



JOINT FAO/WHO FOOD STANDARDS PROGRAMME
CODEX ALIMENTARIUS COMMISSION
Forty-third Session
PROPOSALS FOR NEW WORK

A list of proposals to elaborate new standards and related texts is presented below, including the reference of the project document in the relevant report. The project documents are also compiled in this document for ease of reference and to ensure availability in all six languages.

The Commission is invited to decide whether or not to undertake new work in each case, taking into account the critical review conducted by the Executive Committee, and to decide which subsidiary body or other body should undertake the work. The Commission is invited to consider these proposals in the light of its *Strategic Plan 2020-2025* and the *Criteria for the Establishment of Work Priorities* and *Criteria for the Establishment of Subsidiary Bodies of the Codex Alimentarius Commission*.

| Codex Body | Text | Reference and project document |
|------------|--|--|
| CCAFRICA | Proposal for new work to elaborate guidelines for supporting the development of harmonised food laws for the CCAFRICA region | <ul style="list-style-type: none"> • REP20/AFRICA, Para. 108 • Annex I of this document |
| | Proposal for the development of a regional standard for soybean products fermented with <i>Bacillus</i> species | <ul style="list-style-type: none"> • REP20/ASIA, Para. 97 (i), Appendix V • Annex II of this document |
| CCASIA | Proposal for the development of a regional standard for quick frozen dumpling | <ul style="list-style-type: none"> • REP20/ASIA, Para. 102 (i), Appendix VI • Annex III of this document |
| | Proposal for the development of a regional standard for cooked rice wrapped in plant leaves | <ul style="list-style-type: none"> • REP20/ASIA, Para. 112 (i), Appendix VII • Annex IV of this document |
| CCFH | New work on guidelines for the safe use and reuse of water in food production | <ul style="list-style-type: none"> • REP20/FH, Para. 116, Appendix V • Annex V of this document |

PROJECT DOCUMENT

PROPOSAL FOR NEW WORK TO ELABORATE GUIDELINES FOR SUPPORTING THE DEVELOPMENT OF HARMONIZED FOOD LAWS FOR THE CCAFRICA REGION

1. Purpose and scope of the proposed Guideline supporting the development of harmonized Food Laws

The purpose and scope of this work is to develop guidelines for supporting the development of harmonized food laws for CCAFRICA, to enable member states to develop or update risk-based food control system. This will guarantee protection of human life and health, consumers' interest, fair trade practices as well as animal health and welfare, plant health and the environment while ensuring free movement of food and feed produced and traded in African countries. The proposed guideline will assist member countries to develop harmonized food laws which will cover all food and feed produced and marketed within the region. The import and export procedures will be guided by the principles as set out in the various texts elaborated by the Codex Committee on Food Import and Export Certification Systems (CCFICS).

2. Relevance and Timeliness

Despite the fact that model food law had been discussed from 1974 to 2015, no work has been done to specifically develop guidelines for supporting the development of harmonized African Food Laws. Meanwhile, there is expansion in Africa regional integration leading to increase in food trade as well as consumer safety concerns. This has resulted in the development of food and feed standards and technical regulations which are not harmonized and hence creating potential technical barrier to trade.

This proposal addresses the need for FAO/WHO Regional Coordinating Committee (CCAfrica) member states to enhance the food control systems, promote harmonized legal framework, build capacity of the regulatory agencies and promote a risk-based approach to food regulations. The guidelines for supporting the development of harmonized African Food Laws will promote a risk-based farm to fork approach in protecting consumers and facilitating trade.

The guidelines for supporting the development of harmonized African Food Laws has the potential to not only remove restrictions to trade but also to free up resources for exporting and importing countries alike, which could be better allocated to manage more pressing areas of risk.

3. The main aspects to be covered

The proposed guidelines for supporting the development of harmonized African Food Laws will cover general principles of food and feed law, risk analysis, farm to fork food safety management, public consultation and information, obligations of food trade, imports and exports guidelines and principles, responsibilities of food and feed business operators and competent authorities, traceability, recall, packaging, labelling, mutual recognition and equivalence that form a horizontal framework underpinning all measures relating to food and feed. The work will result in guidelines for supporting the development of harmonized African Food Laws that is preventive and holistic in the approach to reduce food borne illnesses.

4. Assessment against the Criteria for the Establishment of Work Priorities

General Criterion:

Consumer protection from the view of health, food safety, ensuring fair practices in food trade and taking into account the identified needs of developing countries.

The proposed work on guidelines for supporting the development of harmonized African Food Laws will assist members in the region in developing food laws that protect consumers from the point of view of health, food safety and ensuring fair practices in the food trade.

Criteria applicable to General subjects

a) Diversification of national legislations and apparent resultant or potential impediments to international trade:

In many Countries within the region, laws and regulations may not be in existence or reviewed, thus creating a maze of rules which regulators, food industry and consumers find difficult to understand and implement. The current food laws are fragmented, overlapping and not generally risk based. In addition, there is limited practice of equivalence and mutual recognition. The proposed guidelines for supporting the development of harmonized African Food Laws will assist countries in addressing the aforementioned issues and review their legislation to facilitate trade and protect consumer health.

b) Scope of work and establishment of priorities between the various sections of work:

Refer to section 3 above.

c) Work already undertaken by other international organizations in this field and/or suggested by the relevant international intergovernmental body (ies):

There is no any other work which has been done within the region on guidelines for supporting the development of harmonized African Food Laws. With regard to the development of a guidelines for supporting the development of harmonized African Food Laws for Members in the region, the work will make reference to:

- i) Food Safety and Nutrition Food Law Guidelines by WHO-AFRO (2002).
- ii) Assuring Food safety and Quality: Guidelines for Strengthening food control systems, Rome 2003 – FAO/WHO Food and Nutrition Paper
- iii) National Food Safety System in Africa – A situation analysis. (Paper prepared by FAO regional office for Africa for the FAO/WHO Regional Conference on food safety for Africa, October 2005. CAF 05/2)
- iv) Perspectives and guidelines on food legislation, with a new model food law, FAO, 2005
- v) Food control system assessment tool, FAO/WHO, Food safety and quality series, issue n.7, FAO 2019
- vi) Regulation 7 of 2007/CM/UEMOA on security Plant health, Animal and food safety in WAEMU
- vii) C/REG.21/11/10- Harmonization of the structural framework and operational rules for food safety, plant and animals in the ECOWAS Region
- viii) Other relevant documents as identified from other intergovernmental bodies in the region.

d) Amenability of the subject of the proposal to standardization:

The work would focus on developing guidelines that would support the development of harmonized Food Laws for members of the region

e) Consideration of the global magnitude of the problem or issue:

The CCAFRICA has identified a need for the development of the guidelines for supporting the development of harmonized African Food Laws to address fragmented and outdated nature of existing legislation and enhance global trade. As mentioned in (a) above in order to guarantee consumer health and facilitate fair food trade practices.

5. Relevance to Codex strategic objectives

The proposed work directly relates to Codex Strategic plan, 2020-2025 goal 1: Address current, emerging and critical issues in a timely manner. It relates in particular to Objective 1.1 and 1.2, which aims to proactively identify emerging issues and member needs and where appropriate develop relevant food Laws. This work is also aligned to Codex Strategic Goal 2, which aims to develop standards based on science and Codex risk-analysis principles, particularly Objective 2.1, use scientific advice consistently in line with Codex risk analysis principles.

