BIO-ORGANIC CATALYST
THE POWER IN NATURE®

PC_3™ & Phyto-C_3™

Bio-Catalytic Solutions for Turf, Golf Courses & Lakes

Sustainable Water & Soil Management



BIO-ORGANIC CATALYST
THE POWER IN WATER™

OVERVIEW

What We Will Cover

01

The Challenge

Water, soil, and lake issues on golf courses

02

PC3 / Phyto-C3 Technology

How the bio-catalytic mechanism works

03

Benefits for Turf

Soil health, thatch, percolation, and nutrient efficiency

04

Benefits for Golf Lakes

Oxygen, nutrients, odors, and ecosystem balance

05

Application & Safety

Simple dosing, certifications, and practical use



THE CHALLENGE

Golf Course Water & Soil Pressures

Anaerobic Thatch & Black Layer

Poor oxygen in root zones creates black thatch, reduced percolation, and stressed turf.

Irrigation Fouling

Biofilm, scale, and slime clog emitters and lines, wasting water and labor.

Nutrient & Salt Build-up

Inefficient uptake and salinity stress limit plant health and increase fertilizer needs.

Lake Degradation

Nutrient overload, anaerobic sediment, odors, and poor clarity affect aesthetics and irrigation quality.

HOW IT WORKS

Bio-Catalytic Microbubble Technology

PC3 / Phyto-C3 is a concentrated liquid of yeast extracts (microbe food) + non-ionic surfactant or plant saponins. Dosed at 1–4 ppm, it forms functionalized ultra-fine microbubbles with porous shells.

1

Oxygenation

Porous microbubbles raise dissolved oxygen efficiently across the water column.

2

Solubilization

Amphiphilic molecules open biofilms, FOG, and organic binders for native microbes.

3

Catalyzation

Lowers energy barriers so existing biology processes organics and nitrogen faster.

Not a live bacteria product • *Not an enzyme product* • *Not a harsh oxidizer*

Contains zero bacteria • Fully biodegradable • Non-toxic

TURF & GOLF COURSE BENEFITS

Phyto-C_3™ for Healthier Root Zones

Improved Soil Microbiome

Supports beneficial aerobic microbes and root growth; optimizes nutrient uptake.

Prevents Black Thatch Layer

Enhances oxygen transfer and breaks down biological films that create anaerobic conditions.

Better Water Percolation

Addresses chronic drainage and dry-spot issues on golf course turf by restoring subsurface biomass health.

Lower Fertilizer Demand

Improves nitrogen fixation and bioavailability, reducing the nitrogen required for optimal growth.

Cleaner Irrigation Systems

Keeps sand filters, lines, and emitters free of scale and slime at low continuous doses.

Optimized Water Use

Improves moisture penetration and plant uptake; supports more efficient irrigation.

GOLF COURSE LAKES

Restoring Water Features Naturally

Higher Lakebed Oxygen	Raises dissolved oxygen at the bottom to support active aerobic digestion of organic sludge.
Nutrient Reduction	Significantly lowers ammonia and nitrate nitrogen across testing cycles.
Total Odor Removal	Neutralizes volatile organic sulfur and nitrogen compounds at the molecular level.
Improved Clarity & Reduced Foaming	Breaks surface tension to reduce turbidity and foaming while improving overall aesthetics.

SIMPLE TO APPLY

Dosing, Safety & Certifications

Low-Dose Application

Typical continuous rates of 2–4 ppm through irrigation systems. Initial clean-out doses available for lines.

Non-Toxic & Biodegradable

Zero bacteria. Fully biodegradable. Non-caustic and safe for workers, turf, and aquatic environments.

