

MicrobeBio®

ESSENCE

# NANO CHITOSAN™

Advanced Nano Biopolymer Technology  
for Plant Defense, Growth & Stress Protection



STRENGTHENS  
PLANT DEFENSE



PROMOTES  
GROWTH & VIGOR



IMPROVES  
STRESS TOLERANCE



ENHANCES  
NUTRIENT UPTAKE



SUPPORTS HIGHER  
YIELD & QUALITY



NATURAL &  
BIODEGRADABLE



SAFE &  
ECO-FRIENDLY



LOW TOXICITY  
FOR CROPS



FOR ALL CROPS  
FOLIAR APPLICATION



# THE FUTURE OF BIOLOGICAL CROP PERFORMANCE

**MicrobeBio®**

ESSENCE  
**NANO CHITOSAN™**  
Nano Biopolymer Plant Defense & Growth Activator

PLANT DEFENSE BOOSTER  
PROMOTES GROWTH & VIGOR  
STRESS TOLERANCE SUPPORT  
ENHANCES NUTRIENT UPTAKE  
IMPROVES YIELD & QUALITY

**NANO TECHNOLOGY**  
MAXIMUM EFFICIENCY  
MAXIMUM PERFORMANCE

NATURAL & BIODEGRADABLE | SAFE & ECO-FRIENDLY | LOW TOXICITY FOR CROPS

FOR ALL CROPS FOLIAR APPLICATION | NET CONTENT: 1 LITER | SHAKE WELL BEFORE USE

**PRODUCT DESCRIPTION**  
MicrobeBio Essence Nano Chitosan™ is a next-generation nano biopolymer formulation that activates plant defense mechanisms, promotes growth, enhances nutrient efficiency, and increases tolerance to environmental stress.

**KEY BENEFITS**

- Enhances natural plant defense
- Promotes healthy growth and early vigor
- Improves nutrient uptake and utilization
- Helps plants tolerate heat, drought & salinity stress
- Supports higher yield, better quality & uniformity

**DIRECTIONS FOR USE (FOLIAR SPRAY)**

CROP TYPE	APPLICATION RATE	FREQUENCY
Vegetables	0.5 - 1.5 L/ha	Every 7 - 10 days
Field Crops	0.5 - 1.0 L/ha	Every 10 - 14 days
Fruit Trees	1.0 - 2.0 L/ha	Every 10 - 14 days
Nursery / Seedling	0.2 - 0.5 L/ha	Early stage

\* Spray during early morning or late afternoon for best results.

