



Miconovo NOVOPREP

Product Brochure

*An organic additive for soil health in horticulture – Comprehensive
Protection & Enhanced Vitality*

Version 0.2

Soil Quality Crisis

Challenges in Modern Agriculture

Soil is the foundation of global food production, yet intensive farming practices, excessive chemical inputs, and environmental stressors have led to a **widespread degradation of soil health**. Decades of **reliance on synthetic fertilizers and pesticides** have **disrupted the delicate balance of microbial life** in the soil, leading to **depleted organic carbon levels**, reduced microbial diversity, and diminished fertility. This degradation not only impacts crop yields but also weakens the soil's ability to **retain moisture**, resist erosion, and support ecological diversity.

One of the most pressing issues facing modern soil is the loss of organic matter. Healthy soil is teeming with beneficial microbes that break down organic residues into essential nutrients, fostering plant growth and maintaining soil structure. However, continuous monocropping, over-plowing, and chemical overuse have stripped soils of these **vital microbial communities**, leaving them barren and prone to compaction. As a result, crops struggle to access nutrients, and farmers become increasingly dependent on synthetic fertilizers to compensate for the soil's declining fertility—creating a cycle of dependency that is both costly and unsustainable.

In addition to **nutrient depletion**, soil degradation also **compromises water management**. Poor soil structure leads to inefficient moisture retention, making fields more **susceptible to drought** and extreme weather conditions. During heavy rains, compacted and unhealthy soil fails to absorb water properly, increasing runoff, flooding, and the loss of valuable topsoil. At the same time, accumulated toxins and chemical residues from conventional agricultural inputs can persist in the soil, further **hindering plant growth** and contributing to environmental pollution.



What is NOVOPREP

The Soil Quality Crisis: Challenges in Modern Agriculture

NOVOPREP is a **revolutionary microbial soil treatment** designed to restore and enhance soil health naturally. It is a **scientifically formulated blend** of live microbial cultures, carefully selected from nature, to rejuvenate soil microbial ecology and address the damaging effects of intensive agriculture.

By actively breaking down organic residues, NOVOPREP reactivates and accelerates the carbon cycle, replenishing organic carbon levels essential for healthy soil structure and nutrient availability. This process improves soil's ability to **retain moisture, regulate pH, and resist erosion**, making it more resilient to extreme environmental conditions such as droughts and heavy rains.

As a **verified organic** solution, free from GMOs, NOVOPREP reduces the reliance on synthetic fertilizers and chemicals while supporting sustainable crop production. It suppresses harmful soil-borne pathogens, encouraging the proliferation of beneficial microorganisms that contribute to long-term soil fertility and productivity. Additionally, NOVOPREP has the unique ability to **degrade certain chemical pollutants** that accumulate in the soil, helping to restore contaminated land and improve environmental sustainability.

NOVOPREP is ideal for **farmers, foresters, land rehabilitators, and horticulturalists** looking to revitalise soil before planting. Whether for large-scale agricultural fields, forestry applications, or land reclamation projects, NOVOPREP builds a strong foundation for healthier, more productive soils, ensuring long-term sustainability and improved crop performance.



What Benefits will NOVOPREP provide?

By recognising the essential role of soil microbiology in maintaining soil health, NOVOPREP provides a targeted solution that **restores microbial balance, enhances soil structure, and improves nutrient cycling**. Its carefully formulated microbial blend works within the **soil matrix**, addressing the **depletion and degradation caused by intensive agricultural practices**. With its **natural, sustainable approach**, NOVOPREP empowers farmers, land managers, and soil restoration experts to **revitalise degraded soils, improve moisture retention, reduce dependency on synthetic inputs, and create resilient, fertile land for long-term agricultural success**.

01

Supports a Natural, Self-Sustaining Soil Ecosystem

Promotes a balanced microbial community that continues to improve soil health over time, reducing the need for repeated interventions and allowing the soil to regenerate naturally.

03

Improves Soil Aeration and Root Penetration

Reduces compaction and enhances soil porosity, creating an environment where plant roots can grow deeper and access essential nutrients and moisture more effectively

05

Reduced Risk of Soil Degradation Over Time

Continuous use of synthetic inputs can strip soil of its natural fertility, leading to long-term productivity losses. NOVOPREP helps reverse this damage by replenishing microbial life and rebuilding soil integrity, ensuring sustained agricultural viability.

02

Enhances Soil Resilience to Changing Environmental Conditions

By improving soil structure and organic content, NOVOPREP helps soil better withstand temperature fluctuations, water stress, and extreme weather events, ensuring greater stability in the face of climate challenges.

04

Minimizes Runoff and Soil Erosion Risks

By strengthening soil structure and improving water retention, NOVOPREP helps prevent topsoil loss during heavy rains, reducing nutrient runoff and protecting surrounding ecosystems from contamination.

