

## **LABELLING OF FOOD: A CHALLENGE FOR MANY**

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### **Abstract**

*Background:* In food marketing, there is a trend towards artisanal, traditional “honest” food, and simultaneously to good looking, long lasting, multi-purpose food with a clean label. In addition, marketeers like to upgrade the image of the food, including the label, using various digital techniques. This can produce (un)intended non-conformities with the current food law on labelling, which in this review, refers to Regulation (EU) No 1169/2011 (European Union, 2011). Food and meat labelling have been subjected to increased regulation in the recent years, sometimes after scandals (horse-gate, food fraud), sometimes due to wishes of consumer organisations (nutritional information) and sometimes after the introduction of new types of ingredients (sweeteners, phytosterols, nanomaterials).

*Scope and approach:* This review provides information about food labelling. Some experiences gathered by food inspectorate personnel in practice, with reference to the literature data, positive aspects, main problems and trends are discussed.

*Key findings and conclusion:* Food labelling is a complex requirement, with the general demands written down in the harmonized regulation (European Union, 2011). Foods sold by e-commerce must also follow these same regulations. However, many food labels on the market show smaller and/or bigger deviations from the legal requirements, which should be appropriately addressed by the food manufacturers or packers, but also by the competent authorities. Even training of consumers seems to be needed, since all this information is, in the end, intended for consumers to aptly utilise.

**Key words:** allergens, consumer information, e-commerce, list of ingredients, nutrition declaration, product name.

## **INTRODUCTION**

The total amount of food information that has to be included on food labels has become complex and comprehensive. Many details are prescribed by law, but these are not always in the same part of the legislation. One problem is that besides serious,

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accountable companies, there are also parties actively trying to defraud consumers with respect to food and/or labelling. In these cases, the food products do not actually conform with their labels. The exact elements of food labelling are part of the official food law and should be known by food producers and food packers, as well as the competent authorities.

### **Food labelling in more detail**

One of the first difficulties in food labelling is deciding on the correct, legal name of the product. The name of a food must be its legal name. In the absence of such a name, the name of the food must be its customary name, or, if there is no customary name or the customary name is not used, a descriptive name of the food must be provided. Examples of legal names include “beef meat”, “pasteurised milk” and “caviar”. Traditional foods mostly have legal names, but there is a trend for less protection on the name of a food (Janssen, 2016). In such cases, the customary name must be given. This leads to more discussion: what is considered to be a customary name? Who decides what the customary name is? Without a customary name, how far must one go to explain the product in the descriptive name? The intention is that the consumer understands what they are buying, but how should that level of understanding be determined?

The latest Regulation (EU) No 1169/2011 (European Union, 2011) now also demands some extra information together with the name of the product. Examples are “defrosted” or “with x% added water” or “formed meat”.

In practice, looking at labels on the market, it is clear that producers have difficulties dealing with these legal demands. When products contain replacers for key ingredients, e.g. surimi in salmon salad, or meat with injected water and protein from other species, this information must be given in the product names. It is obvious that this extra information is essential for consumers to understand the real nature of the products. On the other hand, it is clear that marketers do not like all these declarations on the label. The same goes for the use of words, pictures or graphics of ingredients that appeal positively to consumers. Highly appealing ingredients such as strawberry, cream, butter, chocolate, fruit or cheese are very often used in product names, or shown as a picture on labels. In that case, these ingredients must be present in the food, and their replacement by aromas is not allowed. Mostly, the amount of these specific ingredients must be presented on the label, more specifically in the list of ingredients. A related, interesting discussion concerns whether very low amounts of a named or depicted ingredient can mislead consumers (Areyess & Hendrickx, 2016). For example, is it permissible to name a product “strawberry cookie” if there is only 0.02 % strawberry in the cookie? In that case, one strawberry could serve to make 800 packages of cookies. Another interesting point is the definitions of “forest fruit”, “black fruit” and “tropical fruit”. In some companies, the common apple is a defined part of all these declared fruit types.

Another important part of label information for the consumer is the list of ingredients. This list must contain all the ingredients used in the product. That looks quite simple; all ingredients used in the recipe to prepare the food are included in the ingredient list. The complicating factor here is that some ingredients are themselves composite foods. They contain several individual ingredients that must be cited on the label of the final food product (Janssen, 2016). Very often, these complex ingredients also contain food additives. If such additives still fulfil technological functions in the final food, they must be cited on the final food label. However, if the additives are carry-over or processing aids, it is not necessary to include them in the list of ingredients. This produces challenges for food labelling. Also the ingredient “water” is sometimes difficult to determine as a specified amount of ingredient, since it sometimes disappears during the food production process. However, since the fastest way to make money as a food producer is to sell water for the price of a food product, it is tempting for unscrupulous processors to use more water than claimed on the label (Arayess & Hendrickx, 2016).

Because retailers and consumers increasingly want to buy products without food additives (clean label), and combine this wish with longer shelf-life, excellent taste and good product characteristics, another challenge for food producers has arisen. Product innovations do not always provide the desired solutions, and is there a temptation to leave some ingredients or additives out of the list on the label. Finally, sometimes it is simply very difficult to determine all the additives and ingredients in the product specifications or in labels on the raw materials. Nonetheless, the food chain information has to be accurate, complete and understandable (Arayess & Hendrickx, 2016; Janssen, 2016).

