



**JOINT FAO/WHO FOOD STANDARDS PROGRAMME  
CODEX COMMITTEE ON FOOD LABELLING**

**Forty-fifth Session**

**Ottawa, Ontario, Canada**

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**DISCUSSION PAPER ON INNOVATION – USE OF TECHNOLOGY IN FOOD LABELLING**

*(Prepared by Canada)*

**1. Introduction**

At the 44<sup>th</sup> Session of the Codex Committee on Food Labelling (CCFL44), the Committee considered potential work based on the Discussion Paper on Future Work and Direction for CCFL, CX/FL 17/44/9, that covered previously identified, current, and potential work of the Committee. With respect to potential future work, broad support was received for six items, including the item “Innovation – use of technology in labelling”.

The Committee agreed that a discussion paper on Innovation – use of technology in food labelling would be developed and prepared by Canada. It was further agreed that for all of the items that received support, information would be sought through a Circular Letter (CL) on current practices, issues and any potential role for CCFL.

**2. Background**

The Discussion Paper on Future Work and Direction for CCFL (CX/FL 17/44/9) described the topic of innovation and the use of technology in labelling as follows:

*As information and communication technologies are becoming more powerful, more diverse, more accessible, and more widespread, there is opportunity to explore, at an international level, new approaches for providing consumers valuable information about the foods they buy. Use of electronic labelling, known as “e-labelling” is already in use on some very small packaged sized consumer goods such as telecommunications devices, in Canada, the US, Australia, Japan, the United Arab Emirates, and Costa Rica. In the EU it is common for users of electronic devices to be directed to a website for instruction for use. CCFL could consider if e-labelling could be used for some food labelling, such as the development of principles on what information needs to be attached to a food and what could be found on a website.*

In April 2018, [CL 2018/24-FL](#) Request for Information to Help Inform Discussion Papers for CCFL45 was circulated through six questionnaires, attached to the Circular Letter as annexes. Codex members and observers were invited to respond to this information gathering exercise to assist lead countries in developing their respective discussion papers. Comments in response to CL 2018/24/FL were submitted by June 29 2018, and these form the basis of this discussion paper.

**3. Current Practices Respecting the Use of Technology in Labelling**

A total of 17 responses were received (14 member countries and 3 observer organizations)<sup>ii</sup> through the Circular Letter CL 2018/24-FL, [Annex 3 -Innovation - use of technology in food labelling](#). These responses were reviewed and grouped into the following themes: (1) Types of Technologies (2) Types of Information (3) Challenges and Advantages.

**3.1 Types of Technologies Used to Convey Food Labelling Information**

A variety of technologies are currently used to convey labelling information. A number of those reported on were electronic in nature, such as websites, digital social networks, text messages, Radio Frequency Identification Device (RFID) and Smartphone applications such as Quick Response (QR) code readers. Technological means at point of purchase, such as in-store electronic shelf labelling, which includes mandatory information in addition to price and bar code information, were also reported. In addition to providing information about food, these technological means are used for other products such as household and personal care items, pet products, vitamins, supplements and non-prescription medication.

Some respondents noted voluntary databases currently in use or in development using emerging technology (e.g. Blockchain, BIXSco) which have the potential to improve traceability and food safety and improve

sustainability by allowing food businesses and consumers to track data about a food product or a food animal from farm to plate.

Other innovative means of labelling were identified, such as packaging that changes colour or texture when foods spoil.

Examples of a variety of technological tools that provide more in-depth information than can be provided on physical labels were provided. These include the Australian Made, Australian Grown web platform and the Smart Label® suite of digital tools. A European Travel Rail Confederation example was also provided where a digital platform is being piloted to provide information in many languages to consumers in duty-free and travel settings, by means of barcode scanning using a smart phone or in-store scanners.

Comments were also received suggesting that technology is not synonymous with electronic or digital forms of communication, and that even more traditional means of conveying information like paper and ink, print, television and radio are forms of technology. For the purposes of this discussion document, however, the use of technology in food labelling refers to recent or up-and-coming techniques such as electronic and digital methods.

### **3.2 Types of Labelling Information Provided Using Technology**

#### Voluntary Information

The most common examples for current use of technologies were for labelling information provided voluntarily by industry. With changes in technology and the prevalence of the internet, social media, and applications such as QR codes in current communication practices, industry has taken advantage of the ability to reach consumers through these mechanisms. In some cases, information on various topics such as method of production, details on ingredients, environmental or ethical attributes that previously may have been communicated on the label, is now available in more detail on the internet. Some countries noted that food product information disseminated through these means is still subject to fundamental requirements that labelling and advertising must be truthful and not misleading.

