



Production of meaty flavour from plant proteins naturally

Gaurav Sharma

University of Rajasthan, India

Abstract:

But recent revelation about close association of certain diseases with meat consumption has raised awareness among consumers to reduce meat and consume more plant based diet. However industry is still far from delivering true purpose of plant based diet, natural and healthy. Plant based meat alternatives produced by mimicing protein isolate and concentrated by adding flavors and extrusion. These added flavours not only make these product less than natural but limit their applications to ready-to-eat products. Developing of meat taste from plant ingredients naturally will revonusionize the plant based industry.

The first step involve identify plant sources which contain desired amino acid, fats and reducing sugars required to develop meaty taste. To develop targeted taste the all these precursors need to be in a precised composition, hence a plant ingredients were subjected to enzyme hydrolysis using enzymes isolated from various plants naturally. The hydrolyzed mass filtered and subjected to selective isolation of amino acids and sugars using column chromatography. Various fractios were collected at specific eluting time and analyzed using High performance chromatography to ensure the composition meets the requirements as precursors. The mixture was introduced to naturally deodourized proteins concentrates containing proteins around 95%.

The composite mixture was extruded using twin crew extruder at temperature required to initiate maillard reaction. The extruded fibrous product was cooled to freezing temperature to



slow down mailard reaction. The taste was evaluated in application food against boiled chicken meat and found 90% close to meat.

Biography:

Gaurav Sharma has completed his PhD at the age of 23 years from University of Rajasthan, India. He is the APAC Head of Process and Operation excellence at Barry-Callebaut Chocolate Asia Pacific and mentoring several plant based meat alternate and food ingredient start-up. He has published more than 20 papers in reputed journals and has patented novel technologies.

Publication of speakers:

1. Environmental friendly and robust $Mg_{0.5}Cu_{x}Zn_{0.5}Fe_2O_4$ spinel nanoparticles for visible light driven degradation of Carbamazepine: Band shift driven by dopants