6. Information on the relation between the proposal and other Codex documents

The proposed work will take into account aspects of the work of CCFICS and in particular:

- *Principles and guidelines for exchange of information on food safety emergency situations (CXG 19-1995),*
- *Principles for traceability/product tracing as a tool within a food inspection and certification system (CXG 60-2006);*
- *Principles for food import and export inspection and certification (CXG 20-1995).*
- *Principles and guidelines for national food control systems (CXG 82-2013)*

7. Identification of any requirement for and availability of expert scientific advice

No scientific expert advice is envisaged at this stage.

8. Identification of any need for technical input to the standard from external bodies so that this can be planned for

Expert advice from WHO/FAO experts such as those involved in development of the Perspectives and guidelines on Food legislation with the new model food law will be required. In addition, the members will seek assistance and guidance from WHO/FAO legal office.

9. Completion of the new work and other conditions

| ACTIVITIES | PROPOSED TIMELINES |
|--|---------------------------|
| Approval of new work by CCAFRICA 23 | 2019 |
| Adoption of new work by CAC43 | 2020 |
| Consideration of the draft guidelines for supporting the development of harmonized African Food Laws at Step 3 CCAFRICA 24 | 2021 |
| Adoption at Step 5 by CAC 45 | 2022 |
| Consideration at Step 7 by CCAFRICA 25 | 2023 |
| Final Adoption by CAC47 | 2024 |

PROJECT DOCUMENT

Proposal for the Development of a Regional Standard for Soybean Products Fermented with *Bacillus* Species

1. The purposes and the scope of the standard

The scope of this work applies to soybean products, which are fermented with microorganisms from the *Bacillus* spp. solely or together with other microorganisms, retain the shape of whole soybeans and are not a type of paste, while some of them may be partly crushed during the manufacturing process, for direct human consumption and industrial food production including for catering purposes. Products in this scope include *Natto*, *Cheonggukjang*, *Douchi Kinema* and *Thua nao sa*.

The purpose is to establish a regional standard for the production of soybean products which are fermented with microorganisms from the *Bacillus* spp. solely or together with other microorganisms, retain the shape of whole soybeans, and are not a paste type while some of them may be partly crushed during the manufacturing process, in accordance with the purpose of Codex, namely protecting the health of the consumers and ensuring fair practices in the food trade.

2. Its relevance and timeliness

Recently, it is noticeable that the production and trade volume of *Natto*, a traditional product fermented with *Bacillus* spp. in Japan, has been steadily increasing steadily increasing intra-regionally and internationally. Although there are various fermented soybean products in the Asian region, the products fermented with *Bacillus* spp., i.e., *Natto*, *Cheonggukjang*, *Douchi* and *Kinema* have similarity in not only microorganisms used for fermentation but the form. Therefore, it is necessary to establish a regional commodity standard for soybean products fermented with *Bacillus* spp. covering safety, quality, hygiene and labelling requirements in order to protect health of consumers and ensure fair trade practices. The standard is intended to be regional, rather than international, given that the present trend of consumption and trade of soybean products fermented with *Bacillus* spp. mostly extends to Asian countries.

3. The main aspects to be covered

The main aspects to be covered in the standard of soybean products fermented with *Bacillus* spp. solely or together with other microorganisms are requirements for quality and safety, which include product definition (including the product form), scope, essential composition and quality factors such as food additives, contaminants, hygiene, labelling as well as methods of analysis and sampling.

4. An assessment against the Criteria for the establishment of work priorities

General Criterion

The standard will meet general criterion with regard to consumer protection and fair trade practice by:

- Promotion of consumer protection by stipulating requirements for quality of soybean products fermented with *Bacillus* spp.; and
- Ensuring fair food trade practice, referring to proper product name and definition.

Criteria applicable to commodities

(a) Volume of production and consumption in individual countries and volume and pattern of trade between countries

The production of soybean products fermented with *Bacillus* spp. has been increasing steadily (see Tables 1 and 2).

Table 1 Domestic production and consumption of *Natto* in Japan (2016-2018)

(Unit: tonnes and JPY respectively)

| | 2016 | 2017 | 2018 |
|---|-------|-------|-------|
| Amount of production of Natto (thousand tonnes) | 248 | 257 | 261 |
| Expenditure for Natto (thousand yen) | 3,135 | 3,229 | 3,537 |

Source: Ministry of Agriculture, Forestry and Fisheries of Japan and Ministry of Internal Affairs and Communications of Japan

Table 2 Weight of soybean products fermented with *Bacillus* spp. produced in Japan and the Republic of Korea (2012-2015)

(Unit: tonnes)

| | 2012 | 2013 | 2014 | 2015 |
|-------------------|---------|---------|---------|---------|
| Japan | 221,000 | 225,000 | 225,000 | 238,000 |
| Republic of Korea | 10,598 | 10,423 | 9,477 | 10,392 |
| total | 231,598 | 235,423 | 234,477 | 245,392 |

Source: Ministry of Agriculture, Forestry, and Fisheries of Japan and Ministry of food and Drug Safety of Republic of Korea

The export of soybean products fermented with *Bacillus* spp. has been increasing steadily in producing countries in Asia as well (see Tables 3 and 4). In addition, it is reported that there is a growing demand for *Natto* in the Republic of Korea¹.

Table 3 Weight and value of Japan's export of soybean products fermented with *Bacillus* spp.(2012-2015)

(Unit: tonnes and US dollars respectively)

| | 2012 | | 2013 | | 2014 | | 2015 | | |
|------------------------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--|
| | weight | value | weight | value | weight | value | weight | value | |
| Natto | | | | | | | | | |
| Asia | 142 | 996,491 | 161 | 933,402 | 190 | 987,146 | 201 | 921,488 | |
| North America | 360 | 2,226,817 | 390 | 1,939,549 | 424 | 1,972,596 | 467 | 1,900,826 | |
| Europe | 73 | 476,190 | 54 | 241,496 | 66 | 231,569 | 84 | 308,264 | |
| Latin America, Oceania | 26 | 169,137 | 24 | 148,566 | 23 | 116,257 | 24 | 106,612 | |
| Total | 601 | 3,868,672 | 629 | 3,263,012 | 702 | 3,307,561 | 745 | 3,237,190 | |

Source: Research by Japan *Natto* Cooperative Society FederationTable 4 Weight and value of Republic of Korea's export of soybean products fermented with microorganism *Bacillus* spp. (2012-2015)

(Unit: tonnes and US dollars respectively)

| | 2012 | | 2013 | | 2014 | | 2015 | |
|----------------------|--------|---------|--------|---------|--------|---------|--------|---------|
| | Weight | value | weight | value | weight | value | weight | value |
| <i>Cheonggukjang</i> | 61 | 156,039 | 33 | 156,113 | 40 | 187,770 | 39 | 295,553 |
| Other fermented food | 0 | 6,858 | 1 | 9,486 | 3 | 24,558 | 0 | 293 |

Source: Ministry of Food and Drug Safety of the Republic of Korea

Note that the export weight and value of *Cheonggukjang* by importing region/country are not specified.

(b) Diversification of national legislation and apparent resultant or potential impediments to international trade

¹ Retrieved from Sankei Shimbun (Jan. 31, 2019) (in Japanese)<https://www.sankei.com/premium/news/190131/prm1901310003-n1.html>

Absence of uniform quality requirements for soybean products fermented with *Bacillus* spp. among producing countries in the Asian region can cause trouble for fair trade of those commodities.

