

### On spot check for scombroid fish poisoning on fishery products

*Food safety has always been an important public health issue. Consumer demand and prices are closely related to the quality and safety of food items, and, even more so, of seafood items. Seafood regulatory authorities around the globe are responsible for certification for human consumption, and ensure that all relevant food safety standards are met before the products are allowed to enter the market distribution chain.*

Fish poisoning, an important issue with seafood products, can be divided into two categories: poison already present in live products (e.g. ciguatera or pufferfish liver poisoning), and poison produced after capture by bacteria contamination (e.g. scombroid toxin). Although named “scombroid toxin”, this type of poisoning not only affects fish species in the Scombridae family (e.g. tunas) but also many other fish species (e.g. mahi mahi, mackerels and sardines). Exposure of these fish species to air and water temperatures above 28°C for more than 6 hours (after time of death) has high potential for scombroid toxin development. This fish poison cannot be eliminated through either heat processing and cooking, or freezing once it is present in the fish flesh. Scombroid fish poisoning is also commonly known as histamine.

A high level of histamine can cause illness, with symptoms including tingling or burning in or around the mouth or throat; rash or hives on the upper body; drop in blood pressure; headache; dizziness; itching of the skin; nausea; vomiting; diarrhoea; asthmatic-like constriction of the air passage; heart palpitation; and respiratory distress. Symptoms usually occur a few minutes to a few hours after consumption and can last from 12 hours to a few days. They can usually be treated with anti-histamine drugs.

Proper handling and preservation of fresh fish — either for personal consumption or export purposes — after harvest is very important. Fishery products must be kept under chilled conditions (below 4.4°C), and cooling them immediately after catch will greatly reduce the chances of histamine formation.

Testing histamine levels in fish flesh ranges from simple on spot checks to sophisticated laboratory testing. From 10–14 September 2012, as part of SPC’s continued support to regulatory government agencies and private fisheries enterprises, a training workshop on methods to run histamine spot checks was organised in Fiji. The training, as well as the delivery of histamine test kits, was conducted for the Fiji Competent Authority (Ministry of Health) and Fiji-based private operators, including Celtrack Holdings Ltd., Seaquest Ltd., Hangton Pacific Ltd. and Tripacific Ltd. These agencies and companies are now able to detect histamine when they process their catch, and can ensure that affected fish do not enter the market chain.

International markets, such as the European Union, United States, Japan, Australia and New Zealand, are very strict about fish poisoning. The Pacific region has had cases of fishery products rejected in the European Union and the United States that have especially caused great economic losses to the operator and altered the confidence established between the international trading partners. By performing necessary checks on fish products before the certification for export, such incidents will be avoided.

#### For more information:

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*Tomasi Tabanidalo from Celtrack Holdings Ltd. transferring histamine extract to sample testing cups.*