

In 2016, the Commission was informed by whistle blowers that tuna destined for canning (frozen in brine after capture at temperatures of -9°C instead of -18°C) was being treated with vegetable extracts containing a high concentration of nitrites to alter the colour of the fish. This process is used to enhance the perceived quality by turning the brownish colour of tuna frozen in brine to a brilliant red colour, which consumers believe is proof of freshness of recently caught fish. The red colour can mask possible changes, including the development of bacteria responsible for the deterioration of the fish and the production of histamine. The addition of nitrites to fish is not authorised, while the use of vegetable extracts rich in nitrites is in breach of the specifications for food additives laid down in Commission Regulation (EC) No 231/2012.

Not only does this fraudulent practice mislead the consumer, who is led to believe that he is buying fresh tuna, but it can also lead to serious food poisoning, since illegally treated products may contain high amounts of histamine which can cause serious allergic reactions. In the spring of 2017 more than 150 people in Spain were affected after consuming illegally treated tuna.

### **EU actions (2016-2017)**

- ✓ Immediate activation of the EU Food Fraud Network to ensure rapid exchange of relevant information between Member States' authorities;
- ✓ Active engagement with relevant Member States, notably Spain, where the fraud was discovered, to obtain as much additional information on the practice and its potential scale;
- ✓ Requested urgent guarantees that effective measures were being taken at national level, putting an end to these practices;
- ✓ Establishment of channels of cooperation with relevant EU industry and providing information to relevant stakeholders;
- ✓ Special training for Member States' officials involved in official controls;

- ✓ A joint European Commission/Spanish mission to investigate the issue. The Joint Mission undeniably confirmed the existence of illegal practices. Spanish authorities made firm commitment to take the necessary measures to stop these practices;
- ✓ European Commission carried out an audit in Spain in October 2017 to assess the operation and the effectiveness of the official controls in the Spanish tuna sector. It found that the Spanish competent authorities actively reacted to the findings of the joint mission; The number of histamine alerts and scombroid syndrome (due to consumption of Fresh Tuna) had drastically decreased in the RASFF since mid-2017.
- ✓ European Commission Audits in relevant Member States are planned for 2018, together with audits in non-EU countries ;
- ✓ The European Commission is working on clarifying the EU legislation concerning the differences between processed and unprocessed fish.
- ✓ The European Commission is working on clarifying the legislation concerning certain antioxidants, authorised according to good manufacturing practices, to prevent their misuse by using excessive amounts.
- ✓ The EU is also working on modifying sanitary certificates, in order to clearly identify tuna destined for canning and freezing capacity of the EU approved vessels.

### **1) What are the health risks involved?**

The illegal use of nitrites in fresh tuna deceives consumers by changing the colour of the tuna and masking the possible presence of histamine over the legal limit. The customer will likely think the product is fresh and of high quality because of its nice "pink" colour, while in reality it may contain high amounts of histamine (caused by the spoiling fish) that cause severe allergic reactions in humans. Nitrites may also result in the formation of carcinogenic substances known as nitrosamines.

## **2) What motivates the frauds?**

Fish industry representatives' reports show that the motivation for such fraudulent practices is financial gain. Tuna intended for canning and sold as fresh can reach, once placed on the market, a price twice as high as that of tuna sold for canning. Estimates show that 5 million tuna portions are treated this way per week (representing approximately 25 000 tons per year), implying a potential gain of approximately 200 million Euros per year.

## **3) What is the legal position?**

The use of nitrites as food additives in fish and fisheries products is not authorised.

In addition, the use of nitrites from a vegetable extract does not comply with the specifications for nitrites laid down in Commission Regulation (EU) No 231/2012.

## **4) How did the Commission and Member States react?**

After an analysis of the fish industry reports and alerts, the Commission rapidly decided to take EU-coordinated action to tackle these fraudulent activities and organised a meeting with fish industry representatives. Member States' control bodies were immediately made aware of the illegal practices through the Food Fraud Network and provided with the tips for inspection/investigations. They were asked to report any new suspicious cases via the Rapid Alert System for Feed and Food (RASFF) and the Food Fraud Network. The representatives of fresh tuna industry committed to communicating, raising awareness and putting a stop to these activities in order to avoid a new food fraud crisis.

Where necessary, the authorities launched criminal investigations. The European Commission and Europol supported the competent authorities in their cooperation with other countries and private partners.

## **5) What has been achieved so far?**

The European Commission has raised awareness in the EU about the existence of this practice and control bodies remain vigilant. Meanwhile, with new information available, the Member States' competent authorities should be

able to target their investigations more efficiently in order to identify the operators involved in this fraud and to prevent a food fraud crisis.

## **6) What is meant by carbon monoxide treatment?**

A carbon monoxide treatment refers to a process in which tuna loins are treated with the gas to prevent oxidation and the resultant alteration in the cosmetic appearance of the meat. It can mask spoilage by maintaining the red colour of fresh fish and can be potentially dangerous to the consumer.

Carbon monoxide falls under the definition of a food additive and therefore its use must be formally authorized, which it is not in this case. Fresh fish cannot be subjected to a treatment which is not scientifically recognized or formally approved.

Now that the legal action is focussed on the use of vegetable extracts and nitrites, it seems that some unscrupulous industries have returned to the use of carbon monoxide to illegally turn "brown" tuna red.

## **7) Could the fraud be detected via laboratory testing?**

There are methods to detect the use of carbon monoxide, but there are currently no harmonised methods which can prove that tuna has been treated with nitrites. However, in the near future, an **analytical method could be developed to detect the addition of these substances to tuna**. The current absence of such an official method does not prevent Member States' control services to detect this fraudulent practice during their inspections. The Commission has recently circulated guidance for inspection which provides easy tips for the detection of this complex fraudulent practice.

For the time being, fraud is easily detectable due to the overly red colour of the tuna. Once detected, the tuna can be traced back easily thanks to the EU labelling rules. Controls can be launched within the suspected industry by the Member States' enforcement authorities to ensure that tuna which is "brown" upon its arrival at the fish operators' premises has not been treated to turn "red".

## **8) Consumer tips to avoid buying illegally treated tuna**

Consumers should be aware that they get what they pay for. Prices that appear to be too attractive / low should be viewed with caution.

Buying fish at reliable shops/restaurants can also be a guarantee that it is safe to eat. The red colour of the tuna is not necessarily an indication of freshness. If the fish is a bright, unnatural-looking shade of red, it may have been treated with vegetable extracts containing nitrites and/or high levels of antioxidants. The fish industry is now well aware of the fraud and is actively cooperating to end it.