(c) International or regional market potential

As illustrated in Tables 3 and 4 above, there has been steady increase in the international trade for soybean products fermented with *Bacillus* spp. in recent years.

(d) Amenability of the commodity to standardization

The standard for soybean products fermented with *Bacillus* spp. is supposed to include factors such as to quality and hygiene, which contributes to protect consumers' health and ensure fair trade. Moreover, definitions regarding essential compositions and production methods enable to distinguish commodities covered by the standard from others.

(e) Coverage of the main consumer protection and trade issues by existing or proposed general standards

There are no existing standards.

(f) Number of commodities which would need separate standards indicating whether raw, semi-processed or processed

None were identified.

(g) Work already undertaken by other international organizations in this field and/or suggested by the relevant international intergovernmental body(ies)

None were identified.

5. Relevance to Codex strategic objectives

Establishment of a Codex standard for soybean products fermented with *Bacillus* spp. is in line with the Codex strategic objectives as follows:

It meets Goal 1 of the Strategic Plan 2020-2025 to address current, emerging and critical issues in a timely manner, and in particularly, outcome- "Timely Codex response to emerging issues and the needs of members."

6. Information on the relation between the proposal and other existing Codex documents

The work will take into consideration:

- *General Principles of Food Hygiene* (CXC 1-1969)
- *General Standard for the Labelling of Prepackaged Foods* (CXS 1-1985)
- *General Standard For Food Additives* (CXS 192-1995)
- *Recommended Methods of Analysis and Sampling* (CXS 234-1999)
- *Principles and Guidelines for the Establishment and Application of Microbiological Criteria Related to Foods* (CXG 21-1997)
- Databases related to the maximum limits for pesticides residues issued by Codex Committee on Pesticides Residues in Food (CCPR).
- *General Standard for Contaminants and Toxins in Food and Feed* (CXS 193-1995)
- *Regional Standard for Fermented Soybean Paste (Asia)* (CXS 298R-2009)
- *Regional Standard for Tempe (Asia)* (CXS 313R-2013)

7. Identification of any requirement for and availability of expert scientific advice

None is required.

8. Identification of any need for technical input to the standard from external bodies so that this can be planned for

None is required.

9. The proposed time-line for completion of the new work

It is expected the development of this standard will be conducted in two CCASIA meetings depending on the agreement reached by CCASIA and the standard is scheduled for adoption by CAC47 in 2024.

| Procedures | Date |
|--|-----------|
| Approval of the new work | July 2020 |
| Preparation of draft standard and circulation for comments (Step3) | 2020-2021 |
| Consideration of the Proposed Draft (Step 4) | 2021 |
| Adoption of the Proposed Draft (Step 5) | 2022 |
| Consideration of the Draft Regional Standard (Step 7) | 2023 |
| Final Adoption of the Regional Standard (Step8) | 2024 |

Soybean Products fermented with the *Bacillus* spp., Commodities Information

Table: Existing Soybean Products fermented with *Bacillus* spp. in Asia

| Country | Product name (Commodity) | Microorganism name | Host of microorganism | Outline of the product | Production method | Appearance Cooking method |
|-------------------|--------------------------|---|--|---|---|---|
| Japan | <i>Natto</i> | <i>Bacillus subtilis</i> var. <i>natto</i> | Dry grass such as rice straw and/or air. | No secondary process aside from freezing. Emits odour by over fermentation. | <i>Bacillus subtilis</i> var. <i>natto</i> is added to steamed soybeans. Generally fermented at 38-42°C for 16-24 hours. After fermentation, aged in a refrigerator at 10°C or less | Soybeans are placed neatly in a container and a whitish bacterial film can be seen on the surface. Natto is generally stirred right before serving, resulting in a sticky form, and then eaten raw with white rice, adding soy sauce. |
| Republic of Korea | <i>Cheonggukjang</i> | <i>Bacillus</i> spp. including <i>B. subtilis</i> | Dry grass such as rice straw and/or air | Assumes a brownish amber solid form with most of the soybeans retaining their shape, while some of them may be crushed during the manufacturing process. Salt and/or other seasonings may be added for an increase in preservation and better taste. Consumed widely also in forms such as powder or small pellets. | Soybeans that have been soaked in water for a certain amount of time are boiled or steamed, and then fermented mainly by <i>Bacillus</i> spp. including <i>B. subtilis</i> in a well-ventilated case for about 3 to 4 days at 40°C under natural conditions. Other seasonings may be added according to intended use. | The final product looks brownish amber and forms mucilage. A whitish bacteria film can also be seen on the surface. The product is commonly cooked for consumption since it is used as a main ingredient for stew. However, according to personal preference, it may be consumed raw along with other optional ingredients, or may be manufactured and consumed in other forms such as powder or small pellets. |
| China | <i>Douchi</i> | <i>Bacillus subtilis</i> . Other genus such as <i>Aspergillus</i> | Leaves of broadleaf trees. <i>Aspergilli</i> included. | Some have brownish mycelium film on the surface of black soybeans. Bean shape is maintained. | Black soybeans are steamed and fermented by adding salt. After fermentation, they are dried in the shade to reduce moisture. Takes over a month to complete. | Black brown mycelium on the surface. Used as an ingredient and seasoning for cooking, especially in Chinese dishes. |
| Nepal and India | <i>Kinema</i> | <i>Bacillus subtilis</i> | Airborne bacteria. Leaves of broadleaf trees, such as bananas and ferns. | Made mainly from black soybeans and stringiness is confirmed. | Boiled soybeans are lightly ground by mortar and placed in a bamboo basket lined with fern leaves. Bacteria on the leaves are used. The basket is kept in a warm place such as a fireplace for two days to ferment. | Sticky similar to <i>Natto</i> . Some are sun-dried. Sun-dried Kinema is soaked in water and used as seasoning for soup and fried dishes. Salt-free fermentation. Lactic acid, <i>Enterococcus</i> , yeast fungi, <i>Candida</i> , mold and <i>Geotrichum</i> are also included. Cooking method varies among different tribes. |

| | | | | | | |
|----------|--------------------|----------------------|---|---|---|--|
| Thailand | <i>Thua nao sa</i> | <i>Bacillus</i> spp. | Airborne bacteria Leaves of broadleaf trees, such as bananas | Yellow and brownish colour and solid form. Soybean shape mostly retained while some of them are crushed during the process. | The soybean is soaked in water for overnight, boiled for 4-6 hours, drained and then placed in a basket and covered with leaves. Kept at 40°C for 2-3 days. | Used as an ingredient and seasoning for cooking. |
|----------|--------------------|----------------------|---|---|---|--|

**Cheong-Gukjang
(Korea)**



Bacillus species including *Bacillus subtilis*

**Douchi
(China)**



Bacillus subtilis,
Others
(Aspergilli)

**Kinema
(Nepal)**



Bacillus subtilis



Thua nao sa

1. Photo images of Natto



product in retail container



content of product



product on rice

2. Cheonggukjang Recipe examples



Raw Cheonggukjang (salt-free Cheonggukjang): Mixed with other seasoning and vegetables and consumed raw

Cheonggukjang stew: Used as the main ingredient along with vegetables and consumed as stew/paste soup

Powder: When the fermentation is completed, Cheonggukjang is dried and grinded into powder

Pellets: Cheonggukjang powder is mixed with brown rice or sticky rice powder and kneaded into dough, which is made into small pellets and then dried at low temperature.

