CODEX ALIMENTARIUS COMMISSION

Food and Agriculture Organization of the United Nations

World Health Organization

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Agenda Item 6 **CRD10**

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON FOOD HYGIENE

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Guidelines for the Safe Use and Reuse of Water in Food Production and Processing (Annex II on Fishery Products at Step 4 and Annex III on Dairy Products at Step 4)

Comments of Argentina, European Union, Malaysia, Republic of Korea, Singapore and Thailand

Argentina

Argentina agradece al Grupo de Trabajo Electrónico presidido por Unión Europea (UE) y copresidido por Chile y la Federación Internacional de Lechería el trabajo realizado y la oportunidad de realizar comentarios.

Comentarios:

Recomendaciones:

17.ii. Realizar contribuciones sobre los siguientes aspectos concretos:

a) si está de acuerdo con el nuevo Anexo IV propuesto y considera adecuado mantenerlo;

b) si se mantiene el Anexo IV propuesto;

- si se considera adecuado realizar una revisión limitada de la Sección general con el fin de introducir una referencia a este nuevo Anexo IV, y
- si se considera adecuado realizar una revisión limitada del Anexo I sobre productos frescos con el fin de introducir una referencia a este nuevo Anexo IV e indicar qué tecnologías son las más pertinentes para el Anexo I.

Comentarios generales

a) Argentina acuerda mantener el Anexo IV

b) Argentina acepta considerar una revisión restringida de la Sección General y del Anexo I sobre Productos Frescos con el fin de introducir una referencia cruzada al nuevo Anexo IV.

Comentarios específicos

Se proponen los siguientes cambios en el Anexo IV, atento a que son de aplicación general para todos los anexos del documento:

Anexo IV: Tecnologías de recuperación y tratamiento del agua para su reutilización

Tecnologías

1. Se han desarrollado varias tecnologías para recuperar o tratar el agua de las plantas **de producción o transformación de alimentos** ~~lecheras~~ para su reutilización. El reacondicionamiento puede utilizar tratamientos o una combinación de tratamientos como la filtración por membrana, el tratamiento UV o los tratamientos microbicidas (por ejemplo, cloración u ozonificación). Este tratamiento de reacondicionamiento se debería validar teniendo en cuenta la fuente del agua reutilizada y el uso final previsto del agua para garantizar su idoneidad. Se deberían vigilar determinados parámetros de los

tratamientos para asegurar su eficacia. Los biocidas utilizados para los tratamientos de reacondicionamiento pueden estar sujetos a la aprobación de la autoridad competente.

Tecnologías de purificación

5. En las plantas de fabricación de alimentos ~~de productos lácteos~~ se pueden aplicar diversos métodos de purificación por membrana, como la ósmosis inversa (OI), la nanofiltración (NF), la ultrafiltración (UF) y la microfiltración (MF). En la Figura 1 se ilustran sus diferencias en cuanto a su rendimiento en la purificación del agua.

15. El cloro, el dióxido de cloro, el ozono y el ácido peracético ~~son los productos químicos más utilizados para el tratamiento microbicida del agua en las plantas lecheras.~~ **son productos químicos ampliamente utilizados para el tratamiento microbicida del agua en las plantas de producción de alimentos**. Se deberían utilizar de acuerdo con las instrucciones de la etiqueta y pueden estar sujetos a los requisitos establecidos por las autoridades competentes. Se deberían tener en cuenta las siguientes consideraciones:

- Se sabe que el agua reutilizada procedente de operaciones de elaboración de productos alimenticios ~~lácteos~~ contiene microorganismos que pueden formar biopelículas en superficies de acero inoxidable, así como bacterias patógenas, incluidas cepas patógenas de *Escherichia coli*. Por lo tanto, es importante que el agua reutilizada tenga un tratamiento de desinfección adecuado que permita alcanzar los valores de referencia para la comprobación de que la calidad microbiana es adecuada para la finalidad prevista.

European Union

In response to the request for comments, the European Union and its Member States (EUMS) would like to make the following comments.

