

The image features a close-up of several ripe, red tomatoes covered in water droplets, attached to green stems and leaves. A white, torn-edge banner is positioned across the upper middle of the image, containing the MicrobeBio logo.

MicrobeBio®

**MICROBEBIO® INTEGRATED
TOMATO PRODUCTION PROGRAM**

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For optimal tomato production, I recommend using MicrobeBio products as an integrated soil-to-harvest program, rather than treating nutrition, roots, insects, diseases, and fruit development separately. The objective is to establish strong soil biology and roots early, maintain balanced nutrition through vegetative growth, protect the crop biologically, and then intensify reproductive and fruit-quality nutrition from flowering through harvest.

The program below is based on the MicrobeBio product specifications and rates we have established for the portfolio. Exact applications should still be adjusted to tomato variety, soil/tissue analysis, climate, irrigation system, disease pressure, and local product registrations.



**BIOLOGICAL
NUTRITION**

**ROOT
HEALTH**

**CROP
PROTECTION**

**PRECISION NANO
NUTRITION™**



RECOMMENDED STANDARD RATES PER HECTARE

MicrobeBio Product	Recommended Rate	Primary Role
Rhizo Activator™	50 kg/ha	Root-zone nutrition, humic support, AMF
Nature Vigor™	5 kg/ha	Humic/organic soil conditioning
Aqua Activator™	500 g/ha	Biological/root-zone activation
Hydro Activator™	8 L/ha	Biological nutrition and plant vigor
Foliar™	250 mL/ha	Foliar nutrition
X1™	500 g/ha	Root health and biological root-zone protection
X3™	500 g/ha	Biological insect management
X5™	500 g/ha	Biological disease management
Precision Nano Nutrients™	250 mL/ha	Targeted precision nutrition
Upshot™	8 kg/ha	Flowering, fruit development and quality
Nature Venom™	500 mL/ha in ~300 L water	Botanical pest-management support when required
Green Fury™	500 mL/ha in ~300 L water	Additional high-pressure crop-protection support when required

For most biological soil and foliar applications, use approximately 300–500 L/ha of clean, non-chlorinated water, subject to label directions and equipment.



Tomato Bio Crop Guideline

APPLICATION TIMING

Establish biological activity, improve the rhizosphere, support nutrient availability, and prepare the root zone before transplanting.



ORGANIC SOIL ENHANCEMENT

PRODUCT	PRE-PLANT	TRANSPLANTING & ROOT ESTABLISHMENT	RAPID VEGETATIVE GROWTH	PRE-FLOWER & FLOWER INITIATION	FLOWERING & FRUIT SET	FRUIT DEVELOPMENT & SIZING	FRUIT FILL, RIPENING & HARVEST
NATURE VIGOR	3 kg/ha	3 kg/ha	-	-	-	-	-
AQUA ACTIVATOR	300 g/ha	300 g/ha	-	-	-	-	-
HYDRO ACTIVATOR	-	8 L/ha	8 L/ha	-	-	8 L/ha	-
NATURE FOLIAR	-	-	250 mL/ha	-	250 mL/ha	-	250 mL/ha
NANO ELEMENT	-	-	-	-	-	-	-
MICROBEBIO S9	-	-	-	-	-	-	-
PRECISION NANO NUTRIENTS™	-	250 mL/ha	250 mL/ha	-	-	-	-
UPSHOT™	-	-	-	8 kg/ha	8 kg/ha	-	8 kg/ha
NANO CAL™	-	-	-	250 mL/ha	-	250 mL/ha	-
NANO ELEMENT™	-	-	250 mL/ha	-	250 mL/ha	-	-
NANO P™	-	-	-	250 mL/ha	-	250 mL/ha	-
RHIZO ACTIVATOR	50 kg/ha	-	-	-	-	-	-
MICROBEBIO X1™	500 g/ha	-	300 g/ha	-			
MICROBEBIO X3™	-	-	-	-			
MICROBEBIO X5™	-	-	-	500 g/ha			

BIORATIONAL

GREEN FURY

Plant disease outbreak (pest): agitate 500 ml Green Fury™ into at least 400 liters of non-chlorine water to treat 1 hectare.

NATURE VENOM

Plant disease outbreak (fungus and virus): agitate 500 ml Nature Venom™ into at least 400 liters of non-chlorine water to treat 1 hectare.