**COMPOSITION (TYPICAL)**  
Nano Chitosan, Amino Acids, Organic Acids, Plant Extracts, Natural Surfactants, Water.

**COMPATIBILITY**  
Compatible with most fertilizers and agrochemicals. Conduct a jar test before mixing.

NATURAL & SAFE | NO HARMFUL RESIDUES | STORE IN A COOL, DRY PLACE

FOR AGRICULTURAL USE ONLY | KEEP OUT OF REACH OF CHILDREN | NET CONTENT 1 LITER

EXPORT USE ONLY - NOT REGISTERED FOR SALE IN CALIFORNIA

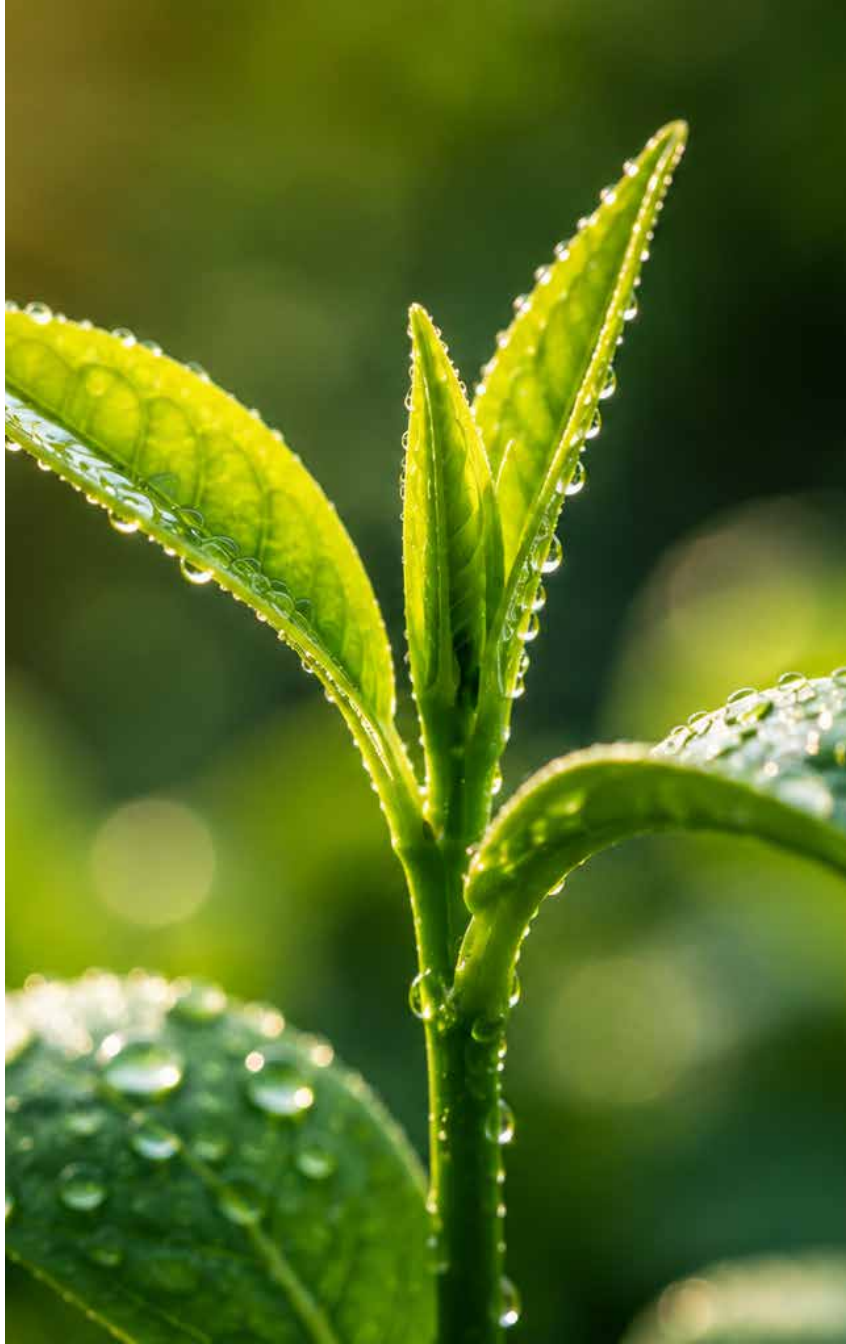
Modern agriculture faces increasing pressure from:

- Heat stress
- Drought conditions
- Soil degradation
- Salinity buildup
- Nutrient inefficiency
- Disease pressure
- Declining crop quality

Growers need more than traditional fertilizers.

They need advanced biological technologies that help plants become naturally stronger, healthier, and more resilient.

**MICROBEBIO ESSENCE NANO CHITOSAN™** was developed to support the next generation of sustainable, high-performance agriculture.



## WHAT IS NANO CHITOSAN?

Nano Chitosan is an advanced nano-scale biopolymer technology designed to interact more efficiently with plant surfaces and biological systems.

Derived from natural biological sources and engineered into ultra-small nano particles, Nano Chitosan provides:

- Faster plant interaction
- Enhanced absorption efficiency
- Improved plant defense activation
- Better stress tolerance support
- Higher biological performance

Its nano-sized structure increases surface activity and allows more effective plant response compared to conventional formulations.



# PLANT DEFENSE ACTIVATION

Plants naturally possess defense systems, but environmental stress and intensive agriculture can weaken these mechanisms.

Microbebio Essence Nano Chitosan™ helps support:

- Natural plant resistance pathways
- Cell wall strengthening
- Plant recovery from stress
- Defense signaling responses
- Stronger vegetative development

This helps crops remain healthier under difficult growing conditions.

## PROMOTES STRONGER GROWTH & VIGOR

Healthy plants require efficient biological activity to maximize performance.