One of the latest aspects of labelling is the required additional labelling on allergens. The current EU Regulation (European Union, 2011) lists 14 named allergens which must be included on the label. Changes in food recipes can lead to problems with the declaration of the allergens. In 2016, many product recalls were for foods containing undeclared allergens, which were not on the product labels. Such labelling is only legally required for allergens that constitute part of the recipe. Allergens which could get into food via cross contamination are not required to be listed in the list of ingredients, but rather, their declaration is voluntary. Although the position of the food law is that all contamination must be avoided, for allergens, this can be too big a task to handle in practice (Irving, 2016).

For many consumers, the minimum durability date, “use by” date and date of freezing gives important information about the characteristics of the food. Consumers must be able to keep the food at home for an appropriate time after it has been purchased. Therefore, any such date on the label has to be correct and reliable (Visser, 2016). This requires experience from the producer or correct testing in the laboratory. However, producer experience takes time to build up, while laboratory testing is expensive, and so sometimes, the date is chosen according to other considerations; this can lead to spoilage of food before the durability date has passed. Consumers might see that a

food is mouldy, discoloured or has an off taste, when an inappropriate date indicates that the food should still be suitable for consumption. In a worse scenario, consumers could develop foodborne illness from such inappropriately dated food.

One of the major changes in the latest adaption of the food labelling law is the nutrition declaration. This information must help consumers to make healthful “right” choices and provides details about the content of energy, fat, carbohydrates and sugar, protein and salt. Besides these mandatory elements, additional information about fat composition, starch and dietary fibre can be included on the label. Under certain conditions, declarations about the content of vitamins and minerals are allowed. Most of the numeric data on nutrition declarations are derived from laboratory analysis and calculation. In practice, medium and small food businesses must make large efforts to prepare precise, compliant nutrition declarations (Jong, 2016).

More details about the demands for labelling are given in the annexes to Regulation (EU) No 1169/2011 (European Union, 2011). One demand states that the country of origin must be declared in the case of pork and sheep, goat and poultry meat. The previous food law already had these obligations for beef, even to the extent of the countries of animal birth, growth, slaughter and cutting having to be specified on the label.

The current legislation has more specific standards to ensure clear legibility of characters on the label, specifying a font size where the x-height is equal to or greater than 1.2 mm. The amount of information that has to be included on the label, together with this demand on the size of the letters, can lead to problems. For labels with many different languages, it can be a problem to physically accommodate all the mandatory information on the label. Labels on smaller foodstuffs can have a lack of space. This is especially the case when food marketeers also want extra, voluntary food information on the label, to make it more appealing to consumers (Mooij, 2017).

When it comes to meat products, special attention is given to the labelling of mechanically separated meat (MSM). This product is valuable when regarded from its nutritional aspects, being nearly the same as meat (Negrao et al., 2005). Consumers, however, perceive it as a residual product, pressed to remove meat from the bone and lower in quality than meat. In the current legislation (European Union, 2004; European Union, 2011), this ingredient must clearly be included on the label under its legal name, “mechanically separated meat” (MSM) and not as “meat”. As a raw material, the appearance of MSM is similar to a paste, but it could look like finely minced meat and so could potentially be mixed up with some other meat products. Extra attention must be given to trade documents, such as specifications, labels or transport documents, so accidental or intentional swapping of MSM with other products does not occur.

In modern times, when food is not only sold prepacked in a store but also in the digital world, food information has to be disseminated in a different way – e-commerce. In short, all the regular information that has to be on the label, now also must be presented digitally in web shops. Consumers must have access to all information

before they purchase food products (Janssen, 2016). The only exception is, of course, the date of durability. That information has to be on the product when it is delivered to the consumer, as must all the other information required by law.

If all these general demands on food labelling are considered, it is clear that drafting a label, reading a label, understanding a label and checking a label are not easy tasks. The primary responsibility for each food label lies at the level of food producers or packers. The intention of food labelling is that consumers are well informed about the food so they can make appropriate choices, based on the information they get about the food. The provision of food information must pursue a high level of protection of consumers' health and interests by providing a basis for final consumers to make informed choices and to make safe use of food, with particular regard to health, economic, environmental, social and ethical considerations. Food information law aims to achieve the free movement of legally produced and marketed food, taking into account, where appropriate, the need to protect the legitimate interests of producers and to promote the production of quality products. Most importantly, the buyer must not be misled or confused, and must be able to understand the true nature of the food. Therefore, food information labels must be accurate, clear and easy for the consumer to understand (Arayess & Hendrickx, 2016).

Challenges exist for everyone involved in food labelling. How much time and money is a company willing and able to spend on the quality on their food labels? New businesses and small factories have more trouble to draft good, complete labels. Mistakes are very often made due to lack of time or expertise. Larger, international companies have teams that deal with labelling issues. Here, the main problems are the differences in (and/or interpretation of) the food labelling laws between continents, countries or regions. Often, in these companies, the marketing division views the addition of extra information to labels or to commercials on the internet, television or radio as desirable.

