
Poster

Healthy gummies based on the microalgae Spirulina as functional ingredient.



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Keywords: microalgae; obesity; nutrition

ABSTRACT

The growing obesity epidemic could be combated with new generations of less caloric but nutritious foods at the same time. Microalgae are considered as the functional ingredients of these new foods due to their nutritional properties. The company G2GAlgaesolutions develops a line of research on healthy gummies with high nutritional value thanks to the aggregation of microalgae of the Spirulina genus. In this work, research is focus on optimizing the recipe for healthy gummies from an initial recipe. Specifically, different concentrations of microalgae and methods to improve the consistency of the jelly based on different types of gelatin were tested. The major objective is to optimize the nutritional properties, prioritizing low sugar levels and an adequate amount of nutrients from the microalgae. The ingredient mixtures were tested iteratively to avoid a too intense flavor derived from the microalgae although preserving sweetness in the gummy. A mixture of strawberry gelatin marketed by ROYAL with neutral ROYAL gelatin was finally chosen as the base of a consistent and sweet-tasting gummy. The maximum threshold concentration of microalgae was determined to avoid unwanted taste and accumulation problems at the bottom of the gelatin. One important finding regarding the manufacturing protocol was that, for an adequate integration, the microalgae must be added once the water is at the boiling point and before adding the gelatin mixture. In conclusion, the research support microalgae as functional ingredients for a healthier nutrition in our society, therefore helping to remedy a variety of diseases associated with obesity and metabolic syndrome.

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