

Case Study

Maximizing Yield and Phosphorus Efficiency



Achieving superior agronomic results and ROI through Arbuscular Mycorrhizal Fungi inoculation with Rootella.



Products

Rootella F / Rootella BR (Arbuscular Mycorrhizal Fungi - Rhizophagus intraradices)



Focus

Achieving optimal crop productivity while significantly reducing Phosphorus fertilizer application



Location

Brazil (Estrela do Sul, Uberlândia, indianópolis (MG), Rio Verde, Perolândia, Montividiu, Ponte Pedra, Jataí, (GO))

The Challenge: The Phosphorus Paradox

Phosphorus is vital but immobile in soil, forcing farmers into costly, inefficient over-application to ensure crop uptake.

The Goal: Optimized P-Efficiency

Maximize nutrient efficiency with Rootella to maintain peak yields while cutting synthetic phosphorus inputs by half.

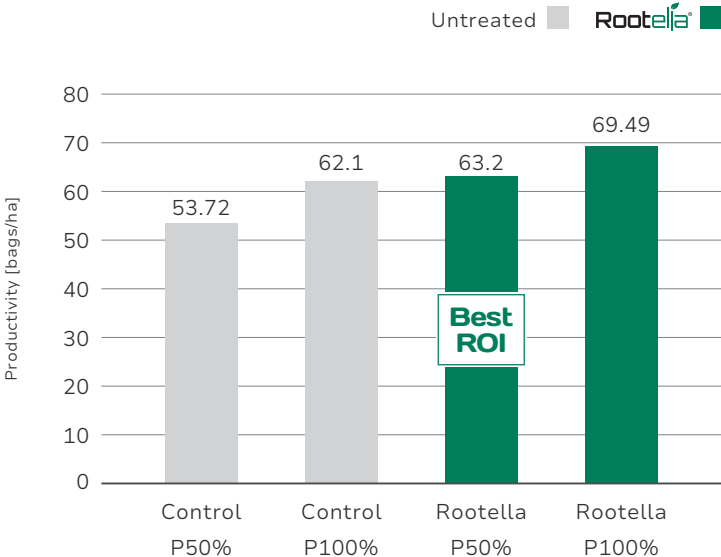
This case study examines the impact of inoculating crops with mycorrhizal fungi, on various row crops. The core finding is that inoculation with Rootella at 50% phosphorus (P) consistently outyielded the 100% P control. This proves that mycorrhizae can slash input costs while maximizing ROI and productivity.

The Role of Mycorrhizae

Arbuscular Mycorrhizal Fungi (AMF) expand root surface area by 10–100x, scavenging immobile phosphorus that plants can't reach alone. This symbiosis unlocks soil reserves, maintaining high yields with half the synthetic fertilizer.

Soybean Productivity and P-Savings

Objective: Compare the yield of Soybean under full Phosphorus fertilization (Control P100%) against reduced fertilization combined with Rootella inoculation (Rootella P50%).

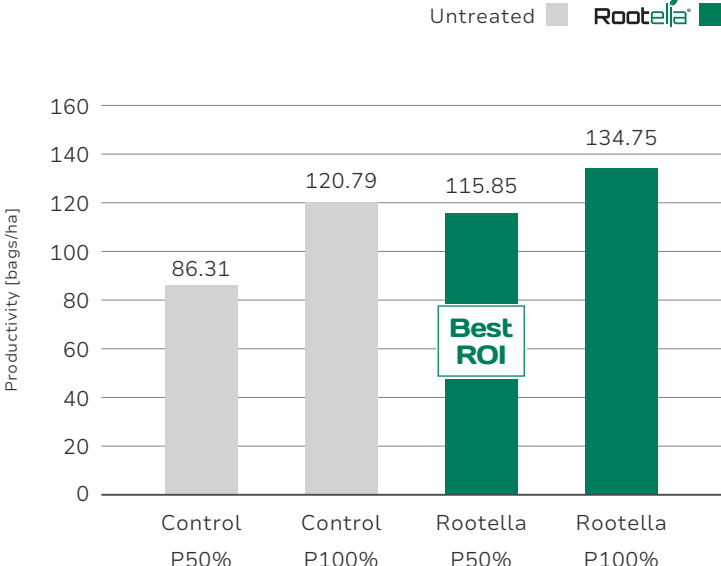


Economic Benefit: Higher Yield, Lower Cost

- Rootella P50% yielded 63.20 bags/ha, outperforming the 100% P control by 1.11 bags/ha.
- The Rootella P50% strategy was identified as the "Best ROI" solution.

