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A pursuit of underutilized star fruit (*Averrhoa carambola*) for the innovation of a new synbiotic functional fruit enriched with a low calorie prebiotic fructooligosaccharides and probiotic *Enterococcus hirae* CFR 3001

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The functional food industry's perception of the importance of gut microbiology in human health and nutrition has led to a major increase in the development of prebiotic and probiotic based products and thus, offer a new dimension in the development of 'Synbiotic functional food products'. In this context, an attempt was made to prepare star fruit (*Averrhoa carambola*) enriched with prebiotic fructooligosaccharides (FOS) and probiotic *Enterococcus hirae* CFR 3001 to develop a synbiotic product. Star fruit slices were impregnated with FOS (1:5 w/v) and 1% probiotic cells (v/v) under vacuum osmotic dehydration (VOD) process. The moisture content, colour, texture, FOS content, viability of probiotic cells were carried over a period of six months of storage at ambient temperature (25 ± 2 °C). Synbiotic star fruit slices contained 17.21 g of FOS/100 g product. The concentration of *E. hirae* CFR 3001 was 138×10^6 cfu/g up to 4 months of storage. The survivability (26×10^6 cfu/g) of *E. hirae* CFR 3001 at the end of the storage period (6 months) in synbiotic star fruit is well within the recommended concentration (106 cfu/g probiotics) in food at the time of consumption, sufficient enough to exert the beneficial probiotic effect on the host. The results indicated that the FOS and *E. hirae* did not show any significant difference in the overall quality of the product and it can be successfully incorporated into any fruits and vegetables without affecting quality attributes of the same. These synbiotic star fruits are expected to have higher market potential and with increasing mass market coupled with the health benefits will ultimately drive their markets.

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