

FOODSTUFF FALSIFICATION – A NOWADAYS PROBLEM

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Abstract: *The main objective of this paper is to capitalize on the means of falsification regarding the nourishment nowadays and highlight the main risks that can occur due to the consumption of this kind of products. The nourishment, is the most important factor that influences our health in certain proportion. This strong interrelation is directly conditioned by its salubrity and its trophical - biological quality. The base of an adequate and balanced nutrition – proper for growth, development of body and health sustainance – is represented by the variety and „health” of the nourishment. This study has an important role both in the short and long term through proper understanding of the terms of quality, falsification and food safety. Even if it is recommended to reduce processed food consumption, this sort of products are holding one of the top positions in everyday nutrition and for some people they are indispensable. Therefore, in order to come into notice the main substances used in food production, we decided to focus on this point.*

Key words: *falsification, health, food products, food safety.*

1. Introduction

A high level of public health safety is one of the main objectives that is the responsibility of food law and regulations. Microbiological risks concerning food products represent o major source of diseases caused by the consumption of nourishment by humans. Food products are not allowed to contain toxin and metabolites in high doses that can constitute an unacceptable risk for consumers' health.

2. Objectives

The importance of food products in meeting the population's nourishment requirements has determined an accelerated development of food industry and at the same time creating new perspectives concerning food falsification.

Nowadays, falsification involves all kinds of food. The most commonly adulterated commodities include luxury food (spirits, wine, coffee and spices) or foodstuff can be defined as a substance with food value or the raw material of food

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before or after processing. When we think about food, we take into account a large category of products such as: beverages, chewing gum, all the substances, including water, emerged in the consistency of products during preparation or another applied treatments.

The basic concepts that define a food product are: the organic substances and the inorganic substances. The organic category is represented by: water, mineral salt, vitamins. The inorganic category includes: carbohydrates, fat and proteins.

Protecting consumer's health and life, protecting consumer's interests, the usage of adequate practices in producing and merchandising of foodstuff, as well as releasing them for free circulation, represents the basic principles that ensures food safety and consumer's protection.

The food, that is traded nowadays or is intended to be traded, should be labeled or identified adequately in order to facilitate the traceability, by the medium of documentation and information, according to the requirements and stipulation of the law.

In order to understand better this fact, it is absolutely necessary to define the term of "falsification".

First of all, falsification is defined as "to construct, to make up an object like the original object, in order to fool around".

Secondly, falsification is known as "the addition of either natural or synthetic substances in the composition of products with the aim of modification or conferment of properties that the products cannot justify taking into account their natural composition or recipe".

Thirdly, falsification is well known as "the act of decreasing the quality". Nonetheless, falsification is defined as "the operation of imitation, substitution, reconditioning, reconstruction, conversion, denaturing, alteration of the quality

characteristics, with the purpose of obtaining similar products to the originals and gaining illegal benefits".

Falsification of food products is a contravention against consumer's health.

The main questions of the consumers and public opinion are "why the food products are falsified?" and "what kind of food products are falsified?".

The main reasons why the food products are falsified are referring to: the aim of gaining high profit with low effort, diminished risk of being detected, scaled down tolerance towards the producers of falsified foodstuff, weak education level of the consumers. Those four reasons derives from the inefficient control.

In a country where we have relatively strict labeling regulations, many food manufacturers still manage to swindle shoppers by adding fillers or diluting the real deal with less expensive ingredients, without the knowledge of the consumer.

In order to set back the process of food falsification, certain organizations are watching over the production of nourishment to make sure that there is not any possibility of falsification and the resulting products are complying to the technical standards. There are two categories of organizations involved in the process of foodstuff falsification prevention. The first category is represented by the government organizations such as: OSIM – State Office for Inventions and Brands; ANPC – National Authority for Consumers Protection; MS – Ministry of Health; ANAF – National Agency for Fiscal Administration. The second category includes the following organizations:

ANPPI – National Agency for Industrial Property Protection; APCR – Romanian Association for Consumers Protection.