Global Certifications

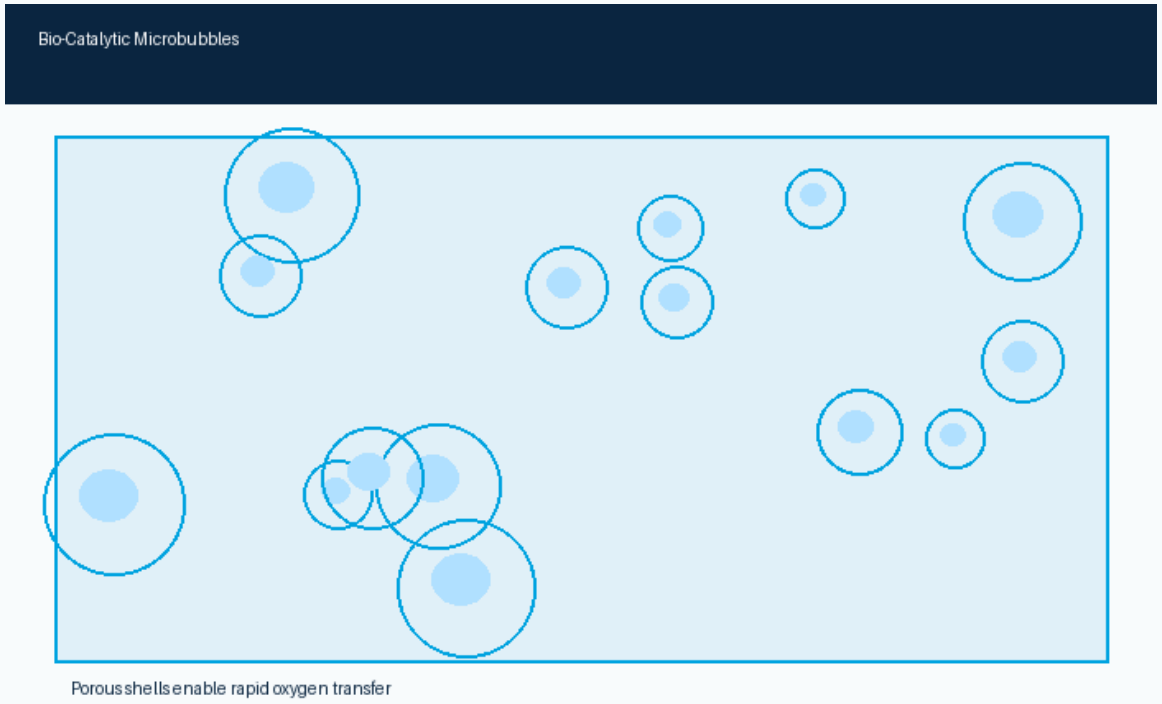
US EPA, USDA Organic, ECOCERT (PC3 Organic), and ISO 9001/14001. Manufactured in the USA under domestic and international patents.

Not a Fertilizer

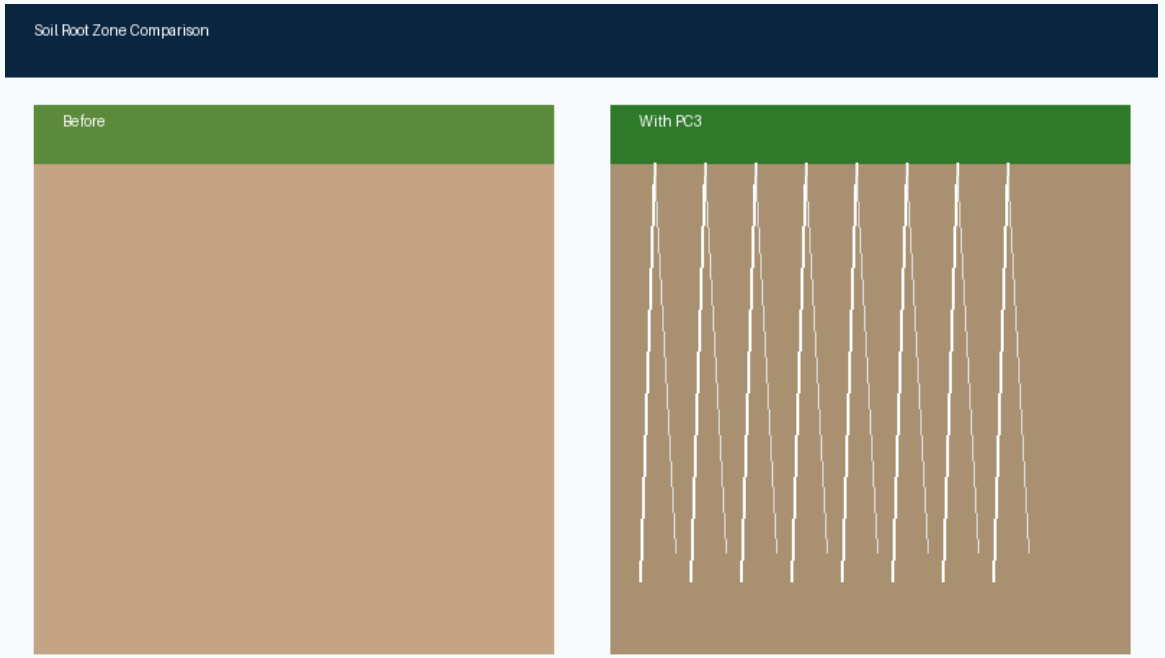
Works with existing fertility programs by improving uptake and soil biology rather than adding NPK.