I. General Comments

The EUMS would like to thank and congratulate European Union, Chile and the International Dairy Federation (IDF) with the progress made on the drafting of the Guidelines for the Safe Use and Reuse of Water in Food Production (Annex II on Fish and Fishery Products and Annex III on Milk and Milk Products). The EUMS generally support the draft, subject to the considerations of the comments made below and the outcome of the discussions at CCFH54.

In reply to the specific recommendation made by the electronic working group, the EUMS:

- prefer to maintain and possibly further develop an Annex IV on technologies;
- support a restricted revision of the General Section with the purpose to introduce a cross-reference to this new Annex IV and of the Annex I on Fresh Produce with the purpose to introduce a cross-reference to this new Annex IV and to make specific recommendations on technologies, relevant for Annex I.

II. Comments on Annex II

- General comment: the EUMS suggest adding a specific part on molluscs, gastropods and echinoderms, with an example of decision tree. Rationale: all examples are on fish; it would be useful to give one example on shellfish.
- General comment: the EUMS suggest including specific control parameters, and their reference values, necessary to determine the suitability of these types of water for use in fish markets, shipping centres, etc. Rationale: To avoid uncertainty and disparity of criteria.
- General comment: the EUMS propose to have practical examples on the characterization of the quality of the water from the alternative source. Rationale: to facilitate decision to determine the suitability of these types of water for use in fish markets, shipping centers, etc.
- General comment: Figures 1, 3 and 4: the EUMS consider that the figures still need some work to clarify. The colours used seem to be for a reason but the reason isn't clear, so a key might be necessary. Decision trees should not combine answers to questions e.g. yes to 2,3,4 each answer should lead to either a single following question or a decision.
- Para 5: the EUMS propose the following changes: "Water has multiple applications in the fisheries and aquaculture sectors, and water quality could impact the safety of the final product. This annex provides guidance on ensuring **that the** quality of water in contact with fishery products which is used and reused in aquaculture and ~~in~~ **during processing on** vessels and fish and fishery products processing facilities on land **is fit for purpose**.". Rationale: Clarity of the language.

