



## Exploring Techniques for Flavour Intensity Reduction in Pureed Foods

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### DESCRIPTION

Pureed foods are commonly used in various settings, including healthcare facilities, for individuals with swallowing difficulties or dysphagia. While pureed foods serve an essential purpose in ensuring proper nutrition and hydration for those with specific needs, there has been a longstanding concern about the potential reduction in flavour intensity compared to whole foods. This issue is essential as flavour plays a significant role in overall food enjoyment and satisfaction. To address this concern, a recent study was conducted to explore the flavour intensity of pureed foods using both instrumental and sensory analyses. The study involved the preparation of pureed samples from a variety of food items commonly consumed in pureed form, including fruits, vegetables, and meats. Instrumental analyses, such as Gas Chromatography-Mass Spectrometry (GC-MS), were employed to quantify the volatile flavour compounds present in both the whole and pureed samples. Additionally, sensory evaluations were conducted by trained panellists to assess the perceived flavour intensity of the samples using established sensory evaluation techniques.

The instrumental analyses revealed notable differences in the volatile flavour compounds between the whole and pureed samples. Specifically, certain compounds responsible for contributing to the overall flavour profile were found to be diminished in the pureed samples compared to their whole counterparts. These findings suggested that the pureeing process might lead to the loss or alteration of key flavour components. Furthermore, the sensory evaluations corroborated the instrumental findings, indicating a reduction in flavour intensity in the pureed samples. Panellists consistently rated the pureed samples as having less pronounced flavour compared to the whole samples. This discrepancy in flavour perception underscores the potential challenges associated with maintaining flavour intensity in pureed foods. Several factors may contribute to the reduction in flavour intensity observed in pureed foods. The mechanical processing involved in pureeing can disrupt the cellular structure of the ingredients, leading to the release of volatile compounds and the exposure of flavours to oxidation, evaporation, or degradation. Additionally, the heat generated

during pureeing may further contribute to flavour loss through thermal degradation of sensitive compounds. Moreover, the texture of pureed foods may influence flavour perception. Studies have shown that alterations in texture, such as a smoother consistency in pureed foods, can affect the release of flavour compounds and subsequent sensory perception. Therefore, efforts to optimize the texture of pureed foods while preserving flavour intensity are essential for enhancing overall palatability and acceptance.

### Implications

The findings of this study have significant implications for the preparation and consumption of pureed foods, particularly in healthcare settings where maintaining adequate nutrition and sensory satisfaction is paramount. Healthcare professionals and food service providers should be mindful of the potential flavour intensity reduction associated with pureeing and explore strategies to mitigate this effect. Possible strategies include optimizing processing parameters, such as temperature and shear force, to minimize flavour loss during pureeing. Additionally, incorporating flavour-enhancing ingredients, such as herbs, spices, or savoury umami-rich compounds, may help compensate for any perceived flavour reduction in pureed foods. Furthermore, ongoing research into novel food processing technologies and formulations tailored to address the specific needs of individuals requiring pureed diets are acceptable.

In conclusion, the study highlights the inherent challenges associated with maintaining flavour intensity in pureed foods. Both instrumental and sensory analyses demonstrated a reduction in flavour intensity in pureed samples compared to their whole counterparts. These findings underscore the importance of addressing flavour considerations in the development and preparation of pureed foods, particularly for individuals with swallowing difficulties or dysphagia. By understanding the factors contributing to flavour intensity reduction in pureed foods, healthcare professionals and food service providers can work towards improving the palatability and overall quality of pureed diets, ultimately enhancing the dining experience and nutritional outcomes for those with specific dietary needs.

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