

Sirichok Wongsripaisan 2009: Development of Ready to Eat Nham-pla Product by Using Pure Culture. Master of Science (Agro-Industrial Product Development), Major Field: Agro-Industrial Product Development, Department of Product Development. Thesis Advisor: Assistant Professor Walairat Chantarapanont, Ph.D. 138 pages.

The aim of this research was to develop ready to eat Nham-pla product by using pure culture. Results from behavior and demand of consumer study gave product idea for developing ready to eat Nham-pla product which were cylindrical form tied at head and tail, 3.5 cm in diameter and 10 cm in height, cooked by frying and vacuum packed in plastic bag. From study development of Nham-pla product by using pure culture, it was found that *Lactobacillus plantarum* TISTR 854 gave the lowest pH and the highest acidity. Springiness and overall liking score of Nham-pla with pure culture of *L. plantarum* TISTR 854 was higher than Nham-pla without pure culture. So *L. plantarum* TISTR 854 was selected to use in Nham-pla production with 10^6 CFU/g of Nham-pla mixture and was incubated at 30°C for 24 hours. Developed Nham-pla formula included 69% minced fish, 13.8% ground cooked rice, 13.8% minced garlic, 2% salt and 1.4% sugar, respectively, and 1 ml of *L. plantarum* TISTR 854 at 10^8 CFU/ml was inoculated in 100 g of Nham-pla mixture. Initial oil temperature and frying time were studied and the results showed that frying Nham-pla at 150°C of initial oil temperature for 6 minutes gave the most brown crust liking score. Therefore, this condition was used in ready to eat Nham-pla production. Developed ready to eat Nham-pla product had L*, a* and b* value of 54.39, 10.64 and 22.97, respectively, and hardness of 68.86 N, cohesiveness of 0.28, springiness of 5.16 mm and chewiness of 99.70 Nmm. It had pH of 4.41 and 1.26% lactic acid, 2.49% salt, 17.62% protein, 8.36% fat, 65.78% moisture and 3.50% ash. Microbiological quality of the product was in standard of chilled cook food. Consumer test showed that consumer liked the product a little (5.94) and 76% of them accepted the product and 59% of consumers decided to buy the product. Shelf life study showed that ready to eat Nham-pla product vacuum packed in Nylon/LLDPE laminated bag could be kept at refrigerator temperature (4°C) for 15 days.

Student's signature

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