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# Effect of Transglutaminase on Rheological Property of Actomyosin Gels Prepared from Carp and Piranha during Frozen Storage

Teruo NAKAYAMA[1)], S.M. Zahangir HOSSAIN[1)] and Atsushi OOI[1)]

*1) Faculty of Bioresources, Mie University*

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Actomyosin gel prepared from frozen-stored carp showed the increase of the creep compliance and the decrease of instantaneous elasticity when compared with the gel prepared from non-stored fish. However, actomyosin gel prepared from frozen-stored piranha did not show the change of these rheological parameters and remained unchanged in texture. The addition of transglutaminase resulted in decreasing the creep compliance, by increasing the instantaneous elasticity, retarded elasticity, and Newtonian viscosity whether the gel was prepared from non-stored fish or from frozen-stored fish. The transglutaminase addition resulted in increasing the percentage of the compliance of instantaneous elasticity and decreasing the percentages of the compliances of retarded elasticity and Newtonian viscosity of the gels. Therefore, it was considered that the transglutaminase formed the cross-links more easily between the polypeptide chains which were located very closely each other to get entangled, while some part of polypeptide chains remained without cross-links. As the result, the actomyosin gels became highly elastic.

**Keywords:** piranha, carp, frozen storage, actomyosin gel, microbial transglutaminase

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