

Borregaard unveils CE-Marked biostimulant ingredient to boost nutrient efficiency and fertilizer performance

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Borregaard has introduced Activance NUE, a new CE-marked biostimulant ingredient designed to enhance nitrogen and phosphorus use efficiency across a wide range of crops, as fertilizer manufacturers increasingly seek technologies that improve productivity while reducing nutrient losses and environmental impact.

Certified under the European Union Fertilising Products Regulation (EU) 2019/1009 as a PFC 6(B) non-microbial plant biostimulant, Activance NUE enables fertilizer producers to develop advanced nutrition products with validated nutrient-use efficiency claims while maintaining flexibility across multiple formulation systems.

The launch comes amid growing pressure on farmers and input manufacturers to optimise fertilizer use as rising input costs, supply chain volatility and sustainability requirements reshape global crop production strategies. By improving how plants absorb and utilise nutrients, the new ingredient aims to help growers maintain productivity while using fertilizer resources more efficiently.

According to Borregaard, Activance NUE has been specifically developed to simplify product development for fertilizer manufacturers. The ingredient can be incorporated into PFC 7 fertilizer blends, allowing manufacturers to retain validated nitrogen and phosphorus efficiency claims on final product labels while accelerating regulatory compliance and

commercialisation within European markets.

“Activance NUE combines validated nutrient-use efficiency claims with strong formulation compatibility, providing fertilizer manufacturers with a regulatory-ready solution for next-generation fertilizer products,” said Eduardo Pereira, Business Director Agri at Borregaard.

The technology works through three scientifically validated mechanisms that enhance nutrient uptake and utilisation. These include stimulation of root development through activation of plasma membrane H⁺-ATPase activity, improved phosphorus availability through metal-phosphate complex formation, and enhanced nitrate uptake coupled with reduced nitrate leaching. Together, these mechanisms are designed to strengthen nutrient acquisition and improve overall fertilizer efficiency under a range of growing conditions.

Field and laboratory evaluations conducted by Borregaard demonstrated significant agronomic benefits. Trials showed a 28.6 per cent increase in total root length and a 21 per cent improvement in nitrate uptake rates compared with untreated controls, highlighting the ingredient’s potential to improve nutrient absorption and plant vigour.

Yield improvements were also recorded across multiple crop categories. Open-field studies reported yield gains of 4 per cent to 11 per cent in fruit crops, more than 10 per cent in vegetables, and over 5 per cent in broadacre field crops, indicating broad applicability across diverse agricultural systems.

Beyond conventional fertilizer programmes, Activance NUE demonstrated particular value under nutrient-limited conditions, where crops typically face greater productivity losses. This capability is expected to resonate with growers seeking to maximise returns on fertilizer investments while mitigating production risks linked to fluctuating input availability and costs.

The ingredient has been engineered for compatibility across a broad spectrum of fertilizer systems, including liquid NPK formulations, fertigation programmes, hydroponic systems and water-soluble fertilizers. Available in both soluble powder and microgranule formats, Activance NUE has also been designed to maintain stability under high-salt and low-pH formulation environments, expanding its potential application across specialty nutrition products.

The introduction of Activance NUE reflects a wider industry shift toward nutrient stewardship and resource efficiency. As regulators, food companies and agricultural value chains place increasing emphasis on sustainable production practices, technologies that improve nutrient-use efficiency are becoming an increasingly important component of modern crop nutrition strategies.

With its regulatory certification, validated agronomic performance and formulation flexibility, Borregaard positions Activance NUE as a next-generation ingredient capable of helping fertilizer manufacturers develop more efficient, sustainable and market-ready plant nutrition solutions for an evolving agricultural landscape.