Corn Productivity and P-Savings

Objective: Validate the P-efficiency and yield-boosting effect of Rootella in Corn, mirroring the Soybean trial structure.

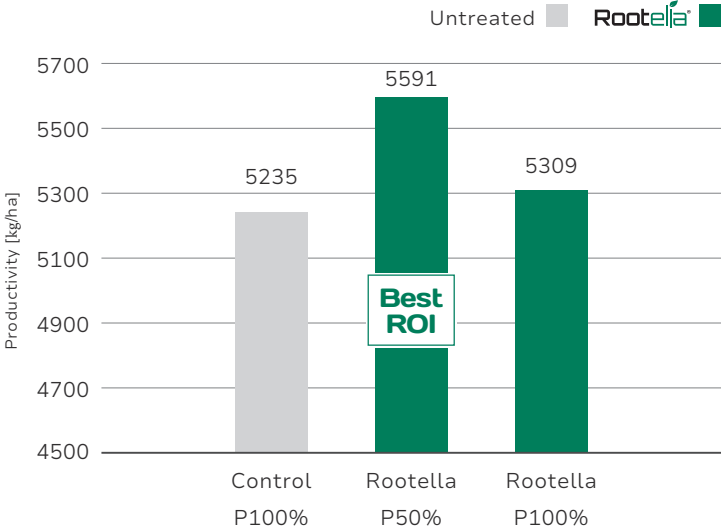


Best Performance & ROI

- Rootella P50% maintained a strong 115.85 bags/ha yield, delivering the highest net profitability.
- Without Rootella, a 50% P-reduction caused a 34.48 bag/ha loss. Rootella bridged this gap, proving it is essential for maintaining productivity at lower input levels.

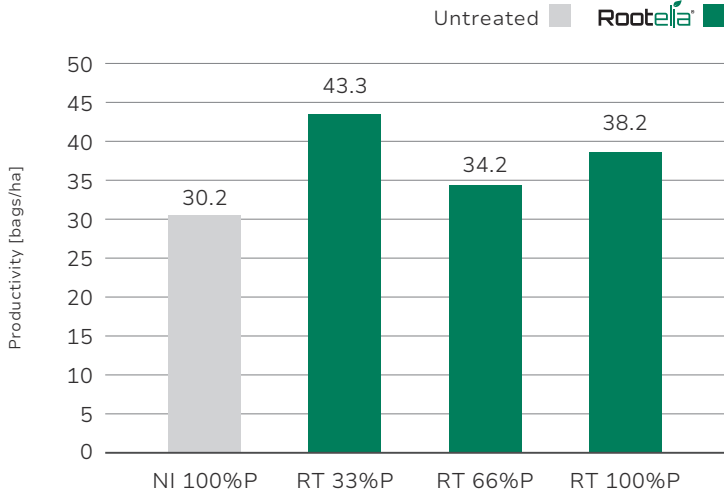
Versatility Across Crops

Wheat Chapecó- SC



Rootella P50% outperformed the Control P100% by over 300kg/ha.

Beans Paracatú - MG



Even at just 33% P, Rootella delivered significantly higher yields than the 100% P Control.

Conclusion: The Dual-Benefit Strategy

Rootella proves that sustainability and profitability go hand-in-hand:



Cut Costs:

Reduce P-fertilizer by up to 50% while maintaining or exceeding standard yields.



Maximize ROI:

Lower inputs + competitive yields = peak farm profitability.

Sustainable. Profitable. Proven.

Don't just add more fertilizer- optimize your soil biology with Rootella.