3. Japan's export weight and value of *Natto*

| COUNTRY | 2017 | | 2018 | |
|----------------------|---------------------|--------------------------|---------------------|--------------------------|
| | WEIGHT UNIT:(KG) | VALUE UNIT:(1,000YEN) | WEIGHT UNIT:(KG) | VALUE UNIT:(1,000YEN) |
| TOTAL | 1,751,620 | 956,574 | 1,827,374 | 981,765 |
| REPUBLIC OF KOREA | 226,008 | 104,172 | 229,453 | 99,758 |
| CHINA | 385,678 | 221,540 | 399,144 | 224,330 |
| VIET NAM | 7,290 | 5,755 | 11,995 | 9,226 |
| THAILAND | 50,253 | 30,351 | 60,256 | 35,800 |
| SINGAPORE | 44,068 | 29,023 | 47,208 | 31,100 |
| MALAYSIA | 6,302 | 4,832 | 10,188 | 6,366 |
| PHILIPPINE | 9,120 | 5,152 | 7,761 | 4,603 |
| INDONESIA | 20,262 | 17,199 | 18,625 | 15,942 |
| CAMBODIA | 848 | 647 | 323 | 309 |
| LAOS | 410 | 252 | - | - |
| MYANMAR | 2,892 | 2,568 | 2,892 | 2,567 |
| INDIA | - | - | 457 | 258 |
| BAHRAIN | - | - | 264 | 214 |
| UNITED ARAB EMIRATES | 2,521 | 1,897 | - | - |
| SWEDEN | 734 | 648 | - | - |
| UNITED KINGDOM | 47,920 | 19,564 | 50,980 | 19,702 |
| NETHERLANDS | 8,258 | 7,499 | 9,362 | 8,311 |
| BELGIUM | 8,950 | 4,866 | 8,556 | 4,870 |
| FRANCE | 3,598 | 2,460 | 3,106 | 2,072 |
| GERMANY | 35,260 | 20,446 | 35,199 | 19,330 |
| SWITZERLAND | 2,853 | 3,590 | 3,134 | 3,265 |
| PORTUGAL | - | - | 291 | 221 |
| SPAIN | 1,860 | 1,413 | 875 | 666 |
| ITALY | 751 | 669 | 777 | 692 |
| POLAND | - | - | 240 | 593 |
| RUSSIA | - | - | 612 | 576 |
| CANADA | 74,425 | 38,852 | 74,757 | 38,663 |
| USA | 694,669 | 364,308 | 747,314 | 388,084 |
| MEXICO | 3,958 | 2,512 | 3,770 | 4,037 |
| BRAZIL | 18,514 | 9,279 | 14,009 | 6,409 |
| DJIBOUTI | 360 | 215 | - | - |
| AUSTRALIA | 71,388 | 43,086 | 68,721 | 41,797 |
| NEWZEALAND | 15,895 | 7,385 | 9,351 | 4,707 |
| GUAM | 5,041 | 4,891 | 6,272 | 5,674 |
| MARIANA | 843 | 908 | 683 | 914 |
| PALAU | 691 | 595 | 835 | 709 |

Source: Trade Statistics of Japan Ministry of Finance

PROJECT DOCUMENT

Proposal for the Development of a Regional Standard for Quick Frozen Dumpling

1. The purposes and the scope of the standard

The regional standard for quick frozen dumplings is aimed at protecting the health of consumers, improving the quality of products, and promoting fair trade. However, there is no regional or international standard for quick frozen dumplings in the whole region. While certain countries in the region have issued relevant standards, the standards are not consistent. The establishment of this standard will help promote regional and international trade and address the food safety concerns of consumers.

2. Product definition



Quick frozen dumpling is a type of food consisting of a piece of dough, which is made of flour, etc., with a filling of meat, seafood, eggs, nuts, vegetables, etc. (whose proportion should exceed a certain percent of the total weight of dumpling) completely wrapped into a thin piece of dough; the finished dumplings product should be quick-frozen.

There are various Dumpling in China, see Figure 1.



Figure1 Various dumpling in China

There are various types of quick frozen dumplings circulated in international food markets, see different types of quick frozen dumplings from different countries in Table 1.

| Image | Country of origin | Descriptions |
|---|-------------------|--|
|  | Japan | Gyoza is one of the most popular cuisines in Japan. |
|  | Vietnam | The dumplings are usually filled with pork and shrimp meat. The most important ingredient is a special sweet and sour sauce. |

| | | |
|---|----------------------------|--|
|  | Korea | Kimchi dumplings are Korean dumplings. Onion, ginger, soybean curds and spicy kimchi can be added to the meat filling. |
|  | Russia | Dough is made of flour, eggs and water. The filling of is made of beef, pork or mutton, and various spices are added. |
|  | Nepal, Bhutan and India | Momo is a snack in Nepal, Bhutan, India. |

Table 1 Dumplings with various cooking ways in different countries

Quick frozen dumplings are widely eaten in China and other parts of the world. Japan, the United States, Germany, Poland, Russia, Nepal and other countries all have similar dumpling products. Although different countries have different ways of making dumplings, each with its own characteristics, they are all made from wheat flour or other starch-rich flour as the dough, stuffed with meat, eggs, or vegetables and other materials as the fillings.

3. Its relevance and timeliness

According to the estimation by relevant industry associations, quick frozen food is one of the fastest growing food industries in the world, with an average annual growth rate of 15%-20%. As an important part of quick frozen food, quick frozen dumplings have the largest output. In recent years, the consumption of quick frozen dumplings has witnessed a growing trend. The production process of it adopts advanced production technology, and the production volume is also continuously increasing, creating huge market potential.

At present, CAC has not formulated standards for quick frozen dumplings. Due to a lack of uniform regional standard among trading countries, various obstacles like different product quality requirements, etc. have arisen in the region. The establishment of regional standard for quick frozen dumplings will be beneficial to Asian countries, because the major producing, consuming and exporting countries of frozen dumplings in the world are mainly located in Asia. It is expected that quick frozen dumplings will have greater consumption demand and trade potential in the international market in the future.

4. The main aspects to be covered

The standard of quick frozen dumplings product will be drafted according to the Format for Codex Commodity Standards in the Procedural Manual. The main aspects to be covered by proposed standard are:

- Scope;
- Description;
- Essential composition and quality factors;
- Food additives;
- Contaminants;
- Hygiene;
- Weights and Measures;

- Labelling;
- Methods of Analysis and Sampling.

5. Assessment against the Criteria for the establishment of work priorities

General criterion

The proposed standard should protect consumers from the point of view of health and food safety, ensure fair practices in the food trade and take into consideration the identified needs of the developing countries.

The proposed standard aims to address the following aspects to meet the above requirements:

- Protect consumers and prevent fraud;
- Improve the quality of products, and address the food safety concerns of consumers;
- Resolve trading barriers.

Criterion applicable to commodities

a) Volume of production and consumption in China and volume and pattern of trade between countries

In recent years, the output and trade volume of quick frozen dumplings in China have been on the rise year by year (see Table 2). Among them, 2017 saw a substantial increase, with output registering at 28.5% and output reaching 28.4% over the same period. From 2014 to 2018, the output value of quick frozen dumplings in China increased by 3.4%, 3.9%, 7.8%, 28.4% and 10% respectively.

Table 2 Output and total value of China's quick frozen dumplings, 2013-18

| Year | Production volume (tonnes) | Total value (billion US dollars) |
|------|----------------------------|----------------------------------|
| 2013 | 857,987 | 2.58 |
| 2014 | 881,082 | 2.67 |
| 2015 | 983,475 | 2.81 |
| 2016 | 1,081,823 | 3.02 |
| 2017 | 1,390,005 | 3.89 |
| 2018 | 1,715,974 | 4.80 |

Source: estimated by relevant industrial associations of China.

