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HACCP plan on the manufacturing flow of the vegan chocolate bar

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The purpose of this work consisted in the development and characterization of a vegan chocolate bar product, the risk analysis, the identification of critical control points and the preparation of the HACCP plan corresponding to the manufacture of the vegan chocolate bar. Obtaining the vegan chocolate bar was achieved by replacing the classic raw materials: milk powder, butter, cocoa powder and refined white sugar with vegetable raw materials: soy milk powder, vegetable butter (vegetable oils and fats), coconut, sunflower, rapeseed), carob powder, vanilla bean and agave syrup, to which ginger powder and dehydrated lime have been added for an exotic flavor with spicy notes. The bar thus obtained is accessible to several categories of consumers.

• Introduction

Chocolate is a food product based on cocoa, milk, sugar and various variations of additional ingredients specific to each type of flavor.

Homemade chocolate, according to the original Romanian recipe, is produced from a syrup boiled from water and sugar to which butter and dry components are added: cocoa, powdered milk and optionally, nuts. After homogenization, it is poured into molds, and left to cool. It can be served in the form of bars or tablets.

The exclusion of all products of animal origin is due to ethical, environmental and health reasons

Nowadays, consumers have become much more attentive and interested in their health and the quality of the products, so refined white sugar has become an avoided ingredient due to the negative effects on cholesterol and blood sugar. In the present paper, sugar was replaced by agave syrup, known for its low glycemic index.

• Material and method

The raw materials used on the technological flow were: soy milk powder, vanilla bar, carob powder, vegetable butter, agave syrup, ginger powder and dehydrated lime. The manufacturing process of the chocolate bar followed the steps in the original recipe of the traditional Romanian homemade chocolate to obtain organoleptic characteristics similar to it.

The sugar syrup, in a ratio of 3:2 to water, used to make homemade chocolate has been replaced by agave syrup, in a ratio of 2:1 to water, the consistency of the vegan bar being the same as that of classic homemade chocolate.

• Conclusions

Sensory evaluations indicated that the product was well received by consumers, with high scores for taste, aroma and texture. Participants in the tests particularly appreciated the distinct flavor of ginger and lime, considering it to offer an innovative drinking experience.

In order for all processes to be carried out in the optimal parameters, a HACCP quality monitoring plan was drawn up for the development of a food safety management on the technological flow of the manufacture of the vegan chocolate bar, through the analysis of the risks and the identification of critical control points.