



Case Study: Formulation And Development Of Protein Bars For The Snacking Occasion.

Objective:

A local Gloucestershire maker of protein bars requested new ingredient and formulation ideas for a snack bar which also had to include 30g protein. The scope was bounded by the product being manufactured on existing equipment in small batch quantities using readily available ingredients that would have sport-related claims.

Conclusion:

Firstly, we identified the level of understanding of proteins in post-exercise muscle recovery before identifying novel proteins derived from dairy and vegetable sources. A workshop with the customer to brainstorm the product type, occasion and fit with existing manufacturing practises. We focussed on snacking but part way through, the scope was changed to include post-recovery muscle development.

We developed some bar concepts with the client to meet both needs at their kitchen using fruit pieces, nuts, seeds, novel syrups such as maple, pea, rice and milk proteins based on a competitor review of European and USA products.

We made enough samples for both in-house sensory testing and with an external panel. Based on our consumer research we reduced the number of concepts from 15 to 4, a couple of which used maple and birch syrup, and two with a mix of pea and whey protein. Having established we could meet the desired protein content, we used simple experimental design to establish the most appropriate sweetness. We also assessed the shelf-life and managed to achieve a liking for the product after 9 months at ambient and 5 months at 30 °C, 75% relative humidity.

The manufacturer has produced two of the variants which they have launched as part of a range of snack bars. They are aiming to develop the muscle recovery variants for a later launch.