



SuPr-N

SuPr-N is a revolutionary nitrogen fertilizer, crafted with precision for the forward-thinking farmer. It represents a paradigm shift in sustainable agriculture, uniquely combining fermented nitrogen, a proprietary microbial consortium, fulvic acid and humic acid, producing controlled-release nitrogen. This blend is not just a fertilizer; it's a comprehensive soil health enhancer.

With $\approx 17\%$ nitrogen, predominantly in the highly efficient amino acid and amine form, SuPr-N stands out in the market. This special formulation ensures maximum nitrogen utilization, directly accessible by plants, thereby reducing the common inefficiencies associated with traditional nitrogen sources. Unlike other products available, SuPr-N's amino-based nitrogen minimizes the environmental risks typically associated with nitrogen use, such as leaching and volatilization.



Amino Acid Nitrogen

Moreover, SuPr-N does more than just nourish plants—it's designed to revitalize the soil. The inclusion of a fermented microbial consortium and bioactive compounds like fulvic and humic acids promotes a thriving soil ecosystem. These components work synergistically to naturally improve soil structure, enhance nutrient absorption, and assist with water retention.

SuPr-N is designed to be a game-changer for farms grappling with the dual challenges of maintaining high productivity and reducing environmental impact. Its innovative approach to nitrogen delivery positions it as an indispensable tool for sustainable agriculture, setting a new standard in the industry.

Why Choose Amino Acid-Based Nitrogen Fertilizer?

Amino acids are the building blocks of proteins, which are crucial for plant growth and development. When nitrogen is supplied in the form of amino acids, it is directly available for plant uptake and assimilation. This form of nitrogen bypasses the energy-intensive processes of conversion that nitrate and ammonia forms require. As a result, plants can utilize amino acid-based nitrogen more efficiently, leading to quicker and more robust growth.

Unlock Efficient Plant Growth: Plants require nitrogen for crucial functions such as protein synthesis and chlorophyll production, which are essential for growth and photosynthesis. Amino acid-based nitrogen offers a breakthrough in efficiency, providing nitrogen in its most bioavailable form. Direct absorption through roots and leaves eliminates the need for internal conversion, making nitrogen immediately available to fuel robust plant growth.

Maximize Energy Efficiency: Choosing amino acid-based nitrogen is like giving your plants a direct infusion of energy. By eliminating the need for plants to convert nitrogen into usable forms, amino acids allow plants to conserve vital energy. This conserved energy is redirected towards enhancing growth rates, increasing yield potential, and improving overall plant health.

Strengthen Plant Resilience: Empower your crops to thrive under stress. Amino acids, the building blocks of life, not only support basic growth but also naturally fortify plants against environmental stresses such as drought, extreme temperatures, and pest attacks. Additionally, certain amino acids act as natural chelators, making essential micronutrients more available to plants. This dual action strengthens plants' natural defence systems and enhances their ability to withstand adverse conditions.

Safeguard the Environment: Embrace sustainability with a fertilizer that cares for the planet. Amino acid-based fertilizers significantly reduce the risk of nitrogen leaching—a major cause of groundwater contamination. By choosing this eco-friendly option, you're not only optimizing plant nutrition but also protecting local water sources and contributing to a healthier ecosystem.

Promote Vibrant Soil Ecosystems: Amino acids do more than nourish plants—they rejuvenate soils. By stimulating beneficial microbial activity, these organic compounds enhance nutrient cycling and organic matter decomposition. The result is richer, more fertile soil, laying the foundation for sustained agricultural productivity and improved crop quality.

Cost-Effective Investment: While the initial investment in amino acid-based fertilizers may be higher than traditional options, the long-term benefits are unmatched. Improved crop yields, enhanced stress tolerance, and reduced environmental impact translate into greater overall value. Efficient nutrient use means lower application rates over time, providing cost savings and a higher return on investment.

“Amino Acids Are Better for Plants and The Environment”

More than just Nitrogen

By using SuPr-N, you're not just feeding your plants with nitrogen; you're also providing them with a complex blend of growth regulators or phytohormones that enhance their ability to thrive under various conditions. This means healthier plants, better yields, and less worry about the challenges that nature throws your way.

What are Phytohormones and Why Are They Important in SuPr-N?

Phytohormones are natural substances in plants that help control their growth and response to their environment. Think of them as special signals that help plants know when to grow, fight off diseases, or survive tough weather. SuPr-N contains several important phytohormones, each with a special role:

Salicylic Acid (SA)

- **What it does:** Helps plants defend against diseases and cope with stresses like drought or cold. It works by helping plants build up protective compounds and substances that balance water and salts under stress.
- **Levels in SuPr-N:** High, which means it can significantly boost plant health, but it's important to use the right amount to avoid any negative effects.

