SUSTAINABLE PRODUCTION OF TILAPIA BURGERS

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The use of the byproducts of the tilapia processing can reduce the waste and negative environmental impacts associated with fish processing. Mechanically recovered meat (MRM) from filleting waste processing increases the yield of edible portion MRM and can then be transformed into other food products. The objective of this work was to produce surimi from tilapia MRM to prepare burgers. The surimi was obtained by manual processing. The MRM was subjected to two successive cycles of washing with a volume of water weighing four times the sample weight. At the end of processing cryoprotectants were added: 2% sodium chloride and 1% sucrose. The burgers were formulated with the following concentrations: surimi (86%), tapioca starch (10%), salt (2%), dried onion and garlic (2%). The addition of starch into the hamburger decreases the respective protein concentrations in the surimi and burger (12.03%±0.21 and 10.72%±0.60) and essential amino acids: isoleucine (0.53%±0.00 and 0.44%±0.01), leucine (0.82%±0.03 and 0.70%±0.02), lysine (0.91%±0.00 and 0.79%±0.03), phenylalanine (0.43%±0.00 and 0.38%±0.01). Morphological analysis in scanning electron microscopy shows that formulations differ structurally. The burger texture was enhanced by the presence of fat globules and starch network surrounded by the protein matrix. The burger has an irregular mesh network while the surimi gel is more compressed and dense.

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