In the international market, the trade volume of quick frozen dumplings is increasing rapidly. China's quick frozen dumplings are mainly exported to Southeast Asia, North America, Europe, Hong Kong, Macao and other countries and regions. Since 2015, the export volume of quick frozen dumplings in China has shown a rising trend (see Table 3). From 2015 to 2018, the export volume of quick frozen dumplings increased by an average of 25% per year, with products exported to 17 countries such as Japan, the United States, Canada, France, Italy, Australia, Singapore and Germany.

Table 3 Export data of quick frozen dumplings from China to some countries/regions from 2015-18

| Country/ Region | Volume: tonnes | | | |
|-----------------|----------------|-------|-------|-------|
| | 2015 | 2016 | 2017 | 2018 |
| Europe | 5,700 | 5,500 | 6,530 | 7,960 |
| America | 2,550 | 3,200 | 3,900 | 4,933 |
| Australia | 1,800 | 2,090 | 3,430 | 4,030 |
| Canada | 1,700 | 1,506 | 1,998 | 2,100 |
| Malaysia | 260 | 271 | 286 | 293 |
| Japan | 655 | 587 | 630 | 686 |

| Country/ Region | 2015 | 2016 | 2017 | 2018 |
|-----------------|--------|--------|--------|--------|
| Korea | 430 | 406 | 468 | 503 |
| Singapore | 525 | 603 | 589 | 831 |
| Other regions | 13,500 | 24,303 | 30,840 | 40,670 |
| Total | 26,530 | 38,466 | 48,671 | 62,006 |

Source: calculated by relevant industrial associations in China.

b) Diversification of national legislations and apparent resultant or potential impediments to international trade

Due to a lack of uniform commodity standards in the region, the regional trade of quick frozen dumplings is affected to some extent, which makes it difficult to protect consumers' health and fair trade.

The differences in processing and consuming habits leads to different classifications and quality requirements for quick frozen dumplings in this region. The regional standard for quick frozen dumplings standard should eliminate the quality problems of quick-frozen dumpling products, solve the safety concerns of consumers, and is expected to expand the trading opportunities of importing and exporting countries.

c) International or regional market potential

At present, the consuming population of quick frozen dumplings in the international market is expanding. Its output, export volume and international trade volume are increasing. Its consumption will show rapid growth in the near future.

From 2015 to 2018, the export volume of quick frozen dumplings increased by an average of 25% per year, and the products were exported to 17 countries such as Japan, the United States, Canada, France, Italy, Australia, Singapore and Germany (see Table 3).

With the quickening pace of modern life, the production of quick frozen dumplings has gradually changed from traditional manual production to a mechanized one. According to relevant investigations, quick frozen dumplings occupy a very important position in the quick frozen food industry at present, with its output accounting for about 30% of the quick frozen food, which is the largest category of quick frozen food production. About 65% of the total export volume of dumplings is exported to countries in this region.

Japan, Singapore, South Korea, Hong Kong, Macao, Taiwan and other countries and regions in the region, as well as the United States, Canada, Australia and some European countries outside the region all import quick frozen dumplings.

d) Amenability of the commodity to standardization

Regional standard for quick frozen dumplings will play a positive role in guiding the healthy development of the industry and improving the quality of quick frozen dumplings. CAC has not established relevant standards for this product at present. Although *Code of Practice for the Processing and Handling of Quick Frozen Foods* (CXC 8-1976) can provide guiding principles for major categories of quick frozen food, it is not targeted at specific product of quick frozen dumplings. Therefore it cannot regulate ingredients, key process requirements, quality indexes, processing and etc of this product.

The proposed regional standard for quick frozen dumplings will put forward specific requirements for raw materials of the products; ingredients; processing; quality index, such as chemical and physical indicators, filling proportion, packaging, and etc.; sampling and analysis methods; temperature and environment for product storage and transportation; labelling and other aspects. The use of additives and contaminant limits of the product should comply with the requirements of the existing CAC related documents.

e) Coverage of the main consumer protection and trade issues by existing or proposed general standards

The existing standard *Code of Practice for the Processing and Handling of Quick Frozen Foods* (CXC 8-1976) mainly covers the processing, quick frozen procedures and temperature requirements, but it does not include the ingredients, technology, indexes, additives, processing machinery and process, hygiene and quality requirements of quick frozen dumplings.

f) Number of commodities which would need separate standards indicating whether raw, semi-processed or processed

Currently there is no need of any other separate standard other than the proposed, since the proposed standard will cover both raw and processed products of quick frozen dumpling and the hygienic conditions of production.

g) Work already undertaken by other international organizations in this field and/or suggested by the relevant international intergovernmental body(ies)

None identified.

6. Relevance to the Codex strategic objectives

With regard to the Codex Strategic Plan 2020 – 2025, developing such a regional standard of quick frozen dumplings is closely associated to objective 1.1 Identify needs and emerging issues, and 1.2 Prioritize needs and emerging issues. As such the regional standard of Quick frozen dumplings will help to enhance food safety of Asian consumers and ensure fair international trade practice on this specific food product.

7. Information on the relation between the proposal and other existing Codex documents as well as other ongoing work

The proposed standard will take into account existing applicable Codex guideline documents such as:

- Code of Practice General Principles of Food Hygiene (CXC 1-1969),
- Code of Practice for the Processing and Handling of Quick Frozen Foods (CXC 8-1976),
- Code of Practice Concerning Source Directed Measures to Reduce Contamination of Food with Chemicals (CXC 49-2001),
- General Standard for the Labeling of Prepackaged Foods (CXS 1-1985),
- General Standard for Food Additives (CXS 192-1995),
- Recommended methods of Analysis and Sampling (CXS 234-1999).

8. Identification of any requirement for and availability of expert scientific advice

Currently there is no identified need for expert scientific advice.

9. Identification of any need for technical input to the standard from external bodies so that this can be planned for

Currently there is no identified need for technical input from external bodies.

10. The proposed time-line for completion of the new work

Subject to consideration by CCASIA21 in 2019, the proposal for standard development will be submitted for review and approval by CAC in 2020. As per proposed time schedule the process will take approximately five years.

| Procedures | Timeline |
|---|-----------|
| Consideration of the proposal by the 21 st CCASIA | 2019 |
| Critical review by Executive Committee and approval by CAC for new work | 2020 |
| Preparation of draft standard and circulation for comments | 2020-2021 |
| Consideration of draft standard by the 22 nd CCASIA | 2021 |
| Adoption by the CAC as draft standard | 2022 |
| Consideration of draft standard by the 23 rd CCASIA | 2023 |
| Adoption as regional standard by CAC | 2024 |

PROJECT DOCUMENT

Proposal for the Development of a Regional Standard for Cooked Rice Wrapped in Plant Leaves

The purposes and the scope of the standard

The regional standard for cooked rice wrapped in plant leaves aims to protect consumers' health, ensure the quality of this product and promote fair trade. In the whole regional trade, there is no regional or international standard for this product. Certain countries in the region have formulated standards for cooked rice wrapped in plant leaves, but the standards are not uniform. Establishing a cooked rice wrapped in plant leaves standard is beneficial to promoting regional and international trade.

