

## Utilization Of Guar Gum As Functional Fat Replacer In Goshtaba, A Traditional Indian Meat Product

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**Abstract :** Modern trend towards convenience foods has resulted in increased production and consumption of restructured meat products and are of great importance to the meat industry. In meat products fat plays an important role in cooking properties, texture & sensory scores, however, high fat contents in particular animal fats provide high amounts of saturated fatty acids and cholesterol and are associated with several types of non communicable diseases such as obesity, hypertension and coronary heart diseases. Thus, fat reduction has generally been seen as an important strategy to produce healthier meat products. This study examined the effects of reducing fat level from 20% to 10% and substituting mutton back fat with guar gum (0.5%, 1% & 1.5%) on cooking properties, proximate composition, lipid and protein oxidation, texture, microstructure and sensory characteristics of goshtaba- a traditional meat product of J & K, India were investigated and compared with high fat counterparts. Reduced- fat goshtaba samples containing guar gum had significantly ( $p \leq 0.05$ ) higher yield, less shrinkage, more moisture retention and more protein content than the control sample. TBARs and protein oxidation (carbonyl content) values of the control was significantly ( $p \leq 0.05$ ) higher than reduced fat goshtaba samples and showed a positive correlation between lipid and protein oxidation. Hardness, gumminess & chewiness of the control (20%) were significantly higher than reduced fat goshtaba samples. Microstructural differences were significant ( $p \leq 0.05$ ) between control and treated samples due to an increased moisture content in the reduced fat samples. Sensory evaluation showed significant ( $p \leq 0.05$ ) reduction in texture, flavour and overall acceptability scores of treatment products; however the scores for 0.5% and 1% treated samples were in the range of acceptability. Guar gum may also be used as a source of soluble dietary fibre in food products and a number of clinical studies have shown a reduction in postprandial glycemia and insulinemia on consumption of guar gum, with the mechanism being attributed to an increased transit time in the stomach and small intestine, which may have been due to the viscosity of the meal hindering the access of glucose to the epithelium.

**Keywords :** goshtaba, guar gum, traditional, fat reduction, acceptability

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