06

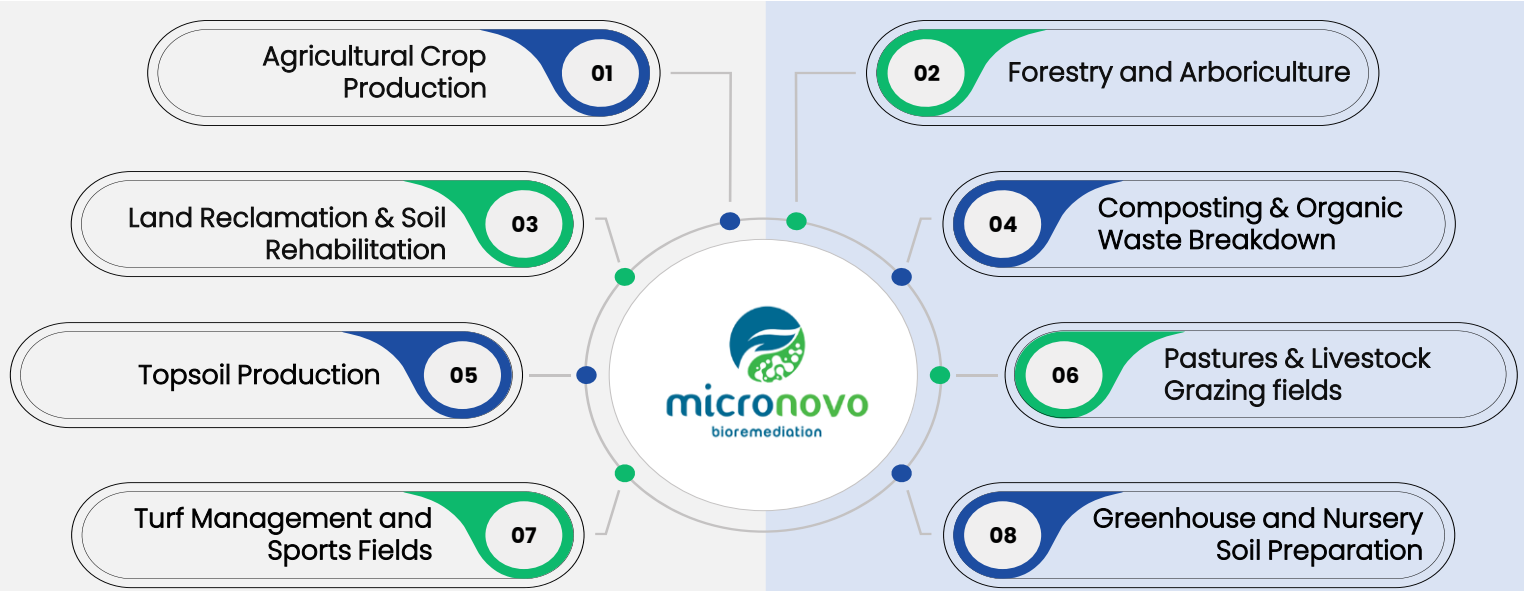
Increases Efficiency of Organic Matter Decomposition

NOVOPREP accelerates the breakdown of plant residues and organic materials, converting them into valuable soil nutrients more efficiently. This creates a healthier, more nutrient-rich growing medium for future crops.

Product Applications

NOVOPREP is a versatile microbial soil treatment designed to, making it an essential tool for various agricultural and environmental applications.

Whether used to boost crop productivity, restore degraded land, or improve composting efficiency, NOVOPREP provides a natural, sustainable solution to modern soil challenges. **Below are examples of key applications:**



Agricultural Crop Production: Improve soil fertility, moisture retention, and nutrient availability. By restoring microbial activity, it enhances the soil's natural ability to support healthy crop growth, reducing the need for synthetic fertilizers and improving overall yield.

Land Reclamation & Soil Rehabilitation: For areas suffering from soil degradation due to erosion, chemical contamination, or previous land misuse, NOVOPREP accelerates soil regeneration by restoring organic matter and microbial diversity; thus rehabilitating farmland, restoring topsoil, and converting barren land to productivity.

Topsoil Production: As natural topsoil becomes increasingly scarce, NOVOPREP provides a solution by accelerating the formation of new topsoil. When combined with organic matter and sand, it enhances microbial activity, allowing for the creation of fertile, nutrient-rich topsoil.

Turf Management & Sports Fields: Preparation and restoration of turf and grasslands used in sports fields, golf courses, and recreational areas. By improving soil structure and microbial balance, it enhances root development, increases moisture retention, and promotes healthier, more resilient turf. This reduces the need for chemical fertilizers and minimizes soil compaction, ensuring long-term sustainability and durability of the playing surface.