MICROBEBIO® TOMATO PRODUCTION PROGRAM QUICK APPLICATION GUIDE

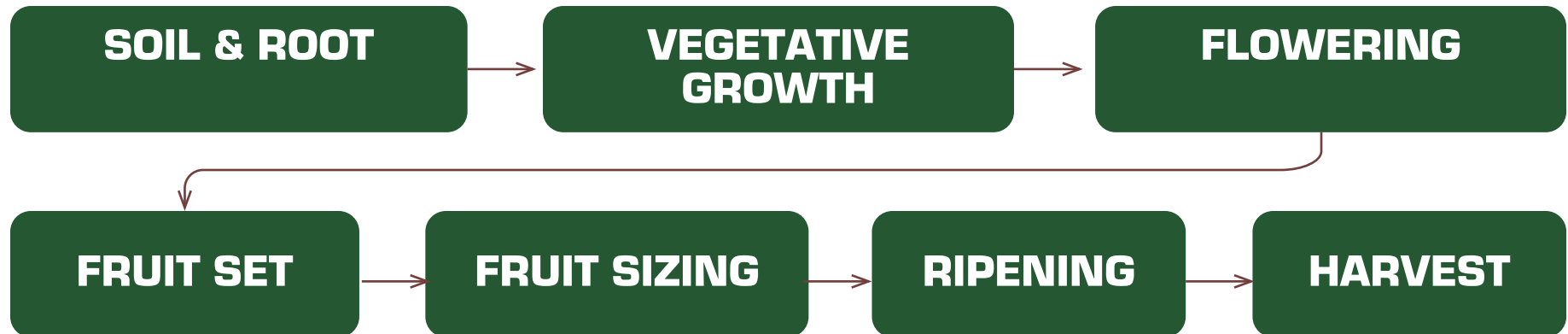
STAGE	PRIMARY OBJECTIVE	MICROBEBIO® PRODUCT	RECOMMENDED RATE / HA	APPLICATION FOCUS
1. Pre-Plant Soil Preparation	Establish soil biology, improve the rhizosphere, and prepare the root zone	RHIZO ACTIVATOR™	50 kg	Apply to planting zone or root zone before/at transplanting
		NATURE VIGOR™	3 kg	Humic and organic support for the soil and rhizosphere
		X1™	500 g	Apply through drip irrigation or root-zone drench
		AQUA ACTIVATOR™	300 g	Support biological establishment in the root zone

2. Transplanting & Root Establishment (0–3 Weeks)	Promote rapid root establishment and minimize transplant stress	AQUA ACTIVATOR™	300 g	Apply to root zone with non-chlorinated water
		NATURE VIGOR™	3 kg, as needed	Support root-zone conditions and soil biology
		HYDRO ACTIVATOR™	8 L	Begin biological nutrition program
		PRECISION NANO NUTRIENTS™	250 mL	Target P, Zn, Ca, Mg according to crop requirements
3. Rapid Vegetative Growth (Weeks 3–6)	Build a vigorous canopy while maintaining strong root-to-shoot balance	HYDRO ACTIVATOR™	8 L	Primary biological nutrition and biostimulant support
		FOLIAR™	250 mL	Foliar nutritional support
		PRECISION NANO ELEMENTS™	250 mL	Zn, Fe, Mn, B, Cu, Mo according to crop needs
		NANO ELEMENT™	250 mL	Targeted calcium support during early fruit development
		X1™	300 g, as needed	Maintain root-zone biology and root health
4. Pre-Flower & Flower Initiation	Transition from vegetative growth to flowering and reproductive development	UPSHOT™	8 kg	Support flowering and reproductive transition
		NANO CAL™	250 mL	Support calcium nutrition and developing tissues
		NANOP™	250 mL	Focus on B and other micronutrients according to analysis
		X5™	500 g	Preventive biological disease-management support

5. Flowering & Fruit Set	Support flowering, successful fruit set, and balanced plant development	UPSHOT™	8 kg	Core reproductive nutrition
		FOLIAR™	250 mL	Foliar nutritional support
		NANO ELEMENT™	As required	Targeted calcium support during early fruit development
6. Fruit Development & Sizing	Support fruit growth while maintaining flowers, foliage, roots, and developing fruit	HYDRO ACTIVATOR™	8 L	Continue biological nutrition
		NANO CAL™	250 mL	Support calcium management and fruit development
		NANO P™	250 mL	Targeted phosphorus nutrition during fruit development
7. Fruit Fill, Ripening & Harvest	Support fruit weight, firmness, uniformity, quality, and harvest performance	UPSHOT™	8 kg	Core late-stage reproductive nutrition
		FOLIAR™	250 mL	Maintain plant vitality and foliar nutrition



CROP PROGRAM AT A GLANCE



Biological Foundation:

Rhizo Activator™ + Nature Vigor™ + Aqua Activator™ + X1™

Vegetative Growth:

Hydro Activator™ + Foliar™ + Precision Nano Nutrients™

Flowering & Fruit Set:

Upshot™ + Foliar™ + Precision Nano Cal™ + Nano Elements™

Fruit Development & Quality:

Upshot™ + Hydro Activator™ + Nano Cal™ + Nano P™

Biological Protection:

X5™ according to disease pressure, crop conditions, and the approved application program.