#### Mandatory Information

Overall, there were very few examples identified of current practices that allow mandatory labelling information such as the name of the food, ingredients list, or net quantity, to be provided using alternative technologies. For foods sold at retail, the physical label remains the primary means to communicate required labelling information. Some countries summarized that they have requirements for “distance sales”, which apply to foods that are not sold at retail but rather through communication techniques such as online, phone order or catalogue sales. Where requirements for distance sales exist, foods offered for sale through electronic technology or catalogues are required to provide most of the same mandatory labelling information at the time of sale as products sold at retail.

There were some notable exceptions in current practice that allow certain types of mandatory labelling information to be provided using modern forms of technology:

##### Very Small Packages

There are current practices in some countries that allow for mandatory labelling information to be provided by technological means for very small packages. One example is the ability to indicate on the label of a very small package the manner in which a purchaser may obtain nutrition information – such as by a postal address or toll-free telephone number at a minimum, with the option to also use technology such as a website. In another example, experimentation on the use of QR codes to provide front-of-package labelling information for very small packages at the point of sale is underway.

##### Non-Retail Containers

CCFL is in the process of discussing Proposed Draft Guidance for the Labelling of Non-Retail Containers of Foods. The most recent draft (CL 2019/45/5) at Step 3 outlines types of information that may be communicated in ways other than on a label, such as through electronic transfer of information.

##### Specific Types of Mandatory Information

While there were no examples of current practices allowing all required food labelling information to be provided through alternative means to the physical label, some examples were provided of specific labelling requirements where flexible options respecting how the information is communicated have either been established or are under consideration. These include:

- A requirement to provide the phenylalanine, protein and moisture content of food on company websites.

- A requirement for the mandatory disclosure of bioengineered foods or food ingredients, either on the label or through other technological means such as a QR code that links to a website.

### 3.3 Advantages and Challenges Respecting the Use of Technology in Food Labelling

The most cited advantage to take into account is the opportunity to provide more information without the constraint of the size of the label. Taking information off-label has the potential to declutter existing labels, improve legibility and help consumers to focus on the most important elements of the physical label. This could potentially reduce production costs and waste since off-label information could be readily and quickly updated without a paper label change. An electronic means of providing labelling information could also provide the opportunity for more consumer interaction.

Use of new technology in food labelling could have the advantage of making information more accessible to consumers, for example by allowing for translation to different languages or voiced labelling information for those that are visually impaired.

The use of technology also has the potential to provide more transparency and accountability, in particular where technologies developed for traceability purposes are used.

The main challenges reported relate to the consumer's ability to use and access technologies and the availability of infrastructure, whether it is access to the internet, a smart device or data to use smartphone applications.

It was noted that the use of technology in labelling must not increase potential health and safety risks or risks of being misled or deceived if certain information were to only be available digitally and not present at the time of sale or physically on the food label. Another identified challenge lies in ensuring a standardized or harmonized presentation of information to not confuse or mislead the consumer, and also to allow for product comparison.

It was suggested that ensuring the compliance of technology-based information may present challenges for regulators since it involves oversight in a virtual environment and may require adjustments to traditional enforcement practices. It was also noted that there could be the potential for privacy intrusion by accessing the technology.

## 4. Issues that Could Potentially Be Addressed By CCFL

The scope of the *General Standard for the Labelling of Prepackaged Foods* (CXS 1-1985) (GSLPF) specifies that it applies to the labelling of all prepackaged foods, suggesting the information provided through technology is within scope of the standard. With this in mind, a few themes emerged regarding issues that could potentially be addressed by CCFL.

### Definitions of "label" and "labelling"

It was noted that definitions and standards for labelling were developed prior to the advances we have seen in technology and communication, as well as changes to how consumers can purchase foods, such as online. As such, clarification may be required in Codex texts to address modern ways of purchasing food. In particular, the definition of "label"<sup>1</sup> in section 2 of the GSLPF refers to information that is attached to or otherwise part of a container of food. This definition is effective when the container of food is physically present at the point of sale. However, when the point of sale is through technology such as the internet or other platforms, the application of this definition is less clear.

It was also noted that the definition of "labelling"<sup>2</sup> in the GSLPF applies more broadly than "label" and includes information that is not directly part of the label, but also that accompanies or is displayed near the food. It was suggested that this definition may also require updating to clarify whether it applies to voluntary or mandatory information that is provided through technological means.

The link between this discussion paper and the one on internet sales was raised by several respondents.