1. Product definition

The product is made of glutinous or other rice as the main raw material with or without adding ingredients such as beans, nuts, meat, poultry and eggs and their products as the fillings, whose proportion is generally not more than 40% of the total weight of the product. It is completely wrapped and molded with *indocalamus* leaves, reed leaves, banana leaves, lotus leaves etc., tied with cotton threads, etc. and steamed and cooked to ensure the inherent flavour and texture of the product. After steaming and cooking, vacuum packaging or quick freezing or other methods are adopted to preserve the product at normal temperature or low temperature respectively.

Cooked rice wrapped in plant leaves is called *Zongzi* in China. The production process of *Zongzi* in China is shown in Figure 1.

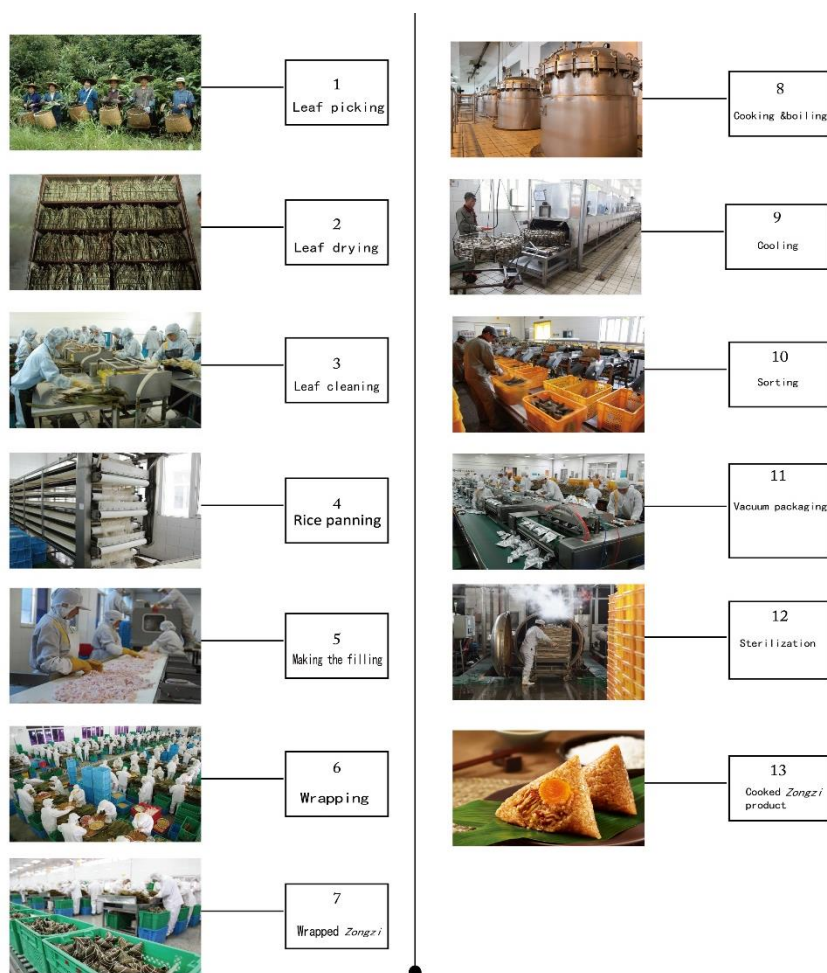






Figure 1 Production process of *Zongzi* in China

For different kinds of Chinese *Zongzi*, see Figure 2.



Figure 2 Different kinds of Chinese *Zongzi*

There are also many similar products in the international market, see Table 1.

| Example | Country of origin | Descriptions |
|---|-------------------|---|
|  | Japan | Non-glutinous rice is used as the main raw material or mixed with other ingredients. |
|  | Vietnam | Glutinous rice is used to wrap pork, peas, shrimps, etc., which can be eaten together with fish sauce after being steamed and cooked. |
|  | Philippines | Glutinous rice is used as the main raw material stuffed with other ingredients. |
|  | Thailand | Ba- Jang is made of glutinous rice and other ingredients, such as mushroom, nut, meat and egg, for example, then it is completely wrapped and molded with leaves etc., After being tied, it is steamed. |
|  | Thailand | Khao Tom Mat is made of glutinous rice and other ingredients, such as coconut milk, bean, banana and taro, for example, then it is completely wrapped and molded with banana leaves. After being tied, it is steamed. |




| | | |
|---|-----------|---|
|  | Malaysia | It is made of glutinous rice and coconut milk, and wrapped in banana leaves. |
|  | Indonesia | Products made from steamed white sticky rice are then formed flat, filled with finely sliced chicken meat, and wrapped in banana leaves or other. Can be served directly, roasted or steamed again. |
|  | Indonesia | Rice-based cakes with coconut milk, salt with or without other ingredients, put in bamboo covered with young banana leaves and baked. |

Table 1 Similar products in the international market

2. Its relevance and timeliness

Relevant data show that the trade volume of this product is growing year by year, and the output is also increasing. Due to the adoption of advanced production technology in cooked rice wrapped in plant leaves production, the production volume is also witnessing a fast increase, which creates broad market potentials. However, since there is no regional standard among trading countries, various obstacles arise in regional trade of this product.

The establishment of a commodity standard will bring convenience to international trade. It is expected that this product will have greater consumption demand and trade potential in the international market in the future.

3. The main aspects to be covered

The standard for cooked rice wrapped in plant leaves will be drafted according to the Format of Codex Commodity Standards. The standard will cover the following aspects:

- Scope;
- Description;
- Essential composition and quality factors;
- Food additives;
- Contaminants;
- Hygiene;
- Weights and Measures;
- Labelling;
- Methods of Analysis and Sampling.

4. An assessment against the *Criteria for the establishment of work priorities*

General criterion

The proposed standard should protect consumers from the point of view of health, food safety, ensure fair practices in the food trade and take into consideration the identified needs of the developing countries.

The new standard aims to address the following aspects to meet the above requirements:

- Protect consumers and preventing fraud;

- Improve the quality of products, and address the food safety concerns of consumers;
- Resolve trading barriers.

Criterion applicable to commodities

h) Volume of production and consumption in China and volume and pattern of trade between countries

- In 2018, China's production volume of *Zongzi* was 502,170 tonnes.
- China is the world's leading exporter of *Zongzi*. At present, there are more than 180 registered export enterprises for *Zongzi* in China. In recent years, Chinese *Zongzi* is exported from China to more than 20 countries and regions, such as America, Canada, Australia, New Zealand, Japan, Saudi Arabia, Korea, Thailand, Hong Kong, Macao etc. According to the estimation of relevant industry associations in China, the total sales from 2016 to 2018 reached 36.4 million, 39.04 million and 42.31 million US dollars respectively.
- China is also an importer of cooked rice wrapped in plant leaves, the main import sources of which include Japan, South Korea, Malaysia, Australia, Italy, Thailand, Netherland, Denmark etc. In 2018, the total import volume amounted to 257 tonnes with the total sales of 2.79 million US dollars (see Table 3).
- In the international market, the trade value of cooked rice wrapped in plant leaves is 110 million US dollars per year, which is expected to grow rapidly along with increasing production capacity. China, Japan and South Korea are the major producers and exporters of cooked rice wrapped in plant leaves.
- Trade amount of cooked rice wrapped in plant leaves increases at a rate of 10% each year. China, Southeast Asian countries, North America and European countries are also the major consumer markets.

