

BRIDGING SCIENCE, INDUSTRY, AND ENTREPRENEURSHIP



ENSYNOX®

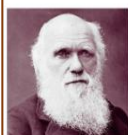


We are a pioneering product-focused biotechnology company with a rich European heritage. After years of extensive R&D, successful trials, and pilot projects, Sunshine Green Services LLC, our US-based company, offers solutions to various challenges in human and planetary health, removal of toxic and bacterial substances, agriculture, and the carbon markets.

Our organic technologies help to preserve a natural ecological and health balance. Our solutions are focused on an enzyme produced by a unique blend of specially selected earthworm species. We can also apply Ensynox to our innovative bioremediation agent Calcynox, to help with agriculture with soil acidification and improve soil carbon management.

Ensynox® organic enzyme is a nature-based, systemic, all-in-one solution, strategic product the world needs in the Third Millennium. Different formulas can be developed to address challenges across various industries.

By fusing these two groundbreaking technologies, we create a synergistic blend that harnesses both biological and physical problem-solving approaches. We hold the intellectual property rights (trademarks and patents) for these technologies.



Charles Darwin

1881

The Formation of
Vegetable Mould
Through the
Actions of Worms

“WORMS HAVE PLAYED A
MORE IMPORTANT PART IN THE
HISTORY OF THE WORLD THAN MOST
PERSONS WOULD AT FIRST SUPPOSE”

Sir Charles Darwin studied earthworms for 39 years.
He said: “Earthworms are unheralded soldiers of Mankind.”

A drilodefensin
These surfactant molecules help prevent protein precipitation without reducing enzyme activity during digestion.

Clitellum
This part of the reproductive system stores eggs.

Mouth

Earthworms have calciferous glands that process carbonate from plants and fix CO₂ from their breathing into CaCO₃ pellets.

Earthworm enzymes, such as EFEa (shown), are used as a home remedy and a dietary supplement, and chemists have repurposed them as catalysts in organic synthesis.

Earthworms and their gut microbes process nitrogen compounds to make nitrate to enrich the soil and produce N₂O, a greenhouse gas.

A humic acid
Earthworms process and feed on these oligomeric molecules and return them to the soil as plant growth hormones.

CO(NH₂)₂ + H₂O → 2NH₃ + CO₂
Urea

NH₃ + H₂O → NH₄⁺ + OH⁻
N₂ → N₂O → NO₃⁻ + H⁺ + H₂O

“It may be doubted whether there are many other animals which have played so important a part in the history of the world, as have these lowly organized creatures.”
—Charles Darwin, 1881

Enzymes, which are typically proteins, have vital high molecular weight compounds composed of amino acid chains connected by peptide bonds.

Earthworms' castings are rich in plant growth-promoting substances such as growth hormones, enzymes, and vitamins.

Earthworm castings contain beneficial microorganisms and nitrogen-fixing, phosphorous solubilizing, and cellulose decomposing organisms that enhance soil productivity.

Earthworms are known for their toxin-neutralizing, antibacterial, and regenerative abilities.

REGENERATIVE AGRICULTURE AND ORGANIC FARMING

We developed a special formula, a soil amendment product for **agricultural use** which is our primary focus. There is a high demand for effective regenerative, and organic products in agricultural, but the competition is low. Ensynox not only increase productivity and profitability, but also helps planetary and human health, and contributes toward climate goals by increased carbon sequestration and storage.

Problem

- overfertilization
 - chemical overapplication
 - microplastic built up in soil and delivered in waterways
 - degraded soil quality
 - soil's depleted carbon management capability
 - the plant's nutrient uptake capability is depleted due to the soil's reduced microbial content and high levels of radical chemicals
 - vulnerability to extreme weather challenges
 - decreased nutritional value
 - Regenerative practices take time to show effectiveness. Typically, they improve the soil through the decomposition of organic matter over 4-5 years. However, farmers often don't have this time as they need to harvest to make a living.
- Synthetic fertilizers and chemical inputs provide quicker results in the same harvest period. As a result, farmers prioritize these inputs even though they are aware of the harm they cause to human and planetary health.
- **HUMAN HEALTH.** Chemicals and pesticides in agricultural products disrupt endocrine and hormone systems.

Our Solution

We are reintroducing the traditional earthworm-based approach to improving soil quality without the need for live animals, which has historically provided healthy soil for generations.

Ensynox is a liquid formula derived from earthworms, and its enzymes alter the soil's microbiology, balancing its microbiome. With its high level of natural detoxification, antibacterial properties, and regeneration capability,

Ensynox cleanses the soil and enhances its fertility, mimicking the work of earthworms over thousands of years. Ensynox can reach and penetrate every inch of the soil, providing immediate effects.

Through systemic application, it improves the soil's immune system and regeneration capability. By using Ensynox, farmers can reduce their reliance on synthetic inputs and fertilizers, thereby saving on chemical costs.

As a result, crop yield, health, and maturity can be increased and accelerated.

Tests with Ensynox



Before After



Market Opportunity

Ensynox aims to quickly gain the trust of farmers by leveraging the beneficial impact of earthworms. As the world increasingly adopts regenerative agriculture, often in combination with organic farming, there is a significant demand for these practices. However, there exists a considerable gap between this demand and the available products supplied by market players, including our competitors. It's worth noting that organic products require more time and are not as immediately effective as synthetic ones. The issues outlined above cannot be effectively addressed by synthetic chemicals, as they are often the source of the problems in the first place.