From the consumer perspective and regarding the purpose of food label information, the question arises as to how much information is needed, is read and is understood. Clearly, many consumers purchase food without reading any information on the label. Others only read the name of the product and the shelf life date. Last but not least, the price of the food is perused. Smaller groups of consumers, though, have specific needs for more information and then mostly consult the ingredient or allergen lists, or the nutrition declaration. However, some groups of consumers and their organisations want to know all available information. Very often, a need for information arises only when problems occur, e.g., if the product is spoiled at home, if there is a problem with the food in the national news, or if publications by consumer organisations, government or programs on TV and/or radio arouse extra information needs. In this context, it is worth noting trending items on the internet, e.g., on Facebook. The question is how much of this overkill of information is really properly understood and well classified by consumers. However, if the information on a food label is honest and complete, consumers will be able to deal with it in a satisfactory manner (Visser, 2016).

How does the competent authority deal with their mandated government oversight of the food labelling rules? It is clear that official inspectors need sufficient knowledge, and must not only know and understand the different food labelling laws, but also must be familiar with the justice systems' approaches to this. Both national and international jurisprudence has to be taken into account when dealing with legal judgements concerning food labelling. Over time, increasing amounts of processed foods, prepacked, all with labels, are appearing on the food markets. Moreover, international trade brings food from all over the world to local markets and consumers. The challenges for the competent authorities are mainfest, but they must do enough in the field on labeling, while also balancing all other tasks that have to be accomplished within the availability of staff and budget. Then, politicians sometimes make choices that interfere with the choices that management of the food authorities prefer. Finally, flexibility is needed, also within the food inspection.

From experiences in the field, it can be stated that correct and full labelling is quite an effort for those involved. A general impression is that many mistakes are made, with some projects showing deviations of up to 50 % from the legal requirements. Mostly, these are smaller mismatches, but sometimes bigger or even fraudulent cases are dealt with (Arayess & Hendrickx, 2016).

## **CONCLUSION**

Food labelling is a complex requirement. The elements of mandatory food labelling are not easy to find in the food laws. The general demands are written down in the harmonized Regulation (EU) No 1169/2011 (European Union, 2011). However, many details are written down not only in this, but also in other regulations. Foods sold by e-commerce must also follow these same regulations on food labelling, to provide proper consumer information. Many labels currently on the market show smaller and/or bigger deviations from the standards in Regulation (EU) No 1169/2011 (European Union, 2011). These problems should be appropriately addressed by the food manufacturers or packers, but also by the competent authorities. Even training of consumers seems to be needed, since all this information is, in the end, intended for consumers to aptly utilise.

### **Authors' contributions**

HF has design the paper, selected reference for the presentation and wrote the manuscript. HF takes responsibilities for all aspects of the work and accuracy of the quoted data in the manuscript.

### **Declaration of conflicting interests**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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## DEKLARISANJE HRANE: IZAZOV ZA MNOGE

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### Kratak sadržaj

*Uvod:* Na tržištu hrane postoji trend ka zanatskoj, tradicionalnoj “poštenoj” hrani, koja u isto vreme izgleda dobro, dugo je održiva, višenamenska, i sa pravilnom i jasnom deklaracijom. Može se primetiti da su marketinški stručnjaci za hranu skloni da nadgrade sliku o određenoj hrani, kako na deklaraciji tako i na razne elektronske načine. Ovo dovodi do (ne)namerne neusaglašenosti sa zakonom o obeležavanju hrane, u ovom slučaju to je Regulativa EU broj 1169/2011. Broj propisa o obeležavanju hrane i mesa se uvećao proteklih godina. Ponekad posle nekog skandala (npr. “horse-gate” skandal ili falsifikovanje hrane), ponekad zbog želje organizacije potrošača (informacije o nutritivnim vrednostima) a ponekad posle uvođenja novih vrsta sastojaka (zaslađivači, fitosteroli, nanomaterijali).

*Cilj i pristup:* Ovaj rad pruža informaciju o deklarisanju hrane. Raspravlja se o prikupljenim iskustvima iz prakse inspektora za hranu, potkrepljenim podacima iz literature, pozitivnim aspektima, glavnim problemima i trendovima.

*Ključni nalazi i zaključak:* Deklarisanje hrane je kompleksan zadatak. Generalni zahtevi su navedeni u usklađenoj Regulativi EU broj 1169/2011, a odnose se i na hranu koja se prodaje elektronskim putem, koja takođe mora da prati ove zahteve. Međutim, mnoge deklaracije na tržištu pokazuju manja ili veća odstupanja koja treba rešavati na pravi način, kako od strane proizvođača ili onoga ko pakuje hranu, tako i od strane nadležnih organa. Pored toga, postoji potreba i za edukacijom potrošača, jer su na kraju sve informacije i namenjene upravo njima.

**Ključne reči:** alergeni, informacije za potrošače, e-commerce, spisak sastojaka, deklaracija o nutritivnoj vrednosti, naziv proizvoda.