### Provision of labelling information at point of purchase and consumption

In addition to potential work regarding definitions in the GSLPF, there were several comments regarding the importance for CCFL to clarify:

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<sup>1</sup> "**Label**" means any tag, brand, mark, pictorial or other descriptive matter, written, printed, stencilled, marked, embossed or impressed on, or attached to, a container of food (*General Standard for the Labelling of Prepackaged Foods*, CXS 1-1985)

<sup>2</sup> "**Labelling**" includes any written, printed or graphic matter that is present on the label, accompanies the food, or is displayed near the food, including that for purpose of promoting its sale or disposal (*General Standard for the Labelling of Prepackaged Foods*, CXS 1-1985)

- what information is mandatory at the point of sale, regardless of the mode or technology of the sale, e.g. whether at retail, online or through catalogue sales
- what information is mandatory at the point of receipt (for products not sold at retail, that may be sold using technological means)
- whether there are any exceptions to the above depending on the circumstances of the sale, for example, whether the use of technology may differ for non-retail containers vs. retail containers (or retail vs. food service vs ingredient food).

There were also some suggestions that criteria may be needed to establish the distinction between information that must accompany the food on the label and information that could be accessed off-label. In other words, the possibility was raised that there may be a category of information that must be provided on a mandatory basis, but where there is flexibility on when and how consumers have access to it.

#### Consistency of information

It was discussed that the use of technology for food labelling must be consistent in terms of the information provided. Variance between platforms in the type of information and how it is presented could contribute to consumer confusion, for example, if different information is available at the point of sale depending on whether it occurs at retail or online.

#### Technology as a means to provide voluntary information

Several respondents elaborated on the potential for technology to provide supplementary or voluntary information about foods such as respecting ingredients, production practices, or health attributes. In this regard, it was stated that it is important that standards and guidelines reflect the requirement for this information to adhere to the general principles that such information must be truthful and not misleading, even when provided through technology. As the general principles in Section 3 of the GCLPF refer to the “label” and “labelling”, work by CCFL to clarify the applicability of these definitions is relevant to this item. In addition, other Codex texts such as the *Guidelines on Claims* (CXG 1-1979) may also need to be reviewed.

### **5. Considerations**

A key consideration expressed in the responses is that this topic is closely related to the discussion on internet sales.

It was also suggested that technology is a method of communicating information, but that when looking at principles related to food labelling, this should be undertaken in a way that is technology-neutral, as this will change over time. For example, principles should be about when labelling information is available, what labelling information is available and to whom it is available rather than the means by which it is made available. This will enable the future adoption of technologies that may introduce further changes in the marketplace.

Considerations around the buyer were expressed as there may be differences between how information must be made available to the general public as opposed to companies purchasing products in non-retail containers or foods for catering use.

It was suggested that there may be specific situations that are exceptions to basic labelling requirements, where information must be disclosed but not at the time of sale, and that in these situations a variety of technologies may meet this need. For example, there may be information that is necessary to support a claim on a food that is not required on the packaging but must be disclosed. Additionally, some comments suggested there may be a difference between “need to know” and “nice to know” information.

With respect to the use of technology in food labelling, equal access to information is a key consideration. Connected with this is the potential need for clarity around whose responsibility it is to make the information accessible. For example, if label information were to be provided online using a smartphone or QR code, it must be considered whose responsibility it is to provide the appropriate tools (device, access to internet or data) to access the information.

Just as requirements for the physical label include specifications regarding placement, legibility, format and language of the information, these must also be considered when using technology.

### **6. For Discussion at CCFL**

Based on the responses received through the circular letter, the Committee could consider discussion and possible new work in the following areas:

- a. Develop criteria for labelling that must be available at the point of sale and labelling that could be provided with more flexibility as to timing and method of disclosure. This could include consideration of different points of sale (e.g. retail vs. online), different types of sales (e.g. retail vs. non-retail containers), and take into account accessibility of information.

- b. Revise the definitions for “label” and “labelling” in the GSLPF to accommodate technology as a platform for labelling information, where appropriate.
- c. Review of other Codex texts developed by CCFL such as the *Guidelines on Claims* (CAC/GL 1 – 1979), The *Guidelines on Nutrition Labelling* (CXG 2-1985), and the *Guidelines for the Use of Nutrition and Health Claims* (CXG 23-1997) to identify other possible amendments that would facilitate use of technology for labelling.

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<sup>i</sup> Information Technology Association of Canada, <http://itac.ca/blog/new-e-labelling-rules-unzip-opportunities-for-ict-manufacturers/> October 3, 2014

<sup>ii</sup> Full list of respondents: Algeria, Argentina, Australia, Brazil, Canada, Columbia, European Union, Guatemala, Indonesia, Mexico, New Zealand, Switzerland, Thailand, United States, Fédération Internationale des Vins et Spiritueux (FIVS), International Council of Grocery Manufacturer Associations, International Fruit and Vegetable Juice Association (IFU)