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6 Biogenic amines Formation in Fish Sauce Prepared from Fresh
7 and Temperature-Abused Indian Anchovy (*Stolephorus indicus*)
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14 J. YONGSAWATDIGUL, Y.J. CHOI, AND S. UDOMPORN

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16 Running head: Biogenic amine in fish sauce
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20 School of Food Technology
21 Institute of Agricultural Technology
22 Suranaree University of Technology
23 Nakhon Ratchasima 30000
24 THAILAND
25 Tel: 66-44-224-359
26 Fax: 66-44-22-4150
27 E-mail: jirawat@ccs.sut.ac.th
28
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30
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38 Authors Yongsawatdigul and Udomporn are with School of Food Technology at
39 Suranaree University of Technology, Nakhon Ratchasima, Thailand. Author Choi is with
40 Division of Marine Bioscience, Gyeong-Sang National University, Korea. Address all
41 correspondence to J. Yongsawatdigul. (E-mail: jirawat@ccs.sut.ac.th)

Abstract

The formation of biogenic amines in fish sauce made from fresh and temperature-abused (left at 35 °C for 8 and 16 h) Indian anchovy (*Stolephorus indicus*) was investigated. Histamine, cadaverine, putrescine, and tyramine were predominant biogenic amines found in anchovy left at 35 °C for 16 h and its fish sauce product. Changes of biogenic amines were subtle during the course of fermentation at room temperature (RT) and at 40 °C, suggesting that the main source of biogenic amines was associated with raw material, rather than with fermentation process. Soluble peptide and total nitrogen of fish sauce prepared from temperature-abused anchovy were higher at the initial stage of fermentation at RT and 40 °C and became comparable to those prepared from fresh anchovy at the end of fermentation. Total free amino acid contents of samples fermented at RT for 52 wk (7,208.3-8,473.6 mg/100 mL) were higher than those fermented at 40 °C for 13 wk (4,560.9-5,730.9 mg/100 mL). Fish sauce prepared from temperature-abused anchovy contained less free histidine and arginine. Good quality of fish sauce was obtained using fresh anchovy fermented at RT. Besides total nitrogen content, biogenic amines should be considered as quality indicators of fish sauce.

Key words: Biogenic amines, fish sauce, anchovy, *Stolephorus indicus*