This is where Ensynox comes in.

Our approach seeks to establish a dominant presence in farming by focusing on building up the soil and enhancing the natural ability of plants to recover and develop immunity to adverse effects. Ensynox enhances the carbon market by naturally improving the soil's microbiome, acting as a form of organic medicine.

CLEAN up AND PROTECT THE ENVIRONMENT

Using the enzyme's detoxification, antibacterial, decontamination, and overall regeneration capabilities, we have developed various Ensynox® formulas to address various environmental concerns.

Mining and industrial wastewater can be neutralized at a large scale.

- ~ Freshwater quality enhancement: targeting harmful algae, biological pollution, and sewage contamination
- ~ Saltwater quality improvement: combating biological and chemical pollution, agricultural runoff, oil spills, and harmful algal blooms
- ~ Soil remediation: tackling chemical pollution, oil spills, DDT, PCB, and soil quality enhancement
- ~ Plant treatment: boosting crop quality and yield, reducing maturity time, and protecting against diseases and bacteria
- ~ Coral reef restoration and regeneration
- ~ Cannabis cultivation: producing top-tier premium brands.
- ~ Animal husbandry and marine animal treatment



Heavy metals, metals test

Balint Analitika International Laboratory,
Budapest, May 2026

Treated by Ensynox enzyme

Sample ID		Data before the test	Oil sludge 21. day final	Rate of reduction %	Residue %
B - Boron	mg/kg	0,31	<0,05	90,4	9,6
Cd - Cadmium	mg/kg	0,81	0,06	92,6	7,4
Co - Cobalt	mg/kg	132	<0,05	99,98	0,02
Cr - Chromium	mg/kg	3,08	0,15	95,2	4,8
Hg - Mercury	mg/kg	2,40	<0,05	98,75	1,25
Mo - Molybdenum	mg/kg	63,40	<0,05	99,93	0,07
Se - Selenium	mg/kg	0,11	<0,05	55	45
Sn - Tin	mg/kg	0.87	0,14	84	16

The tests were conducted on oil sludge and sewage sludge samples. The first measurements on the 5th day already showed almost the same rate of neutralization as the 21st day.

Documents:

1. [Full Laboratory report](#)
2. [Summarized report](#)

Sample ID		Data before the test	Treated by Ensynox 11. day	Rate of reduction %	Residue %
PAH (polycyclic aromatic hydrocarbon) toxic oil	mg/kg	63,1	4,52	92,84	7,16

[Total hydrocarbon](#)

[Total BTEX](#)

[Summary](#)

[HPCHEM-dual](#)

[sample-reg](#)



Industrial chemical wastewater and Municipal wastewater (sewage) biological treatment, harmful substances removal

Rare bacteria removal (necrotizing fasciitis-flesh-eating bacteria, Legionella bacteria, and other rare pathogenic bacteria)

Numerous studies on [earthworms' detoxification, antibacterial, decontamination, and regenerative capabilities](#) have been done. By utilizing a liquid formula containing their active ingredients, rather than living earthworms, we can safely harness the healing enzymes to address the issues listed above. We have the capacity to produce large volumes of this solution for extensive projects, ensuring that earthworms remain unharmed during the production process.

Additional environmental testing with Ensynox® is confirmed by scientific data



Blue-Green Algae Pilot Project

The project was carried out at Lake Ypacarai in Paraguay, recognized as one of the world's most polluted lakes, primarily due to sewage and agricultural runoff. Conducted by the University of Asuncion, the 15-day test revealed significant reductions in various cyanobacteria strains, with 70-100% being completely eliminated. The full technical report can be accessed [here](#).
[Project information here.](#)



Karenia Brevis (red tide) Project

The project, carried out by Sanders Laboratory in Nokomis, FL, USA, evaluated two different concentrations of the algae clean-up formula. According to the protocol, both Ensynox®-treated samples and the untreated control sample were provided nutrients to sustain the bacteria. The first enzyme variant eliminated the red tide bacteria in 5 days, while the second variant achieved the same result in 6 days. The full technical report can be accessed [here](#).

DDT and PCB contaminated soil samples from Mongolia

ORIGINAL

MICROLAB Ltd., TESTING LABORATORY

Kirejevska 1678, 979 01 Rimavská Sobota

	Original Data	Data after enzyme treatment
DDT	520 mg/kg	0,04 mg/kg
PCB	450 mg/kg	0,01 mg/kg

	Enzyme treated	original value
Total naphthalene	0,868	57,9
Total PAH without naphthalenes	3,65	5,21
Total PAH	4,52	63,1

Detection limit of the method (nd): 0.005 mg/kg per components

The data above is part of a scientific laboratory testing. Ensynox organic enzyme have induced PAH as above during 11 days of biodegradation. The process after that continued.....
The full document is available upon request of an identified party.

Toxic oil PAH and BTEX Project

An internationally accredited laboratory in Budapest, Hungary conducted analysis on soil samples contaminated with hydrocarbons. Prior to enzyme treatment, the samples exhibited a PAH content of 63.1 mg/kg. After adding the enzyme and allowing 11 days for treatment, the PAH content significantly decreased to 4.52 mg/kg.

[Project information can be found here.](#)

More information about tests can be found [here](#).



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