CODEX ALIMENTARIUS COMMISSION E

Food and Agriculture Organization of the United Nations

World Health Organization

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Agenda Item 3 **CX/CF 17/11/3-Add.2**

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JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON CONTAMINANTS IN FOODS

Eleventh Session
Rio De Janeiro, Brazil, 3-7 April 2017

MATTERS OF INTEREST ARISING FROM FAO AND WHO (INCLUDING JECFA)

UPDATE ON RELEVANT WORK TO BE CONSIDERED FOR CIGUATOXINS

Background

1. Ciguatera fish poisoning (CFP) is one of the most common food-borne illnesses related to finfish consumption. It has been known for centuries. Its true incidence is not known, but it is estimated that 10 000–50 000 people per year suffer from this illness (FAO 2014), making it one of the most common types of marine food-borne poisoning worldwide. It is caused by the consumption of herbivorous fish that have become toxic from feeding on toxic benthic dinoflagellates (*Gambierdicus toxicus*) or from carnivorous fish that have consumed toxic herbivorous fish that have fed on the dinoflagellate. *Gambierdicus toxicus* is found primarily in the tropics in association with macro algae usually attached to dead corals. More than 400 species of fish are known to be vectors of ciguatera (FAO, 2014).

2. The FAO Food and Nutrition Paper 80 “Marine Biotoxins” (http://www.fao.org/3/a-y5486e.pdf) was published in 2004 and provides basic information about ciguatera, including: chemical structures and properties of ciguatoxins, methods of analysis, source, habitat and distribution, occurrence and accumulation in seafood, toxicity, prevention of intoxication, a summary of cases and outbreaks of Ciguatera Fish Poisoning (CFP) and regulations. The paper concluded that the available animal data on ciguatoxin were not suitable for risk assessment.

3. The FAO Fisheries and Aquaculture Technical Paper 574, “Assessment and management of seafood safety and quality” (http://www.fao.org/3/a-i3215e.pdf) was published in 2014 and Ciguatera dinoflagellates were predicted to become one of the increasing food safety threats due to climate change.

4. In 2015, FAO organized an interagency meeting with the World Health Organization (WHO), UNESCO’s Intergovernmental Oceanographic Panel on Harmful Algal Blooms (UNESCO-IOC), and the International Atomic Energy Agency (IAEA) (http://www.fao.org/blogs/blue-growth-blog/managing-ciguatera-fish-poisoning-requires-broad-partnerships/en/) to discuss ciguatera fish poisoning as an increasing food safety threat. It was agreed that the most effective way to address this concern is to bring together international experts on fisheries, public health and climate change, since the issue touches upon all of these areas. During the meeting a plan of action was defined and the need of international level guidance was identified. One of the planned actions assigned to FAO was to have a side event on ciguatera during a relevant Codex Committee to define the way forward.

5. At the 32nd Session of the Committee on Fisheries (2016), CFP was raised by the Pacific Nations as an issue that increasingly affects the tropical and subtropical regions of the Pacific Ocean, Indian Ocean, and Caribbean Sea, between the latitudes 35°N and 35°S. Indeed, it was noted that due to climate change the frequency of storms and hurricanes increases as well as the sea surface temperature (SST) which impacts on the distribution and proliferation of the ciguatera-toxins (CTX) and makes the occurrence of CFP less predictable.

6. During the last months, FAO has received request for technical guidance on risk management due to CFP events in the Pacific Ocean that resulted in a ban to capture many species for sustained periods of time, which may have major implications for food security the affected coastal communities as well as in local and international trade.

7. In addition to climate change, globalization of trade might also contribute to the spread of CTX. As such, further guidance might be needed for those countries that did not consider ciguatoxins in their risk management programs in the past. For example, the Rapid Alert System for Food and Feed RASFF) for the European Union notified the presence of ciguatoxins in four occasions during 2016 and in one occasion during 2015 (https://webgate.ec.europa.eu/rasff-window/portal/?event=searchResultList), while there were no CTX notifications over the last decade.

8. It is important to note that, the General Standard for Contaminants and Toxins in Food and Feed (CODEX STAN 193-1995), the Code of Practice for Fish and Fishery Products (CAC/RCP 52-2003) and other Codex standards for fishery products, currently do not provide any guidance on ciguatera management and control.

Recommendations

The Committee is invited to consider:

- the establishment of maximum limits for C-CTX-1 and P-CTX-1;
- And/or the development of risk management guidelines;

To facilitate this work, the committee is invited to consider requesting FAO/WHO for scientific advice, in particular to:

- Carry out a risk assessment of CTX (ciguatoxins) and based on this provide guidance for the development of risk management options.
- Review existing analytical methods for ciguatoxin detection and quantification, with a view to recommend those useful for routine analysis and surveillance.

Reference:

FAO, 2014. *Assessment and management of seafood safety and quality.* Fisheries Technical Paper 574.