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### **Waste utilization by Biotransformation of carica papaya linn peels and development of a value-added product from obtained by-products: An organoleptic and biochemical approach**

The diverse agro-climatic zones make India as the second largest producer of fresh fruits and vegetables granting processed fruit and vegetable products such as juices, preserves etc. to number along that leads to the generation of large amounts of wastes, both solid and liquid. This waste is incautiously being thrown without any treatment promoting environmental deterioration. However, these wastes hold immense potential nutritionally; functionally as well as physicochemical which can be utilized for producing cheaper value-added ingredients that bear economic benefits. Carica papaya Linn is a wholesome fruit, widely known as “the Fruit of Angels”, serves as an ideal, low cost food. It ranks second as a source of beta-carotene and is an excellent source of natural sugars, vitamin C, and potassium, with fair amounts of calcium and phosphorus. Low in calories, this exotic fruit holds immense medicinal value since ancient times for treating innumerable disorders and conditions like toothache up to the prevention of cancer. To substantiate the potential of fruit wastes, proximate profiles of papaya peel were analysed using bench science experiments. Following analysis, the peels were then bio valorised to procure commercially important acetic acid which in its own holds several health benefiting attributes.

Further in order to project the organoleptic appeal of the fruit vinegar under study, invasive and non-invasive sensory evaluation was carried out by a semi-trained panellist. This was executed with a recipe. The data was subjected to biostatistical analysis which proved that the novel recipe was highly appreciated. Critical control points were established during the process of novel product development and hazard analysis at critical control points was carried out. The commercial appeal of the recipe was also speculated using value for money (VFM) studies. Future prospects include determination of anti-nutrients and anti-microbial activity of vinegar. The use of this waste utilized novel product as a functional food and development of novel products keeping in mind the nutritional profile and organoleptic acceptance needs to be explored.

#### **Speaker Biography**

Jyoti D Vora is an Academician, Head of The Department, Consultant, Trainer, Research Guide And Researcher in Biochemistry And Food Science And Quality Control and her qualifications are M.Sc., PhD, F.S.Sc., MASFFBC, CME (USA), NET Cleared, Nutritional consultant at Raleigh Medical Centre, North Carolina, Certified Functional Foods Scientist (FFC,USA).

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