Yupha Boonmee 2007: Study on the Optimal Processing Conditions of Semi-Dried Fish with Herbs from Bonito. Master of Science (Fishery Products), Major Field: Fishery Products, Department of Fishery Products. Thesis Advisor: Associate Professor Nongnuch Raksakulthai, Ph.D. 83 pages.

Semi-dried fish with herbs from bonito was developed by varying amount of sorbitol, herbs (coriander seed, lemon grass, leech lime leaves and pepper), frying time at 160 ^{o}C and drying time at 50 ^{o}C after frying to lower an a_w to less than 0.6 for acceptable and safety to consumers. The quality changes during storage at room temperature (26.5-31.5 ^{o}C) were also studied by varying packaging conditions i.e. metallized bag under vacuum or air, Nylon/LLDPE plastic bag under vacuum or air. Product with 10.0 % sorbitol, dried at 50 ^{o}C for 3 hours then fried at 160 ^{o}C for 1 minute and dried at 50 ^{o}C for 20 minute had the a_w of 0.77. Therefore the optimal frying time and drying time after frying were studied to lower the a_w. It was found that the optimal frying time and drying time were 1.5 and 30 minutes, respectively. The a_w, hardness, L*, a* and b*of the developed product were 0.52, 175.50 N, 41.90, 3.80 and 5.90, respectively. The appropriate herbs components of mixed spices were 80% coriander seed, 8% lemon grass, 8% leech lime leaves and 4% pepper. Proximate compositions were 16.00 % moisture, 25.00 % protein, 12.50 % fat, 1.50 % ash and 45.00 % carbohydrate. Initial contents of TBA and histamine were 0.35 mg malonaldehyde/kg and 167.60 mg/kg, respectively. Total bacterial count was less than 30 CFU/g, yeast and mold was less than 10 CFU/g, and *E. coli* was less than 3 MPN/g. Quality of the products under all conditions were acceptable for longer than 12 weeks. The most suitable condition was Nylon/LLDPE plastic bag under air followed by metallized bag under vacuum while Nylon/LLDPE plastic bag under vacuum and metallized bag under air had similar acceptability score which was the lowest score.

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