Microbebio Essence Nano Chitosan™ supports:

- Early seedling vigor
- Improved root activity
- Enhanced photosynthesis
- Better nutrient utilization
- Stronger vegetative growth
- Improved flowering support

The result is more uniform crop development and stronger field performance.

### NANO ABSORPTION

Enhanced penetration  
Maximum efficiency



## **STRESS TOLERANCE SUPPORT**

Environmental stress is one of the largest causes of yield loss worldwide.

Microbebio Essence Nano Chitosan™ helps crops tolerate:

- Heat stress
- Drought conditions
- Salinity stress
- Environmental fluctuations
- Transplant shock
- Recovery stress

By helping plants maintain stronger physiological balance, crops can continue growing more efficiently under pressure.





# NANO TECHNOLOGY ADVANTAGE

## **TRADITIONAL MATERIALS**

- Larger particle size
- Lower surface activity
- Slower plant interaction
- Reduced efficiency

## **NANO TECHNOLOGY**

- Ultra-small particle size
- Greater active surface area
- Improved biological interaction
- Higher absorption potential
- Faster crop response

Microbebio Essence Nano Chitosan™ combines biological science with nano-scale precision for maximum agricultural performance.

# KEY BENEFITS

- Enhances natural plant defense
- Promotes healthy growth and vigor
- Improves nutrient uptake efficiency
- Supports stress tolerance
- Helps improve crop quality



- Encourages uniform crop development
- Supports stronger plant metabolism
- Safe and biodegradable technology
- Compatible with integrated crop programs



# SUSTAINABLE AGRICULTURE SOLUTION

Microbebio Essence Nano Chitosan™ supports sustainable agriculture by helping reduce crop stress and improve biological efficiency naturally.

## **IDEAL FOR:**

- Regenerative agriculture
- Biological farming systems
- Sustainable crop production
- Integrated crop management programs
- High-value crop production





# COMPATIBLE CROPS



**SUITABLE FOR  
A WIDE RANGE  
OF CROPS**

RICE  
CORN  
WHEAT  
VEGETABLES  
FRUIT TREES



BERRIES  
TROPICAL CROPS  
PLANTATION CROPS  
GREENHOUSE CROPS  
NURSERY CROPS



# RECOMMENDED APPLICATION

<b>CROP TYPE</b>	<b>APPLICATION RATE</b>	<b>FREQUENCY</b>
Vegetables	0.5 – 1.5 L/ha	Every 7–10 days
Field Crops	0.5 – 1.0 L/ha	Every 10–14 days
Fruit Trees	1.0 – 2.0 L/ha	Every 10–14 days
Nursery / Seedling	0.3 – 0.5 L/ha	Early growth stage

## APPLICATION METHOD

- Foliar spray preferred
- Apply during early morning or late afternoon
- Compatible with most biological and nutritional programs



# TYPICAL COMPOSITION

- NANO CHITOSAN
- AMINO ACIDS
- ORGANIC ACIDS
- PLANT EXTRACTS
- NATURAL SURFACTANTS
- WATER



## NANO ABSORPTION

Ultra-small particles  
for maximum uptake



## PLANT DEFENSE

Activates natural  
defense mechanisms



## NUTRIENT EFFICIENCY

Enhances nutrient transport  
and utilization





# WHY CHOOSE MICROBEBIO ESSENCE NANO CHITOSAN™?

Because modern agriculture requires more than nutrition alone.

It requires:

- Biological intelligence
- Plant resilience
- Stress management
- Sustainable performance
- Precision technology

Microbebio Essence Nano Chitosan™ helps growers build stronger crops from the cellular level outward.



The logo for MicrobeBio is displayed on a white, ribbon-like banner that appears to be floating over a background of a lush green rice field at sunset. The banner has a slight 3D effect with shadows on its sides. The text 'MicrobeBio' is written in a bold, green, sans-serif font, with a registered trademark symbol (®) to the upper right of the 'o'.

**MicrobeBio®**

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**#Microbebio #SoilMicrobes #RegenerativeAgriculture #SoilHealth #MicrobialScience #SustainableFarming #Biofertilizer #Rhizosphere  
#CarbonSequestration #AgInnovation #PlantNutrition #OrganicAgriculture #ClimateSmartAgriculture #HealthySoilHealthyFood**