

NEWS

Uttam Superrhiza named as winner of Applied Microbiology International Product of the Year 2023

BY LINDA STEWART | 29 NOVEMBER 2023



Mycorrhiza biofertilizer Uttam Superrhiza has been named as the winner of the Applied Microbiology International Product of the Year 2023.

The prestigious prize recognizes a commercial product derived from microbiology research, with special consideration given to those products that have addressed the United Nations Sustainable Development Goals.



Uttam Superrhiza, marketed by Chambal Fertilizers and Chemicals Limited in India, is manufactured by the not-for-profit institute, The Energy and Resources Institute (TERI).

Disruptive mycorrhiza

A disruptive mycorrhiza product, Uttam Superrhiza is powered by the native biofilm-forming microbiome of the endo mycorrhizal fungi and was developed by the Sustainable Agriculture Programme's Mycorrhizal Bioformulations Research team led by Dr Mandira Kochar.

Mycorrhizae are fungal associations between plant roots and beneficial fungi which effectively extend the root area of plants through their hyphae. The product's USP is no-contamination, superior-quality, viable mycorrhiza spores that provide superior functional benefit across different edapho-climatic zones.

In the first year of its launch by Chambal Fertilizers in India, 1,900 tonnes of Uttam Superrhiza granular mycorrhiza product were sold in the market – enough to fertilize 450,000 acres of agricultural land.

Carbon sequestration

Uttam Superrhiza is TERI's first mycorrhiza microbiome product and delivers around 12-20% incremental yield, said Dr Kochar.

"You have better growth and quality of the plants, with a much better response to abiotic stress and biotic stress so the plants are stronger and relatively disease-free," she said.

"The produce quality and the nutrient content in the grains or the vegetables is significantly higher. The amount of carbon that is sequestered in soil when you apply Uttam Superrhiza is also much higher – so we're not only getting better nutrient content in the crops but we're also trapping more carbon in the soil in the process."

Contamination-free

Uttam Superrhiza is produced in a contamination-free environment through TERI's patented *in vitro* technology and is enriched with natural mycorrhizal partner bacteria that form a biological film around the mycorrhiza. It benefits a variety of crop types including wheat, maize, pearl millet, sorghum, chickpea, potato, cotton, paddy, sugarcane, plantation crops, chilli, spices, pulses, oilseeds and many other vegetables.

It also delivers efficient access to and use of water and plant nutrients; positive impacts on soil microflora; improved soil health and structure; and benefits to environmentally stressed land. It is compatible with chemical fertilizers such as urea, DAP, potash, compost and manure, and its formulation is stable at room temperature for at least two years.

TERI is an independent not-for-profit research institute led by renowned biotechnologist and strong advocate of sustainability, Dr Vibha Dhawan, and it generates its funding through policy advocacy, competitive research grants and product collaboration with industry, ploughing profits back into new product development. It is a leading thinktank providing solutions for Sustainable Development across different sectors of agriculture, environment, climate change, energy, and resource governance. Its mycorrhizal technology is an outcome of the Institute's long-standing research using diverse soil microbes and its commitment to improve our soils, combating climate change and achieving agriculture sustainability.

Impact of award

"This award gives us a lot of confidence as product developers that if we pick up the right question, and the right combinations to work with, we can really do something meaningful," said Dr Kochar.

"The award is for our entire team who are building all these new soil microbe-based bioproducts (#Mandira Kochar #Deepak Kumar, # Chandrakant Tripathi #Vatsala Koul #Leena Johny #Wilfred Dias). It also exemplifies TERI's commitment to building effective solutions to achieve the UN SDGs, for sustainable agriculture and the support for such innovative ideas at the institutional level for researchers. – it will be a big boost for everybody in TERI."

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