Auxins (like Indole Acetic Acid - IAA)

- **What it does:** Promotes root growth and fruit development. It also helps plants fight off harmful conditions both from the environment and from pests.
- **Levels in SuPr-N:** Optimally balanced to encourage healthy growth without overwhelming the plant.

Cytokinins

- **What it does:** Encourages cells to divide and grow, which is crucial for forming new plant parts like roots and shoots. It helps young plants or new cuttings start strong and healthy.
- **Levels in SuPr-N:** Adjusted to support vibrant growth across different plant stages.

Jasmonic Acid (JA)

- **What it does:** Works within the plant's communication network to boost its ability to handle stress and ward off pests.
- **Levels in SuPr-N:** Enhanced to help plants stay resilient in tough conditions.

Abscisic Acid (ABA)

- **What it does:** Plays a key role in helping plants manage water use, especially important during dry periods. It also helps with the timing of developmental stages like bud dormancy.
- **Levels in SuPr-N:** Significantly higher, providing plants with an extra defence against both environmental stresses and pests.

How does SuPr-N compare to Other Biological N Sources?

SuPr-N sets itself apart from other biological nitrogen sources by its unique composition and the benefits it offers in terms of nutrient delivery and environmental impact.

Differences Highlighted by the Data:

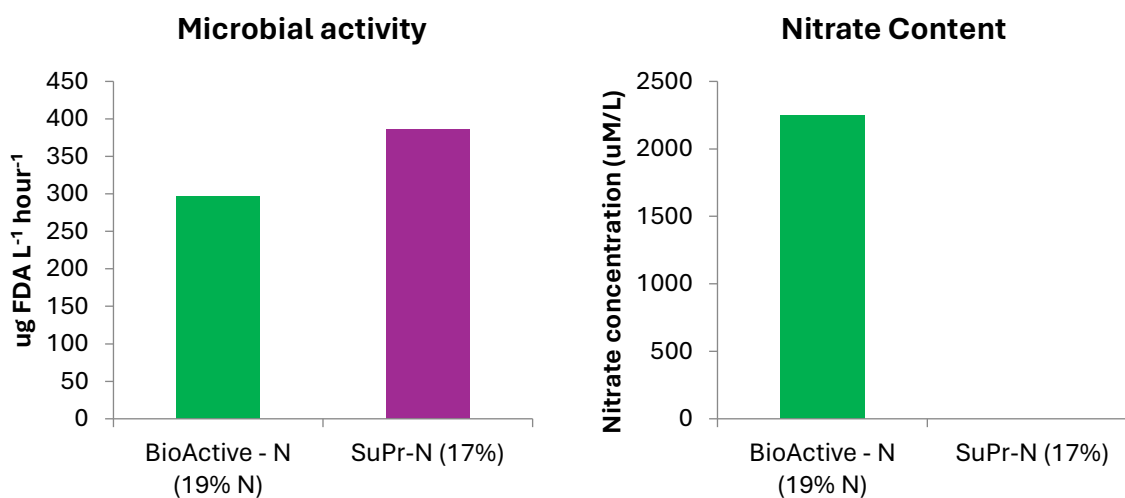
Enhanced Microbial Activity: SuPr-N demonstrates significantly higher microbial activity compared to BioActive-N. With an average activity level of 385.57 compared to 297.08, SuPr-N promotes a more vibrant and beneficial soil microbiome. This indicates a healthier soil environment, which can enhance nutrient uptake and improve plant health.

No Nitrate Present: A striking difference is that SuPr-N contains very little nitrate and has been analysed by University testing with no nitrate nitrogen. In contrast, BioActive-N contains an average of 2247.67 units of nitrate. Nitrate is highly susceptible to leaching, especially in sandy or well-drained soils, which can lead to groundwater contamination. The absence of nitrate in SuPr-N significantly reduces the risk of leaching.

Lower Ammonium Content: SuPr-N has a lower level of ammonium (204.19 on average) compared to BioActive-N (619.6 on average). While ammonium is less prone to leaching than nitrate, it can still be lost through volatilization or converted into nitrate in the soil. Lower ammonium levels in SuPr-N mean reduced potential for these losses and less risk of phytotoxicity, which can occur with high ammonium concentrations.