IMPORTANT:

Precision Nano Nutrients™ should be selected according to soil/tissue analysis, visible crop requirements, and growth stage. Effective calcium management in tomatoes depends on a complete system of healthy roots + consistent irrigation + balanced nutrition + targeted calcium management.

BIOLOGICAL DISEASE PROTECTION PROGRAM

ROOT-ZONE PROTECTION



X1™

Use 500 g/ha as the foundation of the biological root-management program. X1 is particularly appropriate for maintaining the rhizosphere and supporting management of root-zone biological challenges.

DISEASE MANAGEMENT



X5™

Use 500 g/ha according to label and disease pressure. X5 should be positioned as the primary MicrobeBio biological disease-management product. Rather than waiting for severe disease, integrate it into the preventative crop program, particularly during environmental conditions favorable to disease.

BIOLOGICAL DISEASE MANAGEMENT



GREEN FURY™

Introduce where an additional crop-protection intervention is appropriate under higher disease pressure, extended humidity/rainfall, or outbreak conditions, subject to its registered uses.

BIOLOGICAL INSECT MANAGEMENT



X3™ — 500 G/HA

X3 should form the biological foundation of MicrobeBio's tomato insect-management program.

Its consortium architecture includes biological agents such as:

Beauveria
Metarhizium
Bacillus thuringiensis
Chromobacterium subtsugae
Lecanicillium
Isaria

This provides multiple biological organisms within the IPM strategy.

NATURE VENOM™ 500 ML/HA

Use in approximately 300 L/ha of water where botanical pest-management intervention is needed and permitted by the product label.

This can provide an additional layer for pests such as sucking insects/mites where registered.

The conceptual strategy becomes:

X3™ BIOLOGICAL CONTROL



NATURE VENOM™ BOTANICAL
INTERVENTION



ONGOING SCOUTING



REPEAT OR ESCALATE ACCORDING
TO PEST PRESSURE AND LABEL

SUGGESTED MICROBEBIO TOMATO CALENDAR

GROWTH STAGE	CORE MICROBEBIO PROGRAM
Pre-Plant	Rhizo Activator + Nature Vigor + X1 + Aqua Activator
Transplant	X1 + Aqua Activator + Rhizo Activator
Early Establishment	Hydro Activator + Foliar + Precision Nano
Vegetative Growth	Hydro Activator + Foliar + Nano Mg/Zn/Fe/Mn
Pre-Flower	Upshot + Foliar + Nano B/Ca/Zn + X5
Flowering	Upshot + Foliar + Nano B + Nano Ca
Fruit Set	Upshot + Nano Ca + Nano B + Hydro Activator
Fruit Development	Upshot + Foliar + Nano Ca/K/Mg
Fruit Fill	Upshot + Nano K/Ca/Mg
Ripening/Harvest	Upshot + targeted Precision Nano nutrition
Disease Pressure	X5 + appropriate root-zone X1 program
Insect Pressure	X3 + Nature Venom where needed
Higher Crop-Protection Pressure	Green Fury where appropriate



THE COMPLETE MICROBEBIO TOMATO SYSTEM

I would package the commercial recommendation into five simple systems:

1. MICROBEBIO ROOT FOUNDATION™

Nature Vigor™ + Rhizo Activator™ + Aqua Activator™ + X1™
Build soil biology, establish roots, and develop the rhizosphere.

2. MICROBEBIO PLANT VITALITY™

Hydro Activator™ + Foliar™
Maintain vigorous, balanced crop development.

3. PRECISION NANO NUTRITION™

Nano Ca + Mg + Zn + B + Fe + Mn + Cu + Mo + P + K/Complete as appropriate
Correct specific nutritional constraints according to crop stage and analysis.

4. MICROBEBIO BIOLOGICAL PROTECTION™

X1™ + X3™ + X5™
Root-zone biological management + biological insect management + biological disease management.
Add Nature Venom™ and Green Fury™ as appropriate botanical/IPM layers.

5. MICROBEBIO YIELD & QUALITY™

Upshot™ + Foliar™ + Precision Nano Nutrition™
Support flowering, fruit set, fruit development, sizing, quality, and harvest performance.



RECOMMENDED POSITIONING

MicrobeBio® Integrated Tomato Production System combines soil biology, beneficial microorganisms, biological nutrition, Precision Nano Nutrition™, biological crop protection, and reproductive support into one coordinated program from transplant through harvest. Instead of responding to individual crop problems in isolation, the program is designed to support the entire soil-root-plant system throughout every stage of tomato production.

For commercial tomato production, I would make X1 + Rhizo Activator + Nature Vigor + Aqua Activator the root foundation; Hydro Activator + Foliar the season-long nutritional foundation; X3 + X5 the biological protection foundation; and then progressively introduce Upshot + targeted Precision Nano nutrients as the crop moves from vegetative growth into flowering, fruit set, sizing, and harvest.





MicrobeBio®

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