MicrobeBio®

POWER FROM THE SOIL

BIOLOGY THAT BUILDS
STRONGER PLANTS, HIGHER YIELDS
AND A SUSTAINABLE FUTURE.

STRONG ROOTS
Better absorption and anchorage

HEALTHY PLANTS
Stronger growth and resilience

BIOLOGICAL POWER
Active microbes working for you

WATER EFFICIENCY
More crop with less water

HIGHER YIELDS
Better quality, bigger harvests

Biological Solutions for Regenerative Agriculture

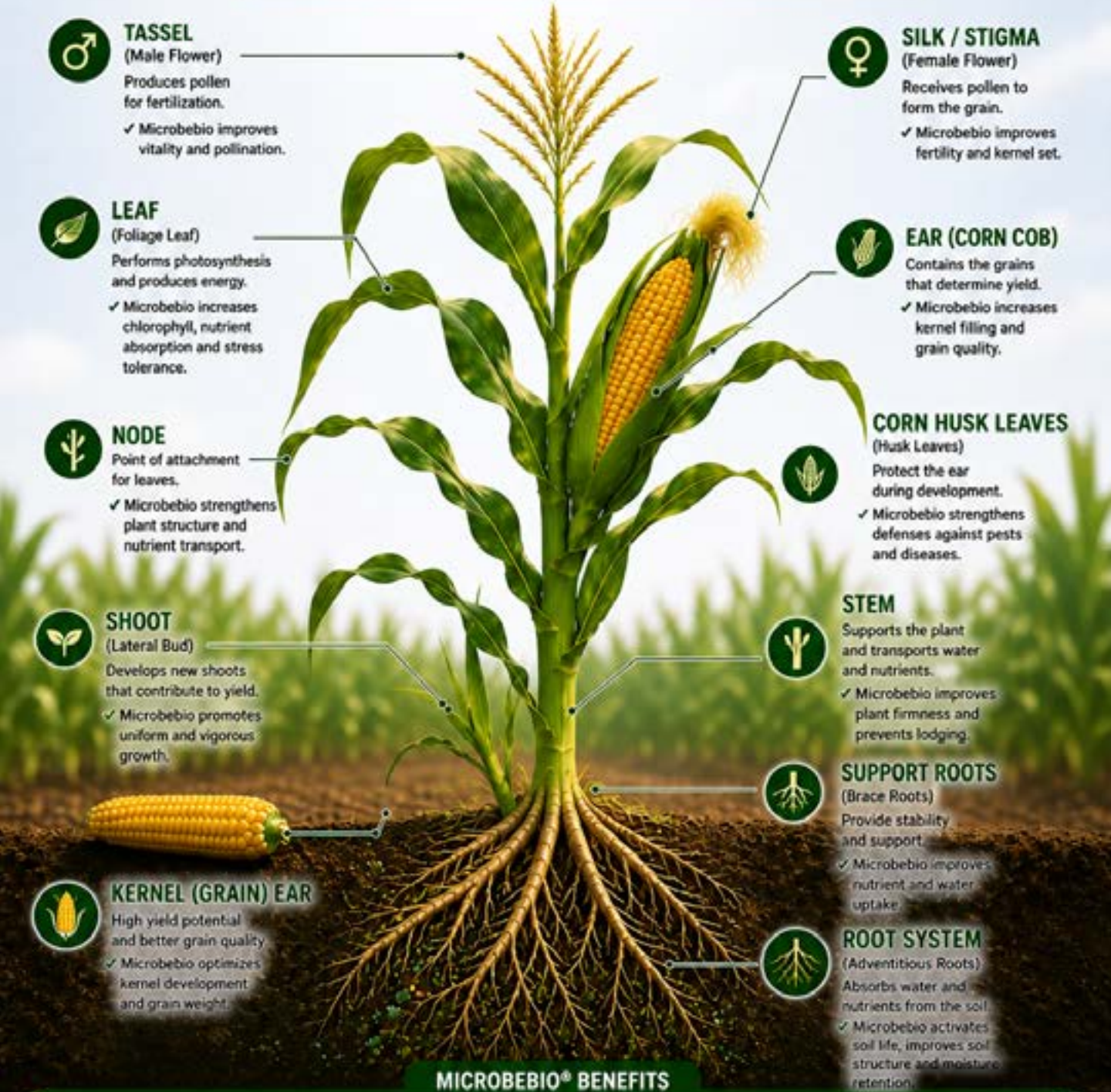
MicrobeBio®

CORN (MAIZE) PLANT

— STRENGTHENED WITH MICROBEBIO® —

BIOLOGICAL THAT WORKS FOR YOU

BIOTECHNOLOGY THAT NOURISHES, PROTECTS AND MAXIMIZES YIELD



TASSEL
(Male Flower)

Produces pollen for fertilization.