Table 2 Export data of *Zongzi* from China to some countries/regions in 2018

Volume: kilograms, Value: US dollars

| Country / Region | Export volume | Export value |
|------------------|---------------|--------------|
| America | 1,267,356 | 10,138,848 |
| Saudi Arabia | 262,021 | 2,358,189 |
| South Korea | 364,400 | 3,279,600 |
| Japan | 380,742 | 2,958,678 |
| Canada | 83,658 | 752,922 |
| Singapore | 90,145 | 631,015 |
| Australia | 85,665 | 959,448 |
| Thailand | 28,068 | 224,500 |
| Other regions | 2,618,485 | 21,016,280 |
| Total | 5,180,540 | 42,319,480 |

Source: estimated by relevant industrial associations in China.

Table 3 Import data of cooked rice wrapped in plant leaves from some countries/regions to China in 2018

Volume: kilograms, Value: US dollars

| Country / Region | Import volume | Import value |
|------------------|---------------|--------------|
| Malaysia | 56,000 | 616,000 |
| South Korea | 53,208 | 585,288 |
| Chile | 2,877 | 34,524 |
| Australia | 17,014 | 187,159 |
| Japan | 20,138 | 181,242 |
| Thailand | 20,334 | 223,674 |
| Canada | 10,483 | 115,318 |

| Country / Region | Import volume | Import value |
|------------------|---------------|--------------|
| Other regions | 77,451 | 851,961 |
| Total | 257,505 | 2,795,166 |

Source: estimated by relevant industrial associations in China.

i) Diversification of national legislations and apparent resultant or potential impediments to international trade

Countries in the region have different classifications for cooked rice wrapped in plant leaves products. The applicable standards or regulations for cooked rice wrapped in plant leaves are quite different. For example, there are different requirements on indocalamus leaves, reed leaves etc. to wrap, additives as well as sterilization and vacuum packaging measures for this product.

The lack of regional standard for cooked rice wrapped in plant leaves commodity hinders regional fair trade, so the formulation of this standard should ensure the improvement of product quality, ensure consumer health, address food safety concerns and reduce trade frictions.

j) International or regional market potential

According to the statistics, the demand for cooked rice wrapped in plant leaves has been increasing in recent years and is expected to continue to grow steadily in the future. From 2015 to 2018, the total sales of international trade of cooked rice wrapped in plant leaves reached 71.93 million, 79.07 million, 107.07 million and 117.78 million US dollars respectively, representing an annual increase of approximately 10 percent.

The international trade data of cooked rice wrapped in plant leaves show that the global demand for this product is growing rapidly. With the support of the advancement of science and technology and international logistics, more and more traditional food with distinctive characteristics of various countries are circulating in the international market. Thus, cross-regional purchases have become much easier. This product can be used as daily consumer goods due to its characteristics of easy storage, satiety, low price and delicious taste, and its consumer population and consumption will continue to increase.

k) Amenability of the commodity to standardization

China has already formulated a national standard for this product more than ten years ago. The implementation of the standard plays a positive role in guiding the healthy development of the industry and improving the quality of this product. It can be seen that the standardization of this product is feasible.

CAC has not formulated relevant standards for this product at present. Although the Code of Practice for the Processing and Handling of Quick Frozen Foods (CXC 8-1976) can provide guiding principles for major categories of frozen food, it is not targeted at specific product.

The proposed standard will put forward specific requirements for raw materials, such as glutinous rice and plant leaves; ingredients of the product and types of ingredients; product processing technology, such as cooking temperature, time and pressure; processing process management; quality indexes (moisture, fat, protein, stuffing content, etc.); sampling and analysis methods; temperature and environment of product storage and transportation; product labelling and etc. The use of additives and the limit contaminants in this product should comply with the requirements of existing CAC related documents.

l) Coverage of the main consumer protection and trade issues by existing or proposed general standards

There are no existing standards specifically covering cooked rice wrapped in plant leaves.

m) Number of commodities which would need separate standards indicating whether raw, semi-processed or processed

Currently there is no need of any other separate standard other than the proposed, since the proposed standard will cover both raw and processed products and the hygienic conditions of production.

n) Work already undertaken by other international organizations in this field and/or suggested by the relevant international intergovernmental body(ies)

None identified.

5. Relevance to the Codex strategic objectives

With regard to the Codex Strategic Plan 2020 – 2025, developing such a regional standard for cooked rice

wrapped in plant leaves is closely associated to the objective 1.1 Identify needs and emerging issues, and 1.2 Prioritize needs and emerging issues. As the regional standard of cooked rice wrapped in plant leaves will help to enhance food safety of Asian consumers and ensure fair international trade practice on this specific food product.

6. Information on the relation between the proposal and other existing Codex documents as well as other ongoing work

The proposed standard will take into account existing applicable Codex guideline documents such as:

- *Code of Practice General Principles of Food Hygiene (CXC 1-1969),*
- *Code of Practice for the Processing and Handling of Quick Frozen Foods (CXC 8-1976),*
- *Code of Practice Concerning Source Directed Measures to Reduce Contamination of Food with Chemicals (CXC 49-2001),*
- *General Standard for the Labeling of Prepackaged Foods (CXS 1-1985),*
- *General Standard for Food Additives (CXS 192-1995),*
- *Recommended methods of Analysis and Sampling (CXS 234-1999).*

7. Identification of any requirement for and availability of expert scientific advice

Currently there is no identified need for expert scientific advice.

8. Identification of any need for technical input to the standard from external bodies so that this can be planned for

Currently there is no identified need for technical input from external bodies.

9. The proposed time-line for completion of the new work

Subject to consideration by CCASIA21 in 2019, the proposal for standard development will be submitted for review and approval by CAC in 2020. As per proposed time schedule the process will take approximately five years.

| Procedures | Timeline |
|---|-----------|
| Consideration of the proposal by the 21 st CCASIA | 2019 |
| Critical review by Executive Committee and approval by CAC for new work | 2020 |
| Preparation of draft standard and circulation for comments | 2020-2021 |
| Consideration of draft standard by the 22 nd CCASIA | 2021 |
| Adoption by the CAC as draft standard | 2022 |
| Consideration of draft standard by the 23 rd CCASIA | 2023 |
| Adoption as regional standard by CAC | 2024 |

PROJECT DOCUMENT

Guidelines for the Safe Use and Reuse of Water in Food Production

1. The purposes and scope of the Standard

The purpose and scope of this document is to elaborate Guidelines for the safe sourcing, use and reuse of water in direct and indirect contact with food across the food chain (primary production and processing) by applying the principle of fit-for-purpose using a risk-based approach.

2. Its relevance and timeliness

In a food business operation, water can be used as an ingredient, to wash food or clean food at contact surfaces, and in many other applications where there is potential for contact between the water and the food. In addition, there are many other applications where there is no intended or expected contact of the water with food (e.g. in personal water use applications and fire control). In all situations, water use should be part of an operation's prerequisite hygiene and HACCP systems.

The requirements for water quality use along the food chain must be considered in context, taking into account the purpose of the water use, hazards that may be present in the water and the need to be controlled to minimize the potential for contamination of food, when used as intended.

Water can be a vector to transmit pathogens or other contaminants from a single food product specimen to a large number of products, thus increasing the number of people exposed and its potential health impact. Therefore, the safest option in food production might be the use of water of potable or drinking water quality. However, this is often not a sustainable, feasible, practical or responsible solution and other types of water could be fit for some purposes or can be made fit for use, provided its intended use does not compromise the safety of the food for the consumer.

