

Consumer perceptions of vertical farming with a focus on the catering industry

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Vertical farming (VF) is a novel food production system that consists of vertically stacked layers of crops grown without soil in an aeroponic, hydroponic or geponic system. Consumer acceptability is a major obstacle in the successful implementation of emerging food technologies. There is limited research that has provided some insight into consumer perceptions of vertically farmed produce (VF produce)^(1,2), but attitudes and opinions of professional chefs' remains unexplored. Considering the influence chefs can have on consumer eating habits⁽³⁾, gaining an understanding of chefs' attitudes and knowledge towards VF produce is important. Therefore, the objectives of this study were to assess professional chefs' attitudes, knowledge and perceptions towards VF produce through qualitative interviews. Ethical approval was granted by Newcastle University, and all participants gave verbal and written consent prior to participation. Nine virtual interviews with chefs working at fine dining restaurants across the UK were undertaken. Chefs worked at a minimum of Sous Chef level and at restaurants with at least 2AA Rosettes or equivalent in order to satisfy recruitment criteria. The interviews were semi-structured and consisted of 14 pre-prepared questions. Questions were designed to understand background experience of chefs, awareness of VF, concerns related to VF, perceived benefits of VF, and barriers to adoption. Thematic analysis was conducted using Nvivo Software to identify key themes and prepare transcripts for coding. Two of the nine chefs interviewed reported using VF produce in their business. The chefs identified a variety of benefits and drawbacks of VF produce. Barriers to adoption included concerns regarding perceived 'naturalness', flavour and cost. In particular, all chefs raised concerns regarding perceived 'naturalness' of VF. In addition, cost concerns were more evident with chefs working at levels lower than Michelin-star. Cited benefits included effective space utilisation, visual appeal, freshness of produce and environmental sustainability. In particular, Chefs believed the substantial reduction in food miles would be effective in generating VF produce of abundant quality. All chefs were in agreement that while VF produce may be more visually appealing, there were concerns whether the taste of VF produce may match conventional crops. Perception of the quality of VF produce, regarding both appearance and taste, was the main reasoning for chef's likelihood to use or reject VF methods. In conclusion, professional Chefs perceive a variety of benefits and concerns with VF produce but the quality of produce remains a key determinant of adoption. Future consumer acceptability research on VF could include sensory analyses of produce to directly assess the quality of VF produce. Such research could lead to greater promotion, awareness and uptake of VF produce within the catering industry.

References

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