



Effect of Combination Treatment of Concentration Liquid Smoke, Immersion Duration, Packaging and Long Storage different Levels of Antioxidant Tilapia Fish Fillet (*Oreochromis niloticus*)

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Abstract : This study aims to determine of antioxidant content of fillet of tilapia (*Oreochromis niloticus*) given preservation with liquid smoke derived from a combination of liquid smoke treatment concentration, soaking time, types of packaging and storage time are different. This study was conducted experimentally using factorial experiment with a completely randomized design patterns (RAL) 5 x 3 x 3 x 5 with 3 replicates in order to obtain 675 experimental units. A factor consists of the concentration of liquid smoke consisting of Control (smokeless liquid / 0%), 5% and 10%, 15% and 20%; factor B consists of soaking time with liquid smoke is composed of three (3) levels ie soaking time 5 minutes, 10 minutes and 15 minutes; factor C consists of the type of packaging consists of three (3) levels ie without packaging (control), packaging polyethylene (PE) and packaging of polypropylene (PP) and factor D consists of the storage time (days) consists of 5 (five) levels ie 0 , 3,6,9 and 12 days. The parameters measured were the levels of antioxidant content. Results of research on the analysis of variance showed (1) there is an interaction of a combination of the two treatments on fillet of tilapia on levels of antioxidants ie long soaking and storage time while the two other treatment combinations that do not occur interaction. For a combination of three treatments on fillet of tilapia on levels of antioxidant interaction between soaking time, differences in the concentration and duration of storage, while for other combinations of the three treatments were no interaction. The interaction does not occur in four combination treatment of different concentrations, dipping time, storage time, and type of packaging on fillet of tilapia on levels of antioxidants. (2) the highest antioxidant levels in tilapia fillets on a combined treatment of soaking time 5 minutes, liquid smoke concentration of 20% (control / without packaging), polyethylene and polypropylene packaging and on storage 0 days at 69.836%.

Key words : fish fillet, immersion, concentration, packaging, storage, antioksidan.