The Codex Committee on Food Hygiene (CCFH) has discussed the issue of water since its 30th session (ALINORM 99/13)¹ where a working paper with guidelines for the hygienic recycling of processing water in food plants was circulated to members. Although a proposed draft Guidelines were elaborated for comment at Step 3, CCFH36 (ALINORM 04/27/13)² agreed to discontinue this work due to the heavy workload in the agenda of the Committee at that time. The issue was again discussed at CCFH46 (REP15/FH)³, as an important topic on the Revision of the General Principles of Food Hygiene (CXC 1-1969) and its HACCP annex. CCFH47 then agreed that water was an important issue to be addressed (REP16/FH)⁴ and therefore requested the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO), to provide scientific advice to help clarify the use of clean, potable and other types of water in the General Principles of Food Hygiene and other hygiene texts.

The Joint FAO/WHO Expert Meeting on the Safety and Quality of Water Used in Food Production and Processing took place in May 2018. At CCFH 48 (REP17/FH)⁵, the representative of FAO reported the preliminary findings of the meeting, highlighting that the use of water is diverse and complex and that "fit-for-purpose" water should be determined by a risk-based approach.

There is a need in Codex documents for a risk-based approach to safe water and reuse. Rather than focusing of the use of potable water or other quality types (e.g. clean water), a risk-based approach and assessment of the fitness of the water for the purpose intended should be articulated.

¹ Report of the 30th Session of the CCFH available: http://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FMeetings%252FCX-712-30%252Fal99_13e.pdf

² Report of the 36th Session of the CCFH available: http://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FMeetings%252FCX-712-36%252Fal04_13e.pdf

³ Report of the 46th Session of the CCFH available: http://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FMeetings%252FCX-712-46%252FREP15_FHe.pdf

⁴ Report of the 47th Session of the CCFH available: http://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FMeetings%252FCX-712-47%252FReport%252FREP16_FHe.pdf

⁵ Report of the 48th Session of the CCFH available: http://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FMeetings%252FCX-712-48%252FReport%252FFinal%252FREP17_FHe.pdf

Risk management plans addressing food safety and water use or reuse have to consider many factors in their development and implementation. Water reuse is considered a priority as this is becoming an emerging issue in industry due to increasing requirements for and costs of water discharge and the acceptability of the products produced for global trade.

Although current Codex documents provide guidance on the safe use of water, there is a need to develop practical guidance and tools to help Food Business Operators (FBOs) understand the risks and potential interventions that are available as well as identifying other overarching issues that are required for defining fit-for-purpose water.

3. The main aspects to be covered

The projected format will follow the *General Principles of Food Hygiene* (CXC 1-1969). The proposed structure is as follows:

- General guidance document on key elements, including guidance for determining appropriate and fit-for-purpose microbiological criteria for pathogens (bacteria, viruses, parasites) and definitions, relevant for safe water sourcing, use and reuse as part of a food safety management program in food production;
- Annex 1: Risk-based sector-specific potential intervention strategies for water sourcing, use and reuse in the food chain (e.g. from primary production to retail), examples and/or practical case studies for determining appropriate and fit-for-purpose microbiological criteria (bacteria, viruses, parasites) and examples of the decision support system (DSS) tools such as decision trees (DT) to determine the water quality needed for the specific intended purpose in fresh produce;
- Annex 2: Risk based sector-specific potential intervention strategies for water sourcing, use and reuse in the food chain (e.g. primary production to retail), examples and/or practical case studies for determining appropriate and fit for purpose microbiological criteria (bacteria, viruses, parasites) and examples of the decision support system (DSS) tools such as decision trees (DT) to determine the water quality needed for the specific intended purpose in the fishery sector;
- Annex 3: Risk based sector-specific potential intervention strategies for water sourcing, use and reuse in the food chain (e.g. harvesting to manufacturing and processing), examples and/or practical case studies for determining appropriate and fit for purpose microbiological criteria (bacteria, viruses, parasites) and examples of the decision support system (DSS) tools such as decision trees (DT) to determine the water quality needed for the specific intended purpose in the dairy sector.

4. An assessment against the *Criteria for establishment of work priorities*

The Guidelines need to be developed in order to meet the general criterion: Consumer protection from the point of view of health, food safety, ensuring fair practices in the food trade and taking into account the identified needs of developing countries.

The proposed work is directed primarily at establishing Guidelines for safe use and reuse of water in direct or indirect contact with food across the food chain including its sourcing, by applying the principle of 'fit-for-purpose' under a risk-based approach.

The proposed work directly relates to several Codex strategic goals from the Codex Strategic Plan: 2020-2025.

- Strategic Goal 1: Address current, emerging and critical issues in a timely manner
These Guidelines would establish a new Codex standard in response to needs identified by Members and in response to current factors that affect food safety and fair practices in the food trade. It will provide practical guidance on fit-for-purpose approach based on risk analysis for sourcing, use and reuse of water in the food chain.
- Strategic Goal 2: Develop standards based on science and Codex risk analysis principles
The development of the Guidelines will be consistent with the use of scientific advice and risk analysis principles in the articulation of the control measures. Scientific advice from the FAO/WHO expert bodies, particularly the Joint FAO/WHO Expert Meetings on Microbiological Risk Assessment (JEMRA), and scientific input from all countries will be solicited.

5. Information on the relation between the proposal and other existing Codex documents

The proposed Guidelines will follow the example of the overarching Codex *General Principles of Food Hygiene* (CXC 1-1969), *Code of Hygienic Practice for Fresh Fruits and Vegetables* (CXC 53-2003) and *Code of Practice for Fish and Fishery Products* (CXC 52-2003), *Code of Hygienic Practice for Milk and Milk Products* (CXC 57-2004) all of which provide current guidance on the safety requirements for use of water when handling food,

particularly on the use of potable water or clean water for agriculture, food handling and processing, water reuse and for the elaboration of ice. It is expected that reference to the proposed guidelines will also be made in the aforementioned texts.

6. Identification of any requirement for and availability of expert scientific advice

There may be a need for additional scientific advice from FAO/WHO's expert body JEMRA to establish the general guidance for determining appropriate and fit-for-purpose microbiological criteria (bacteria, viruses, parasites) in water sourcing, use and reuse on food production.

JEMRA's advice would also be needed for the three prioritized sectors:

- Sector-specific examples and case studies for determining appropriate and fit-for-purpose microbiological criteria (bacteria, viruses, parasites) in water sourcing, use and reuse in fresh produce from primary production to retail.
- Sector-specific examples and case studies for determining appropriate and fit-for-purpose microbiological criteria (bacteria, viruses, parasites) in water sourcing, use and reuse in fish and fishery products (e.g. crustaceans, molluscs and cephalopods) from primary production to retail.
- Sector-specific examples and case studies for determining appropriate and fit-for-purpose microbiological criteria (bacteria, viruses, parasites) in water sourcing, use and reuse in dairy sector from harvest to manufacturing and processing.

Finally, the Committee may choose to ask JEMRA to provide practical guidance and revise the examples when using the decision tools described in the review.

7. Identification of any need for technical input to the standard from external bodies so that this can be planned for

None identified so far.

8. The proposed time-line for completion of the new work, including the start date, the proposed date for adoption at Step 5, and the proposed date for adoption by the Commission

A five-year timeline is proposed for the completion of the Guidelines with adoption at Step 5 by CAC45 in 2022 and final adoption in 2023 by CAC46 as regards the main document and Annexes 1 and 2, and with adoption at Step 5 by CAC46 in 2023 and final adoption in 2024 by CAC47 as regards the Annex 3.