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Acrylamid during the consumption of carob syrup for the standarization of a technical process-Piura (Peru)

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The study found 280ug/kg of acrylamide (carcinogenic with genotoxic potential) in experimental carob syrup samples that were submitted at a constant temperature of 110°C; less than the 303ug/kg founded by the commercial samples. Correlatively, this results indicated that the more time of exposure of solids soluble and water evaporation during a constant temperature cooking, is related to a higher content of acrylamide in carob syrup. The different quantity of acrylamide contains in the carob syrup marks depends on the productive method, having a variety range from 0ug/kg of acrylamide to 303ug/kg. Additionally, the more concentration of solids caused by the temperature, major are the soluble solids that increase other components different than sugars which contribute to a bitterness flavor in carob syrup.

The few per capita consumption and the low frequency of carob syrup consume in the range delimited from 0.7g/person.day contribute to not to pass the values limits of acrylamide intake. The combinated presence of acrylamide and HMF (hydroxymethylfurfural) do not overcome the maximum limit consumption of acrylamide; in other words it is not dangerous (real) for the human health considering the low rate of peruvian intake.

There are some commercial samples that indicates an acrylamide result of 0ug/kg which are probably related to an optimal technical process or the metabolization to another elements that are not studied yet. On the other hand, a young person with a lower weight of 63.7kg, do not should eat more than 25 daily portions of 42 g of carob syrup with a acrylamide content of 0.303 mg/kg(ppm); instead an adult with a 71.3 kg weight can intake 28 daily portions of carob syrup without any associated health risk to acrylamide consumption. Finally, the less contain of acrylamide in carob syrup is associated to a major daily portions of carob syrup consumption.

Biography

Alfredo Lazaro Ludeña Gutierrez represents the Agro industrial and Agro alimentary Department of the National University of Piura. He is the Director of Agro industrial Department of the National University of Piura.

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