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DE ALIMENTOS

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The employment and the role of Fish skin Gelatin into the food industry

Fish skin Gelatin has gained lots of interest during the last decade in an attempt to reevaluate byproducts deriving from the fishing industry and to obtain a natural and inexpensive source of protein. In this research, the foaming properties of cold water fish skin gelatin (FG), pea protein isolate (PPI) and an equal ratio of FG:PPI were investigated before and after an high intensity ultrasound treatment (US). In the first part of this work, we characterized the powders composition. Then, we investigated the properties of the solutions, such as ζ -potential, particle size and in bulk viscosity. The interfacial properties were explored by pendant drop at air-water interface and by contact angle. In the last part we investigated the foaming properties by visual analysis and with Turbiscan Tower. Confocal laser scanning microscopy (CLSM) was employed to explore the role of the proteins at the air-water interface. Overall, fish skin gelatin proved to be a valuable alternative to mammalian gelatin which can be employed into the food industry for many roles and functions. However, a new breakthrough technology to increase its yield is required in the next years as well as more studies on its interaction with other biomolecules in order to improve its functional properties and large-scale applicability.

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