Forestry & Arboriculture: Preparation of soil for saplings and mature trees, promoting better root establishment and long-term resilience. It helps trees access essential nutrients while improving soil structure, particularly in degraded or nutrient-poor areas

Composting and Organic Waste Breakdown: Accelerates the composting process by enhancing microbial activity, breaking down organic waste more efficiently, and improving compost quality. It ensures that composted material is rich in beneficial microbes, making it a valuable soil amendment for future planting.

Pastures & Livestock Grazing fields: Enhances soil fertility and plant biomass, producing more nutrient-rich forage for livestock. Increased carbon absorption

Greenhouse & Nursery Soil Preparation: In controlled environments where soil can become depleted due to repeated use, NOVOPREP restores microbial balance, improves soil structure, and enhances nutrient availability. Since greenhouse soil is often reused, NOVOPREP also aids in breaking down organic residues and suppressing soil-borne pathogens, ensuring consistent soil quality for future planting cycles.

Product Data

Product Composition

CAS #	CAS # COMPONENT
Not Available	Enzyme and Microbial Blend
7727-37-9	Nitrogen
7440-09-7	Potassium
7440-44-0	Organic Carbon
Not Available	Organic matter
7732-18-5	Water

Physical & Chemical Properties

- **Appearance:** Brown
- **Odour:** Molasses like
- **Physical state:** Liquid
- **pH Range:** Optimum pH range is 6.2
- **Boiling point:** 100C
- **Solubility (H₂O):** Soluble
- **Vapour pressure:** None
- **Vapour density:** None
- **Specific gravity:** Approx. 1.0g/cc³
- **Evaporation rate:** ND
- **VOC:** NA
- **Octanol/H₂O Coeff.:** ND
- **Flash point:** None

Safety

Handling & Storage Instructions:

Handling Procedures: Avoid eye contact

Storage Procedure: Store in cool dry area. Protect containers from damage.

Personal Protective Equipment (PPE):

First Aid Measures:

- **Eyes:** Check for and remove any contact lenses. Immediately flush with plenty of water for at least 15 minutes. Get medical attention if irritation persists.
- **Skin:** In case of contact, wash off with water.
- **Ingestion:** The product will produce an emetic effect.
- **Inhalation:** Not expected to require first aid measures. Remove to fresh air. Get medical attention for any breathing difficulties.

Full Material Safety Data Sheet (MSDS): MSDS is available separately

Use Case

Golf Course

Golf Course – Highly contaminated soil

The Challenge

In early 2024, the management of a golf course in a draught-stricken area sought assistance in restoring the health of its greens and fairways. The club was experiencing **persistent turf die-off and discoloration**, with even newly transplanted turf struggling to establish itself. The suspected root cause was **contaminated irrigation water**—sourced from an adjacent dam affected by sewage and industrial wastewater. Additionally, the club's fertilization strategy relied on liquid organic fertilizer added directly into the irrigation system, which did not appear to be yielding the expected results.

A Proven Solution with Novogrow

To address these challenges, the grounds management team implemented a **combined treatment approach** using **NOVOPREP** and **NOVOGROW**. As a **proof of concept**, the products were first applied to newly transplanted turf to assess their effectiveness in **improving root establishment and turf vitality**.

How NOVOPREP worked in this setting

Following the successful establishment of the test turf, **NOVOPREP was introduced directly into the golf course's irrigation system** to maximize coverage across the greens and fairways. The microbial solution enhanced soil microbiology, improving nutrient availability and **strengthening turf resilience against environmental stressors**. Over time, the course exhibited **noticeable improvements in turf health**, including:

- Greener, more uniform grass coverage
- Improved root establishment and soil structure
- Reduced water and fertilizer requirements



Image: Test patch before treatment test patch



Image: Test patch after treatment test patch

These results led to **significant cost savings on inputs**, while also improving the playing experience for club members.

Real-World Validation

Midway through the trial, the golf course's irrigation system experienced a failure, resulting in a **three-week period of irregular or insufficient watering** across the greens and fairways. Despite this unexpected challenge, the treated turf **continued to show significant improvement**, demonstrating **enhanced resilience and adaptability**.

Use Case

Golf Course

Golf Course – Highly contaminated soil

Conclusion

The introduction of NOVOPREP provided an **effective, sustainable solution** for restoring and maintaining high-quality turf at the golf club. The positive results observed—including **improved turf establishment, colour retention, and overall health**—underscore the effectiveness of NOVOGROW in **supporting plant vitality even under suboptimal irrigation conditions**. The club's groundskeepers, management, and members all expressed **satisfaction** with the improvements in **turf quality, resource efficiency, and overall course aesthetics**.

For optimal results, it is recommended that **NOVOPREP and NOVOGROW be used in conjunction**, particularly in **challenging soil and water conditions** where traditional fertilization methods may be insufficient.



Image: Green before treatment



Image: Green after treatment

*Note: In this particular scenario, **Novogrow** was used following the application of **NOVOPREP** to treat the heavily acidic soil after years of contamination with untreated sewage.*

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