3. Materials and Methods

In this work, the study of particular books has been used according to the evolution of falsified food products. In other words, the materials used in this research are referring directly to the study of books and related data processing as a result of the research made for the action of falsified food products. The analysis refers to the main categories of food products in our country that are frequently falsified.

4. Results and Discussions

As we can observe, the higher falsification rate is corresponding to the olive oil, about 14% (Figure 1). In the same time, a less value, of 13%, is covered by milk and dairy products (Figure 2). A lower value – 11%, is registered by meat and meat products. Thirdly, honey, apparently a natural product, could be falsified, taking advantage of consumer's confidence. The rate of falsification of honey is 8%. Regarding wine and beer, their counterfeiting rate is relatively diminished taking values near 1 – 4 %.



Fig. 1. *Frequently falsified products*

As a reply to the frequently encountered forgery of olive oil, there are a large variety of laboratory analysis that are meant to identify and prevent products adulteration.

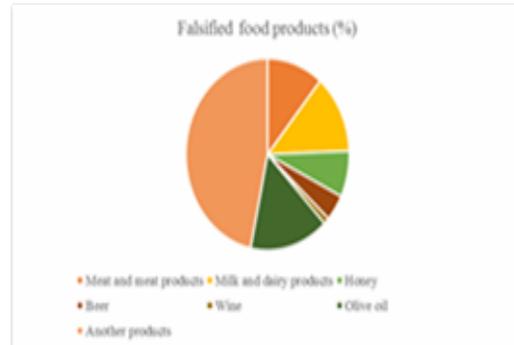


Fig. 2. *The main falsified food products*

The Criminal Code provides certain pain for those who override the stipulation of the law. Criminal law defends Romania, sovereignty, independence, State unity and indivisibility, persons, the rights and freedoms of persons, property, as well as the entire legal order, against offences. The law provides which acts are offences, the penalties to be applied to the offenders and the measures that can be taken if these acts are committed.

According to the Romanian Criminal Code “*preparation of counterfeited food products or beverages, high or forbidden to be consumed, deleterious for health, intended to be sold or retail of certain food products or beverages, being aware of the fact that they are counterfeited or high, are strictly forbidden to be consumed – the person or manufacturer in case is risking jail punishment from 3 months to 3 years*”.

Also, “*merchandising of meat or meat products derived from circumvented veterinary checks animals is forbidden, the merchant risking to be fined and banned on trading*”.

In spite of the sanctions, certain producers keep retailing counterfeited food products, ignoring the risks that can occur. The worst fact that can happen is the start of food poisoning. Food poisoning is a common, yet distressing and sometimes

life-threatening problem for millions of people in Romania and throughout the world. People infected with food-borne organisms may be symptom-free or may have symptoms ranging from mild intestinal discomfort to severe dehydration and bloody diarrhea. Depending on the type of infection, people can even die as a result of food poisoning.

Because of the composition of counterfeited food products, weak in natural substances – fibers, vitamins, carbohydrates, fats, enzymes, consumer's health could be seriously affected. In this case, we can talk about unrelieved infection involving *Campylobacter* (Figure 3). *Campylobacter* infection can be serious, especially in those with weakened immune systems. In rare cases, *campylobacter* infection can cause additional problems such as reactive arthritis or brain and nerve problems. Occasionally, these problems occur after the diarrhea has stopped.

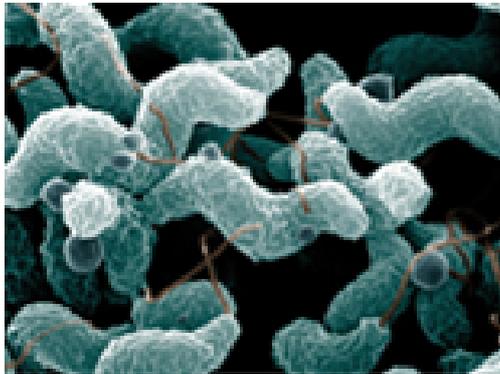


Fig. 3. *Campylobacter jejuni*

The problem of food poisoning is extremely severe and can have important impact concerning the health of young children, pregnant women and their fetuses, older adults and people who have a weak immune system, especially persons who suffer from different diseases. In this

case, food poisoning can be life-threatening.

