RHEOLOGICAL PROPERTIES OF WAMI TILAPIA SKIN GELATIN


In the last years, the interest in fish by-products has gradually increased. These by-products have high collagen content, which can be used for the gelatin manufacture. Health problems and religious restrictions on mammalian gelatin have aroused increasing interest in fish gelatin. However, one of the main restrictions concerning the utilization of fish gelatin refers to its poorer rheological properties when compared to the mammalian gelatin. The aim of this work was to determine the rheological properties (viscosity and gel strength) of wami tilapia (Oreochromis urolepis hornorum) skin gelatin. The gelatin was obtained from fresh tilapia skin and after it had an acid treatment followed by the extraction (6h/45 °C). Gelatin samples (6.67% w/v) were prepared by dissolving in deionized water at 45 °C under constant mechanical shaking for 30 min and after the samples were refrigerated at 7 °C for 18 ± 1h. The viscosity (cP) of gelatin sample was determined in Ostwald-Fenske (n. 100) viscometer. Gel strength (g) was determined was determined with a texturometer TA-XTplus model. The gel strength of tilapia skin gelatin (221 g) is superior to the values reported to black (180.76 g) and red (128.11 g) tilapia skin gelatins, and inferior to that found to tilápia sp. skin gelatin (263 g). Wami tilapia skin gelatin presented higher viscosity (5.98 ± 0.34 cP) than tilapia sp. skin gelatin (5.1cP). These observed variations could be explained by differences between the gelatin obtaining processes and the imino acids content of the respective fish species. Financial support Fundação Araucária.