Industrial Biotechnology

A Novel Food Fortification Technology addressing Trace Metal Malnutrition (Hidden Hunger)

APPLICATION

This a platform technology to develop metal enriched fortified biomass or food products. Currently the technology is used for Zn fortification. However, the technology can be used to develop other trace metal enriched fortified foods.

COMPANY NAME

Utopia Nutraceuticals India Pvt Ltd

FOUNDER'S NAME

Sudhamani Mudadda

TECHNOLOGY READINESS LEVEL (TRL)

TRL: 5 (The batch scale process development has been optimized. Currently, the startup is optimizing the scale-up process)

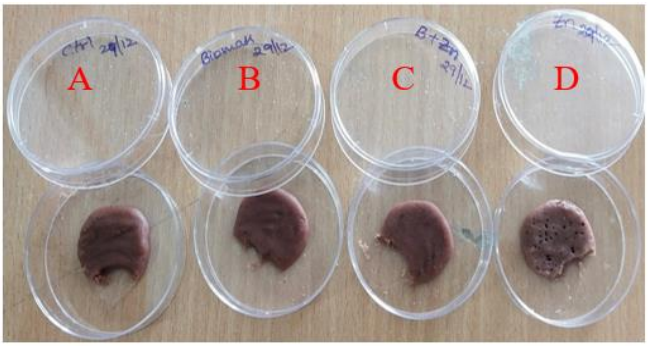
INTELLECTUAL PROPERTY

Indian Patent App No: 201641033703 (In order for Grant)

PROBLEM ADDRESSED

Lack or shortage of trace metal Fe, Cu, Zn, Se etc intake through food can lead to malnutrition called Hidden Hunger. Nutritional loss loss of iodine, vitamin A Lower consumer acceptability chief cause of failure of all fortification strategies including community health programme. It leads to health impairments like stunted growth, reduced physical and mental capabilities, lower immunity and early death. The existing fortification technologies involve the use of inorganic salts of trace metals. The metal reacts with the food components and causes oxidative and nutritional deterioration and unacceptable organoleptic rancidity, off flavor, darkening, discoloration changes of the fortified food which is a loss both for manufacturer & consumer.

PRODUCT IMAGE



Appearance of chocolate as a result of zinc fortification. A– Control chocolate without any fortificant; **B –** Chocolate fortified with 0.9 g of *Bacillus subtilis* biomass; **C** – Chocolate fortified with 0.9 g of biomass bound with 1.275 mg of Zn; **D** – Chocolate fortified with 5.6 mg of $ZnSO_4.7H_2O$ (1.27 mg Zn).

ABOUT THE TECHNOLOGY

Utopia Nutraceuticals India private limited working on a Novel food fortification technology which is developed with the use of food grade microorganisms as carriers for metals. The metal is bound to the microorganism by means of biosorption and making it unavailable to react with the food components. It will address the persistent cause of failure of trace metal fortification technologies. The technology is simple, versatile, without any additives and economical. The technology is novel and has potential to be a game changer. The metal enriched biomass is used to fortify the food products chocolate and yoghurt.

USP

- The technology is simple and versatile in nature to be used for other trace metals as well
- No additives are used. Hence, it is a natural product
- The technology is affordable and have a product shelf life of 9 months
- Value additions like – natural vitamins, enzymes, probiotics, etc are present in the food product

FUNDS RAISED/ACHIEVEMENTS

- Received INR 49.53 lakhs grant-in-aid from BIRAC BIG scheme

END USERS/CUSTOMERS

- Food manufacturing industries, women, children, and sports persons

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