

NITK receives patent for tech to produce veggies from tuber crops

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NITK Surathkal received a patent for a technology to produce irritation-free, ready-to-cook vegetable from tuber crops such as Elephant Foot Yam, Taro (Colocasia), Tannia and Giant Taro, collectively called as "aroids".

Prof. Prasanna Belur and team from the Chemical Engineering Department has developed this technology. "By deploying this technology, more than 90% of the oxalates which causes biting taste and irritation can be removed without affecting its taste, aroma and texture. The vegetables produced can be preserved for a week in the refrigerator (at 4 degree C) and for three months if vacuum packing is adapted," said a release.

Tuber crops such as Elephant foot yam, Taro (Colocasia), Tannia and Giant Taro contains excessive amount of oxalates (300-7500 mg per kg of corms on a dry weight basis). Ingestion of foods containing oxalates causes caustic effects and irritation to the intestinal tract and affects the bioavailability of minerals like calcium, magnesium, zinc, and copper. The consumption of even moderate amounts of oxalate has been reported to play a key role in calcium oxalate-induced kidney stone disease. As per WHO (World Health Organization), the maximum permissible limit of oxalate consumption by humans is 71 mg per day. More than 90% of these harmful oxalates are removed by this technology.

This invention was a spin-off of basic research carried out



Ready-to-cook vegetable cubes produced from elephant foot yam

by Prof. Prasanna and his team on unique starch obtained from the Dasheen type of Taro (Mudli) conserved by Kunabi tribes of Joida, Karnataka, in 2019.

In 2021, this technology was transferred to 'nGV Naturals Industry Pvt. Ltd., Bengaluru', under non-exclusive, limited licensing agreement. This Bengaluru based start-up has successfully produced and marketed the ready-to-cook elephant foot yam in Bengaluru city using this technology. Hotel industry is the major consumer of this ready-to-cook vegetable in Bengaluru.

The availability of this ready-to-cook vegetable eliminates the tedious method of vegetable preparation from those traditional tubers and saves the time and energy for the urban consumer. Adaption of this technology reduces post-harvest loss, boosts up demand from urban consumers, and thus can increase the income for elephant foot yam/taro farmers.

Now, NITK Surathkal is planning to license this technology to the entrepreneurs/organizations who are interested in the production of ready-to-cook vegetables for domestic consumption and export markets.