✓ Microbebio improves vitality and pollination.

SILK / STIGMA
(Female Flower)

Receives pollen to form the grain.

✓ Microbebio improves fertility and kernel set.

LEAF
(Foliage Leaf)

Performs photosynthesis and produces energy.

✓ Microbebio increases chlorophyll, nutrient absorption and stress tolerance.

EAR (CORN COB)

Contains the grains that determine yield.

✓ Microbebio increases kernel filling and grain quality.

NODE

Point of attachment for leaves.

✓ Microbebio strengthens plant structure and nutrient transport.

CORN HUSK LEAVES
(Husk Leaves)

Protect the ear during development.

✓ Microbebio strengthens defenses against pests and diseases.

SHOOT
(Lateral Bud)

Develops new shoots that contribute to yield.

✓ Microbebio promotes uniform and vigorous growth.

STEM

Supports the plant and transports water and nutrients.

✓ Microbebio improves plant firmness and prevents lodging.

SUPPORT ROOTS
(Brace Roots)

Provide stability and support.

✓ Microbebio improves nutrient and water uptake.

KERNEL (GRAIN) EAR

High yield potential and better grain quality.

✓ Microbebio optimizes kernel development and grain weight.

ROOT SYSTEM
(Adventitious Roots)

Absorbs water and nutrients from the soil.

✓ Microbebio activates soil life, improves soil structure and moisture retention.

MICROBEBIO® BENEFITS

STRONGER ROOTS
Better absorption of water and nutrients.

GREATER STRESS TOLERANCE
Stronger and more resilient plants.

HIGHER YIELD
More grains, better filling and quality.

BETTER WATER EFFICIENCY
Less loss, more use.

SUSTAINABLE AGRICULTURE
Protects soil and the planet.

THE MICROBEBIO® DIFFERENCE

- Biological technology for sustainable crops
- Fewer chemicals, more results
- Healthier soil, healthier plants
- Higher productivity in a sustainable way

MORE LIFE IN THE SOIL.
MORE LIFE IN YOUR HARVEST.

A PRACTICAL SYSTEM FOR HIGHER YIELD, STRONGER PLANTS, AND SUSTAINABLE FARMING

Maize is not just a crop—it's a living biological system. Every stage of growth comes with different vulnerabilities, and pests are always looking for the weakest point to attack.

Most farmers react after damage happens. Microbebio® takes a different approach:

- Build plant strength early
- Protect continuously at every stage
- Use biology to outcompete pests naturally

This is how you turn pest control into yield protection and performance optimization.

EMERGENCE STAGE

BUILD PROTECTION BEFORE THE FIRST ATTACK
At this stage, maize seedlings are extremely soft and vulnerable.
Even small pest pressure can reduce plant population and future yield.

MAJOR PESTS
- Fall Armyworm (Spodoptera frugiperda)
- Aphids (Rhopalosiphum maidis)

DAMAGE SYMPTOMS
- Leaf scraping and small holes
- Weak, yellowing, or dying seedlings

MICROBEBIO STRATEGY
- Seed Coating System (Biological Activation)

X1 → Root protection + nematode control
X3 → Early insect pressure suppression
Nature Vigor™ → Organic matter + moisture retention
- Maintain soil moisture + microbial activity

RESULT:
- Faster germination
- Stronger root system
- Early resistance to pest attack

(2–6 DAYS)

VEGETATIVE STAGE

(7–48 DAYS)

CONTROL PRESSURE WHILE DRIVING AGGRESSIVE GROWTH

This is the fastest growth phase, but also when pest populations explode.