VISUAL OVERVIEW

How PC_3™ Works in the Field



Microbubbles form at low doses (1–4 ppm) and deliver oxygen throughout the water column.



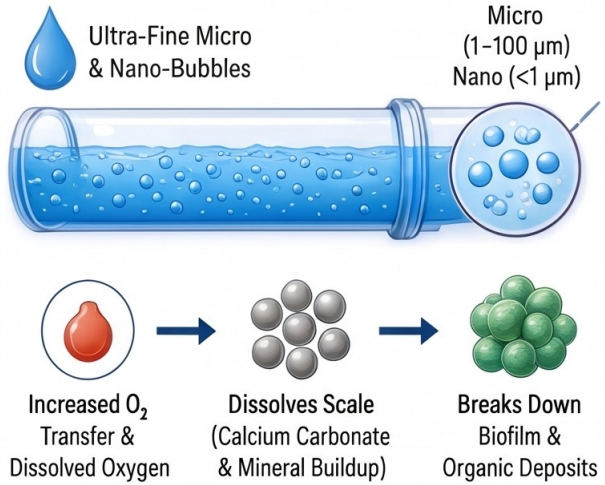
Improved root zones with better oxygen, microbial activity, and percolation.

Phyto-C_3™ / PC_3™ Organic

Bio-Catalytic Water & Soil Conditioner

1 HOW IT WORKS

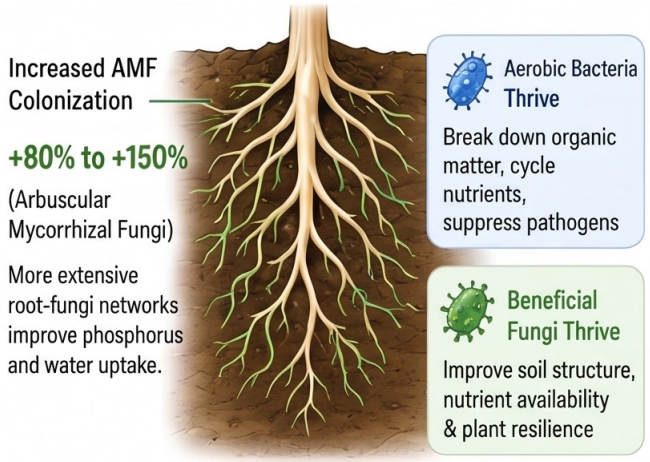
Ultra-fine micro and nano-bubbles in irrigation water increase exygen transfer, dissolve scale and bioflim in drip lines and emitters.



Results in cleaner emitters, better flow uniformity, and reduced clogging.

2 SOIL MICROBIOME BENEFITS

PC_3™ Organic fosters a thriving soil microbiome, enhancing root health and nutrient uptake.



BETTER NUTRIENT UPTAKE

N P K MICRONUTRIENTS

Stronger Roots. Healthier Plants. Higher Performance.

3 MEASURED OUTCOMES

CLEANER IRRIGATION SYSTEMS
Reduced clogging and maintenance, consistent flow rates.

REDUCED WATER USE
Improved infiltration and soil moisture retention (typically 10–20% less water).

STRONGER ROOTS
Deeper, denser root systems for better resilience and nutrient absorption.

HIGHER YIELDS
Healthier plants and optimized soil biology drive better crop performance.

LOWER FERTILIZER NEEDS
Improved nutrient efficiency reduces input costs and environmental impact.

PC_3™ Organic is certified organic
(Ecocert / USDA NOP)

ecocert CERTIFIED ORGANIC

USDA ORGANIC

Bio-catalytic. Organic. Sustainable. Effective.

Sustainable Turf & Water Management for Golf Courses

Results vary by site conditions. Always follow product labels and local regulations.

NON-TOXIC AND SAFE
BIO-ORGANIC SEAL OF SAFETY
HUMAN, ANIMAL & MARINE LIFE

PATENTED

101 patents world-wide,
21 patents pending.