE		MINERALS – ppm		OTHER INFORMATION	
LYSINE	1.68	ALUMINUM	309.1	CARBON (PPM)	186921
HISTIDINE	0.68	BARIUM	3.8	CARBON : NITROGEN RATIO	3.29 : 1
ARGININE	1.46	BORON	<4.0	WEIGHT/GALLON @70°F	9.5 lbs
THREONINE	0.73	CALCIUM	470.3	PARTICLE SIZE	<80
SERINE	0.86	CHROMIUM	<4.0	(US STANDARD MESH)	
PROLINE	1.57	COPPER	4.8	<p>NOTE: The filtered through an 80 mesh screen, this versatile, free flowing product can be used in numerous application methods, including sprayers, conventional overhead irrigation and drip irrigation or fertigation – known as the injection of fertilizers, soil amendments, and other water-soluble products into an irrigation system.</p>	
GLYCINE	2.96	IRON	365.2		
VALINE	0.98	MAGNESIUM	1024.1		
METHIONINE	0.50	MANGANESE	8.4		
ISOLEUCINE	0.64	SELENIUM	1.6		
LEUCINE	1.37	SODIUM	11152.2		
TYROSINE	0.37	STRONTIUM	2.3		
PHENYLALANINE	0.72	ZINC	18.5		
TRYPTOPHAN	0.10				
CYSTINE	0.14				
TAURINE	1.03				
ASPARTIC ACID	1.77				
GLUTAMIC ACID	2.95				
ALANINE	2.12				

# HOW DOES OUR PRODUCT WORK?

The main activity of beneficial organisms is growing and reproducing. By-products from stable humus, roots and plant residue feeds soil organisms. In turn, soil organisms support plant health as they decompose plant residues, organic matter, cycle nutrients, enhance soil structure and control the populations of soil organisms, both beneficial and harmful (pests and pathogens) in terms of crop productivity. (Cite: [www.fao.org](http://www.fao.org))

When plants die, leaves are dropped onto the surface of the soil where microorganisms can breakdown and decay plant tissue. The organic matter is then used as an energy source for microorganisms, which they use to increase their population in the soil. These organisms use easily digestible materials (like simple sugars and carbohydrates) found in the plant material, leaving more resistant materials (such as fats and waxes) behind. The organic matter left behind is not easily decomposed; it compromises the humus found in soil. Humus acts as a gluing agent, essentially holding primary soil particles (sand, silt, clay) together to form secondary aggregates or 'soil peds'. These organisms and the humus helps aid in the soil development and the formation of soil horizons. Humus also helps soil absorb and retain moisture, which means these soils require significantly less irrigation. Humus provides a reservoir for the plant nutrients available in the soil which allows for balanced plant growth. Humus works in conjunction with microbes to breakdown organic matter into nutrients that plants are able to use. (*The below Diagram*)

## NUTRITIONAL FEEDS

- **ENERGY SOURCES:**

Light energy, in the chemical bonds of organic compounds (sugars or starches), in the bonds of inorganic compounds.

- **BASIC ELEMENTS NEEDED TO MAKE AND REPLACE CELL STRUCTURE OF ORGANISMS:**

Macro-nutrients

Secondary nutrients

Micro-nutrients.

- **IDENTIFICATION OF MICROBES ON THE BASIS OF HOW NUTRITIONAL NEEDS:**

Heterotrophs depend on the organic compounds in the environment - carbon sources, sugars, starches, fats, and other organic matters.

Autotrophs derive the energy from the non-organic sources with phototrophs and chemotrophs).

## BENEFICIAL MICROORGANISMS



Make soil alive.

Break down organic matter.

Recycle nutrients.

Create humus.

Create soil structure.

Fix nitrogen.

Promote plant growth.

Control pests and diseases to help soil health.

Heal soil

Reduce overuse of fertilizers, erosion, and runoff as a consequence of unsustainable farming practices.

Save cost and Increase yield.



# PRODUCT BENEFITS:

- Provides an organic NPK for plant nutrient uptake all season long
- Microbial organisms accelerate mineralization of soil organics for improved plant nutrient uptake
- Boosts plant photosynthesis
- Essential improves phosphorus uptake
- Significant increase in crop yield
- Enhances soil health and biodiversity
- Stimulates biological activity
- Fundamental unlocks bound up nutrients
- Regulates PH in acid or alkaline conditions
- Remediate radiation and other toxins in soils
- Remediate heavy metal contamination in soils
- Significant increases in BRIX levels

