

Chapter 4

CONCLUSION

1. Collagens extracted from bigeye snapper skin and bone was classified to be type I with slightly different amino acid compositions and sequence. Collagens showed the high solubility in the acidic pHs (2-5) and the solubility markedly decreased in presence of NaCl above 3%.
2. Gelatin from bigeye snapper skin and bone could be prepared by deproteinization, demineralization, swelling and hot water extraction. Each step affected the yield and property of gelatin extracted, which need to be maximized.
3. Gelatin extracted from bigeye snapper skin contained high protein content but low fat content. However, higher ash content was obtained, compared with the recommendation level (2.6%) Gelation and solubility of gelatin depended on pH, mostly enhanced in the alkaline pHs. Emulsifying properties were somewhat different from egg white. However, foaming properties were comparable with egg white.
4. Addition of MTGase at the concentration ranging from 0.005-0.25 %(w/v) could improve the bloom strength. Gelatin gel could be more strengthened when MTGase at an appropriate concentration was used in combination with the proper incubation time.

Suggestions

1. Bigeye snapper skin is a potential alternative source of collagen if the thermal stability of collagen is improved by chemical or enzymatic modification.
2. For skin gelatin extraction, the scale removal or the appropriate demineralization prior to gelatin extraction should be conducted to reduce the ash content in gelatin obtained.
3. Other drying methods which are cheaper and take a shorter operating time should be used instead of freeze-drying. The effect of drying methods on gelatin properties needs to be investigated.
4. Uses of gelatin as food ingredient including the stabilizer and gelling agent for emulsion products, fining agent for a beverage and fruit and vegetable juices, edible film for coating fruit as well as confectionary products, etc., should be further studied.