Implications for Farming:

By utilizing SuPr-N, farmers can enjoy a safer and more efficient way to deliver nitrogen to their plants. The absence of nitrate nitrogen in the product means that the nitrogen that is applied to the soil will stay where it's needed, right at the plant roots, instead of being washed away. This not only ensures that plants have a steady supply of nitrogen but also safeguards local waterways from pollution due to leaching. Additionally, with lower levels of ammonium and nitrates, SuPr-N offers a reduced risk of burning plant tissues, which can happen with other nitrogen sources when used excessively.



Holistic Nitrogen Management with SuPr-N

Integrated Nitrogen Delivery for Balanced Growth

SuPr-N offers a specialized approach to nitrogen application, designed to integrate seamlessly into a holistic nitrogen management strategy. By providing nitrogen in the form of amino acids, SuPr-N complements traditional nitrogen fertilizers, meeting plants' immediate nitrogen demands and designed to minimise the potential for excessive vegetative growth that could compete with reproductive development.

Coordinated Application for Optimized Nutrition

The use of SuPr-N alongside conventional nitrogen sources allows for a staged nutrition plan. During periods when plants require a readily available energy source for critical functions and recovery from stress, SuPr-N can be applied to quickly meet these needs. This is particularly advantageous when nitrogen is necessary as a metabolic fuel rather than as a promoter of foliar growth.

Strategic Timing to Support Plant Cycles

Understanding the phenological stages of crop development is essential in nitrogen management. SuPr-N can be applied at specific growth stages where root development and plant vigor are the focus, rather than during times when reproductive growth could be negatively impacted by competition for resources. This strategy assists plants to receive the right type of nitrogen at the right time, optimizing their growth and yield potential.

Complementary Use During Stress Recovery

After events such as pest attacks or abiotic stress, plants may exhibit increased nitrogen demand for recovery. SuPr-N can be applied to satisfy this surge in requirement whilst simultaneously assisting to minimise the risk of overstimulating vegetative growth. This aids in the recovery process while maintaining a balance with the plant's reproductive needs.

Targeted Feeding for Reduced Nitrogen Competition

SuPr-N's role in a comprehensive nitrogen program is to provide targeted feeding where nitrogen is used efficiently for energy and recovery, rather than mass growth. By applying SuPr-N judiciously in conjunction with other nitrogen sources, it has been shown to be possible to manage the plant's nitrogen status, limiting undue competition between vegetative and reproductive growth.

Considerations for Integrated Nutrient Management

When incorporating SuPr-N into a nitrogen management plan, consider the following:

- Soil testing to determine baseline nutrient levels and nitrogen requirements.
- Plant tissue analysis to monitor the plant's nitrogen uptake and identify periods of increased demand.
- Adjusting application rates of conventional nitrogen sources when using SuPr-N to avoid nitrogen excesses.
- Monitoring plant growth responses to fine-tune the nitrogen management program.

Application Rates

Crop	Rate per Ha	Timing
Tree Crops	25L	Monthly
Vegetables	10L	Weekly
Pineapples	25-40L	Bi-Weekly
Lucerne	25L	At planting and/or after each cut
Pasture	25L	Applied after grazing and/or before pasture quality declines
Broadacre Cropping	25-50L	At Planting
	25-50L	At Planting
Sugarcane	25L	Before “Out of Hand” stage
	25-50L	After Harvest

For your specific application requirements, contact your Multikraft specialist. For best results SuPr-N should be incorporated into soil by rainfall or irrigation as soon as possible following application. Sizes Available 1,000L shuttle and 20L containers.

Safety and Handling

Storage Instructions: To preserve the efficacy and shelf-life of SuPr-N, it is imperative to store the product in a controlled environment. The optimal storage condition is a cool, dry location where temperatures are consistent and moderate. Excessive heat can compromise the viability of the microbial consortia, while moisture can activate or degrade the microbes prematurely. Protection from direct sunlight is important and to avoid diurnal temperature fluctuations that can be detrimental to the microbe’s integrity.



Application Precautions: Appropriate personal protective equipment (PPE) should be employed during the handling and application of SuPr-N to prevent any potential irritation or allergic reactions. We recommend wearing durable gloves to protect your hands and safety eyewear to guard against accidental splashes or sprays. While SuPr-N is composed of beneficial microorganisms, it’s crucial to exercise caution to minimize direct contact with the skin and eyes.

Environmental Considerations: Our commitment to environmental stewardship is at the core of SuPr-N’s development. This product embodies the principles of eco-friendly agriculture by enriching soil biology naturally, which can decrease the dependence on synthetic chemical inputs. By utilizing SuPr-N, farmers can contribute to a more sustainable agricultural ecosystem that supports and promotes soil and plant health, aligning with the ethos of conservation and responsible resource management.

For technical support or more information, please contact your local service representative.