NATURAL AND ADDED FORMALDEHYDE IN FISH

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The presence of formaldehyde in market fish was reported in Sri Lanka recently. Formalin, containing 38% formaldehyde, is added to prevent the spoilage of fish when ice is not available. Use of formalin for this purpose is not permitted under food regulations. Formaldehyde could occur in fish as a natural constituent too. Market samples of fish belonging to 20 species were examined for presence of formaldehyde by the orthophosphoric acid method. Fish spiked by dipping in 50 or 100 µg/g formaldehyde solutions for 30 min were examined for absorption of formaldehyde as well as loss of formaldehyde from fish during washing, cooking and frying in oil.

Of 260 samples of market fish examined, 34 contained formaldehyde concentrations of up to 20 µg/g. Naturaly produced formaldehyde concentrations up to 15 µg/g have been reported in cod family fish in Japan. It is therefore difficult to infer the origin, natural or added, of the formaldehyde detected in this study. Of the 34 formaldehyde positive samples of fish, 29 were shark indicating a greater tendency for natural production or addition of formaldehyde to shark to prevent spoilage.

Washing of fish prior to cooking removed only 22-39% of the formaldehyde in spiked fish. Boiling of fish in water removed 54-64% formaldehyde. The cooked fish contained 16-26% added formaldehyde. Fried fish contained 75-83% of added formaldehyde. The washing and cooking operations do not appear to remove added formaldehyde in fish appreciable.