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P52

NEW ADVANCES IN THE INTEGRATED MANAGEMENT OF FOOD PROCESSING BY-PRODUCTS IN INDIA AND EUROPE: SUSTAINABLE EXPLOITATION OF FRUIT AND CEREAL PROCESSING BY-PRODUCTS WITH THE PRODUCTION OF NEW FOODS AND FEEDS (NAMASTE EU)

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Abstract

Huge amounts of by-products are generated by plant processing industry; in particular, fruit and cereal are among the most relevant surplus of Indian and European food industry. They are usually disposed of in landfills, since their chemical and microbiological instability, which leads to oxidation and spoilage, represents the major impediment to their exploitation (reuse or recycling). Nonetheless, such matrices are indeed unexploited sources of a number of valuable compounds potentially profitable in the formulation of novel feeds and foods. The remarkable opportunity of designing novel strategies to obtain added value products from the biotechnological treatment of these by-products, hence satisfying the urgent need to valorize them, is the main target of recently EC-funded FP7 project NAMASTE-EU (*Joint EC & DBT-India- call: KBBE-2009-2-7-02: Valorisation of by-products in food processing*). NAMASTE aims at developing new laboratory-scale protocols and processes for the sustainable exploitation of citrus, pomegranate, mango, as well as wheat and rice bran surpluses via their (bio)conversion into either beverages, snacks, probiotics, prebiotics (dietary fibers), edible fractions enriched in active molecules (vitamins, oligosaccharides, minerals, aminoacids, antioxidant) used for the preparation of such products.

Among the main results achieved so far in the project, there are, among others:

- development of EU-India shared procedures for the selection, physical/chemical and biological treatment of citrus and wheat processing by-products aimed at obtaining bioactive molecules;
- development and assessment of new (bio)technologies for their valorization as ingredients in the formulation of novel food products and feeds;
- development of EU-India shared procedures for the assessment of the quality, chemical and microbial safety of new food products and feed, as well of the environmental and economical sustainability of the processes used;

The following project outcomes are expected.

- Obtainment of transnational plans for sustainable valorisation of fruit and cereal industry by-products.
 - Generation of a common India/EU's knowledge-base and combined outlook in the field of environmentally sustainable food processing strategies.
 - Explore the setting up of new joint ventures, such as trade deal between Industries and EU and Indian consortia, which might promote the accession to new and emergent food markets.
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