MAJOR PESTS

- Maize Leaf Beetle (Diabrotica spp.)
- Stalk Borer (Chilo partellus)
- Fall Armyworm (continued threat)

DAMAGE SYMPTOMS

- Chewed leaves
- “Dead heart” (central shoot dying)

MICROBEBIO STRATEGy

- X3 *(Biological Pest Control System)*

→ Controls chewing insects through multiple biological pathways

- Aqua Activator™ *(500 g/ha)*

→ Boosts microbial dominance in the rhizosphere

- Hydro Activator™ *(Fish-based nutrition)*

→ Supports rapid recovery and growth

RESULT:

- Plants outgrow pest damage
- Reduced need for chemical sprays
- Strong canopy development

TASSELING / FLOWERING (49–52 DAYS)

PROTECT THE YIELD ENGINE

This stage determines how many kernels you will harvest. Any stress here directly reduces yield potential.

MAJOR PESTS

- Corn Earworm (Helicoverpa zea)
- Stalk Borers

DAMAGE SYMPTOMS

- Damaged tassel and silk
- Poor pollination
- Missing kernels

MICROBEBIO STRATEGY

- X3 + X5 Combination

X3 → insect control
X5 → fungal disease protection

- Maintain balanced nutrition + hydration
- Optional: biological agents like Trichogramma

RESULT:

- Strong pollination
- Maximum kernel formation
- Reduced reproductive stress

GRAIN FILLING STAGE (53–67 DAYS)

PROTECT KERNEL DEVELOPMENT AND QUALITY

Now the plant is converting energy into grain weight and quality.

MAJOR PESTS

- Earworms
- Whiteflies (Bemisia tabaci)

DAMAGE SYMPTOMS

- Damaged cobs
- Poor grain filling
- Reduced kernel weight

MICROBEBIO STRATEGY

- Continue X3 protection (low-dose maintenance)
- Apply Nature Phenom Ultra™

→ Enhances nutrient flow and energy transfer

- Avoid excess nitrogen (reduces pest attraction)

RESULT:

- Fuller, heavier kernels
- Better grain quality
- Increased market value

MATURITY STAGE (68–110 DAYS)

MAINTAIN STABILITY UNTIL HARVEST
Even as the plant matures, pests can still reduce final yield.

MAJOR PESTS
- Late-season borers
- Sap-sucking insects

MICROBEBIO STRATEGY
- Light monitoring only
- Avoid unnecessary spraying
- Maintain field hygiene

RESULT:
- Lower input cost
- Stable yield until harvest

HARVEST & STORAGE (111–120 DAYS)

PROTECT WHAT YOU GREW

Post-harvest losses can destroy profits if not managed properly.

MAJOR PESTS

- Maize Weevil (Sitophilus zeamais)

DAMAGE SYMPTOMS

- Holes in grains
- Powder formation

MICROBEBIO STRATEGY

- Dry grain to safe moisture levels
- Use airtight storage systems
- Apply safe biological grain protectants

RESULT:

- Reduced storage losses
- Maintained grain quality
- Higher market price

MicrobeBio®

MICROBEBIO® GUIDE FOR MAIZE PEST CONTROL

BASED ON THE GROWTH STAGE

Growing with Nature

A PRACTICAL SYSTEM FOR HIGHER YIELDS, STRONGER PLANTS AND SUSTAINABLE FARMING

1 EMERGENCE (2–6 DAYS)

MAJOR PESTS

- Fall Armyworm (*Spodoptera frugiperda*)
- Aphids (*Rhopalosiphum maidis*)

DAMAGE SYMPTOMS

- Leaf scraping and small holes
- Weak, yellowing, or dying seedlings

MICROBEBIO® STRATEGY

- Seed Coating System (Biological Activation)
- X1 → Root protection + nematode control
- X3 → Early insect pressure suppression
- Nature Vigor™ → Organic matter + moisture retention
- Maintain soil moisture + microbial activity

RESULT:
Faster germination
Stronger root system
Early resistance to pest attack

2 VEGETATIVE (7–48 DAYS)

MAJOR PESTS

- Armyworm / Leaf Eating (*Diabrotica spp.*)
- Stalk Borer (*Ostrinia furnacalis*)
- Cutworm (*Agrotis ipsilon*)

DAMAGE SYMPTOMS

- Holes in leaves
- Dead heart (central shoot death)
- Stalk damage
- Poor growth

MICROBEBIO® STRATEGY

- X3 (Biological Insect Control) → Control leaf feeding insects
- Aqua Activator™ (500 g/ha) → Improve root development
- Hydro Activator™ → Improve nutrient uptake and plant recovery

