

## Extraction of Inulin from *Cichorium Intybus* and Its Application as Fat Replacer in Yoghurt

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**Abstract :** Inulin is significant ingredient used in food industry that functions technologically as a fat replacer often without compromising taste and texture. In this study inulin was extracted from the chicory roots and the effect of inulin addition as a fat replacer on the physiochemical, microbiological and sensory properties of non-fat yogurt was investigated. The supplementation of chicory inulin reduced the magnitude of firmness in comparison with non-inulin supplemented non-fat yoghurt. Higher values of acidity were observed due to the more microbial fermentation in the inulin containing yogurt as compared to non-inulin yogurt and were in the range of 0.56 to 0.75 during storage days. Syneresis in control sample increased from 43.9% to 47.9% during the storage study. However inulin addition at different treatment enhanced syneresis from 44.5% to 47.6%. Inulin addition at various concentrations caused an increase in the TPC due to its probiotic effect. No effects of inulin addition on fat and protein contents were observed. Non-fat yoghurt supplemented with inulin demonstrated sensory behavior better than that of the control yoghurt. The most important effect of the addition of inulin to non-fat yoghurt is an increase in the sensory attributes appearance, body and texture, taste and mouth feel, overall acceptability. On an average, yoghurt supplemented with 1 to 2% inulin was better in overall acceptance as compared to control yoghurt.

**Keywords :** inulin, fat replacer, yoghurt, sensory evaluation, low fat

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