In order to prevent such situations, there persons should take special wariness and paying attention to different categories of food and food products that can be susceptible to be contaminated.

Certain food and drink products are bulky, often perishable and require certain transportation conditions. As a reply to this problem, counterfeit products are preferred to be manufactured for local consumption. If that kind of products are going to be traded to export markets, the counterfeiters are going to serious troubles and also the expense of transporting are high.

One of the principal purposes of local production, distribution and consumption of counterfeited products is that it avoids national borders, where is involved greater vigilance from authorities, especially in case of products such as spirits where the excise potential is high.

Frequently, the counterfeiting substances used in the production of foodstuff have unknown provenience, suspicious composition or risky compounds. They are usually obtained illegally. There are certain means of falsification such as: removal of one or more natural compounds; modification of natural proportion of chemical compounds; introduction of inappropriate substances in the compositions of the products; replacement of natural compounds with another synthetic or artificial, without any sustained advice; merchandising of a substitute like a real product; the product is completely counterfeited, being obtained by association of chemical compounds similar to the ingredients used for the real product; reshuffle or renewal of a degraded or vicious product, with the aim of disguising the non-compliances.

A well-known method of discharge is applied to meat and meat products. Due to the increasing number of population, the

phenomenon of counterfeiting of food products gain weight. An often procedure of the producers is referring the introduction of meat that is going bad in hydrate of lime.

Another fraudulent procedure is the forgery by adding starch or starch substances and synthetic colorants or exposition of meat and meat products with problems in refrigerating illuminated in pink colour. Meat products are usually counterfeited by adding overgelatine, boiled soybean paste, mashed and bound with albumin, replacing the meat from the original recipe.

Another product that is counterfeited is milk and also dairy products. Frequently. Are replaced overall or partial, directly or indirectly, milk or valuable compounds, the most important falsifications being water addition and fat extraction, including mixing up of milk derived from certain species. Also, milk and dairy products that are going bad are counterfeited by variation of normal level of acidity by addition of preservatives and neutralizing substances.

Honey is also included in the category of frequently counterfeited products. In order to adjust the taste – the addition of natural sweeteners (natural sugar, artificial inverted sugar, glucose syrup, molasses) or synthetic sweeteners (saccharin, dulcine, aspartame). For colour correction is added caramel. To embarrass the fermentation – salicylic acid, salicylic salt, benzoic acid, benzoic salt. Indirectly, the honey is counterfeited by feeding the bees with sugar or another sweeteners.

Wine is another counterfeited product. Even if the rate of counterfeiting is lower, wine represents a food product that could be counterfeited. An attending practice is the addition of natural or/and synthetic sweeteners in the composition of wine –

sucrose in grape must, sweeteners in grape must. The addition of natural or artificial flavours – coriander alcoholic extract, that gives the wine a similar flavor to the Muscat Ottonel genre. The addition of natural or/and artificial stain – natural stains: extracted from the flowers and fruits of the following plants: elder, bilberry, black hollyhock or pink hollyhock.

5. Conclusion

- Nowadays, the actual phenomenon of counterfeiting of food products, especially those products that are frequently consumed such as – milk and dairy products, meat and meat products, honey, olive oil, wine and beer, has registered an important increase.
- The authorities are trying to keep under control this phenomenon known as a serious danger in our country and in the entire world. It is absolutely necessary to be taken a series of measures in order to prevent and sanction of any falsifications, especially among food.
- With the aim of obtaining a high profit, contemporary society has encouraged some food producers or manufacturers to realize counterfeited products, infringing the law and the actual standards by using illegal ingredients, with unknown provenience, or dangerous composition, causing serious health injuries to the consumer.
- A quality product should be first of all safe, obtained by using healthy ingredients and supplying nutrients to the organical structure. A safe and quality product is a free chemical ingredients product and nutrients and high fiber content.

- According to the regulations of WHO, World Health Organisation, it is stipulated that counterfeiting control should be encouraged in order to increase food quality and safety all around the world. The origin of the ingredients used for obtaining different food products should be monitored permanently.

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