RESULT:
Stronger, more vigorous vegetative growth
Lower pest damage

3 TASSELING / POLLINATION (49–52 DAYS)

MAJOR PESTS

- Corn Earworm (*Helicoverpa zea*)
- Stalk Borers

DAMAGE SYMPTOMS

- Damage to tassels and silks
- Poor pollination
- Empty grains

MICROBEBIO® STRATEGY

- X3 → Control insects around tassel and silk
- Combination X3 + X5 → Control pests and improve beneficial microbes
- Maintain nutrient balance and hydration
- Use biocontrol microorganisms (Trichoderma)

RESULT:
Better pollination, maximum kernel set and grain quality

4 GRAIN FILLING (53–67 DAYS)

MAJOR PESTS

- Corn Earworm
- White Grub (*Phyllophaga spp.*)

DAMAGE SYMPTOMS

- Grain damage
- Low kernel weight
- Fewer grains

MICROBEBIO® STRATEGY

- Continue protection with X3 (biological maintenance)
- Apply Nature Phenom Ultra™ → Improve nutrient and energy flow
- Optimize nitrogen use (reduce attraction of pests)

RESULT:
More, larger grains
Higher quality and yield

5 MATURATION (68–110 DAYS)

MAJOR PESTS

- Late Stem Borers
- Sap-sucking Insects (Aphids, leafhoppers)

DAMAGE SYMPTOMS

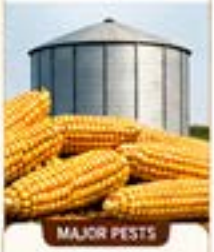
- Reduced grain quality and weight
- Higher risk of lodging

MICROBEBIO® STRATEGY

- Continue monitoring
- Avoid unnecessary chemical applications
- Keep field healthy and balanced
- Support plant nutrition with balanced inputs

RESULT:
Healthy and stable maturation
Better harvest quality

6 HARVEST & STORAGE (111–120 DAYS)



MAJOR PESTS

- Maize Weevil (*Sitophilus zeamais*)

DAMAGE SYMPTOMS

- Holes in grains
- Mold formation
- Grain loss

MICROBEBIO® STRATEGY

- Dry grains properly
- Use biological grain storage solutions
- Apply safe biocontrol organisms

RESULT:
Protect the harvest, reduce storage losses and maintain quality

KEY POINTS

- Targeted pest management at each stage
- Early detection prevents serious damage
- Balanced nutrition improves natural resistance
- Integrated Pest Management (IPM) is more effective and more profitable

THE MICROBEBIO® ADVANTAGE – BIOLOGY THAT WORKS FOR YOU

Stronger plants	Healthier soil	Better water use	Higher yields	Sustainable future
Naturally more resistant and tolerant	Better biology, structure and fertility	Improved retention and efficiency	More grains, better quality	Better for the soil, better for the planet

KEY TAKEAWAYS

- Pest control must match the growth stage
- Strong plants = natural resistance
- Early biological activation reduces later chemical use
- Integrated Pest Management (IPM) is the future

THE MICROBEBIO DIFFERENCE

- Most systems try to kill pests.
- Microbebio builds a system where:
- Plants grow stronger than the pressure
- Soil biology dominates the environment
- Pests lose their advantage

MicrobeBio®

MAIZE ANATOMY

EVERY PART HAS A JOB

Each structure controls yield.

TASSEL

Male flower

Produces pollen for fertilization

SILK

Female flower

Each silk connects to one kernel

EAR / COB

Where grain develops

Directly linked to plant energy and nutrient flow

LEAF

Energy factory

Photosynthesis drives sugar production

Fuels grain filling and plant growth

STALK

Transport + strength

Moves water, nutrients, and sugars

Supports the entire plant

BRACE ROOTS

Stability system

Prevent lodging (falling)

Critical during wind and rain

ROOT SYSTEM

Foundation of yield

Absorbs water and nutrients

Controls stress tolerance and plant health

FINAL THOUGHT

**“You don’t lose yield at harvest…
You lose it when the plant is unprotected.”
With Microbebio®, pest control becomes a system of growth, protection, and performance—at every stage of maize development.**

MicrobeBio®

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#Microbebio #Maiz #RendimientoDeMaiz #AgriculturaRegenerativa #SaludDelSuelo #AgriculturaSostenible #InnovacionAgricola #Agro #EficienciaDelAgua #AgriculturaClimatica #AgriculturaOrganica #AltosRendimientos #AgTech #BiologiaDelSuelo #FuturoAgricola #Brix #CultivosFuertes #ProduceMas