- Title: The EUMS suggest reviewing the title in to simply Fishery Products". Rationale: "fish" is defined in CXC 52-2003 and "fishery products" is included in the draft (Paragraph 11). The definition includes "any species of fish", so including fish. Another option is to change the definition in Paragraph 11 as follows: "**Fish and** fishery products: Any species of fish, including crustaceans, molluscs (including live bivalve molluscs), marine gastropods, echinoderm, tunicates, or part of them intended for human consumption." The adopted rewording should be applied throughout the document.
- Para 8: "The purpose and scope of this annex is to provide recommendations for the microbiologically safe sourcing, use and reuse of water in production and processing of fish and fishery products for human consumption by applying the principle of 'fit for purpose' risk-based approach." Only microbiologically safety is mentioned here. The EUMS wonder if marine biotoxins are included. This should be clarified.
- Para 10: the EUMS propose to delete this paragraph referring to definitions in the general part. Rationale: consistency with Annexes I and III.
- Para 11: The EUMS suggest modifying the definition of "processing facilities" as follows: "Processing facilities: A facility **(vessel or on land establishment**) where harvested fish and fishery products are **depurated**, processed, graded, and packed for further transportation and consumption. Rationale: Depuration is a process particular to the safe production of live bivalve molluscs and should be identified accordingly. There are activities that could be carried out in vessels too. There is a definition of facility in CXC 52-2003: "any premises where fish or fishery products are prepared, processed, chilled, frozen, packaged or stored. For the purposes of this Code, premises also include vessels.". The definition could also be amended based on that definition. Finally, the EUMS propose to clarify what is included in "processing".
- Heading 5: the EU MS propose to modify the title as follows: "USE OF WATER IN AQUACULTURE PRODUCTION SITES (REARING), ~~HARVESTING~~ AND ON-BOARD PRESERVATION." Rationale: the paragraph considers mainly two activities: the aquaculture sites, and the water to be used there and the on-board preservation. No reference is made to harvesting. It could be considered to split this section between aquaculture production (paragraphs 12-13) and On-board preservation (paragraphs 14 to 16). Rationale: clearly separate the two activities.
- Para 13 (third bullet point): the EUMS propose to the following change: "Elaboration and implementation of fit-for-purpose assessment considering the specific waterborne hazards (e.g. marine microbiological **and biotoxin** contaminants) that may impact the safety and quality of the fishery product(s). In case of **fish** catchment ~~of fish~~, seasonal and climatic factors affecting source water quality in the immediate area should be included". Rationale: Biotoxin hazards should be identified separately as a source of contamination that will not be addressed by only considering microbiological hazards as they result from the consumption of toxic marine phytoplankton which will not be addressed by pathogenic checks + editorial.
- Paragraph 14: the EUMS find this paragraph descriptive and not containing any recommendation on the use or reuse of water. The EUMS therefore wonder if this paragraph is needed.
- Para 15: The EUMS propose the following changes: "If seawater is used on fishing vessels, it must only be taken from offshore areas that are some distance away from pollution sources to ensure that the water is of suitable quality. There should be no cross-contamination between the point at which seawater is taken from offshore sources and **bilge water**, wastewater streams and engine coolant outlets **or other objectionable substances** on a fishing vessel". Rationale: to clarify and enlarge the prohibitions in order to be sure about the quality of seawater.
- Para 16 first bullet point: "When seawater or refrigerated seawater is used for on board product preservation, the potential hazards (e.g. faecal pollution or contamination with endogenous marine flora) conveyed via the water should be considered in the further processing steps". The EUMS consider that the paragraph should be deleted. Rationale: contradiction with point 15.
- Para 16 second bullet point: the sentence should be deleted and substituted with: "Seawater should be clean and free from particulate material, marine biotoxins and of suitable salinity". Rationale: The second bullet section is poorly worded and requires reworking and should be clearer.
- Para 16 (third bullet point): the EUMS propose to delete the last part of the sentence "and don´t add contamination to the fish or fishery product". Rationale: actually obvious, so can be omitted.
- Heading 6: the EUMS propose to amend as follows: "FISHERY PRODUCTS PROCESSING ~~PLANT~~ **FACILITIES**". Rationale: consistency with the definition.
- Para 17: The EUMS propose the following change: "Water is used in ~~fishery products~~ **processing** facilities for a variety of applications, including, washing fishery products, cleaning process areas,

cooling, and other processing purposes such as **depurating**, brining, cooking and glazing. The characteristics of the process activity (e.g., direct contact with food) and the intended use of the fishery product (e.g., raw consumption or not) should be considered for the quality of water used. Water used as ingredient or water that comes into direct contact with fishery products or food contact surfaces should be of potable quality." Rationale: Clarity and consistency of language to align with the definitions. Depuration should be identified as a process.

- Para 18: The EUMS propose to replace twice "non-potable water" by "clean water". Rationale: "Non-potable water" is too broad while the use of clean water is in line with the definition of this wording.
- Para 20 first bullet point: the EUMS suggest the following changes: "for ~~purification,~~ depuration, conditioning[5] or reimmersion, in the case of live bivalve molluscs." Rationale: no clear difference between purification and depuration. Depuration is the term used in the Code of practice for fish and fishery products for live bivalve molluscs, the EUMS suggest keeping only the term depuration.
- Para 23 and 24: "Processing plants" should be replaced by "Processing facilities". Rationale: consistency with definition and rest of the Annex II.
- Para 24: the EUMS propose the following changes: "Coastal **water** sources, ~~used for abstraction of sea water in land-based processing plants~~, **are not** ~~cannot be~~ guaranteed to be free from pathogens, ~~from the~~ marine biota or ~~from~~ faecal contamination, and ~~cannot~~ must be classified as fit-for-purpose ~~sources without the~~ through appropriate monitoring and control measures. Seawater from offshore sources (geographically away from ~~inland~~ estuarine or inland pollution) is generally considered safe. However, depending on the geographical region and temperature, seawater can hold indigenous potentially pathogenic bacteria, such as Vibrio spp., that may require control.". Rationale: clarity
- Section 7 and para 25: the EUMS consider it appropriate to move the whole paragraph 25 to the (current) section 10.1. Consequently, the Section 7 would disappear. Rationale: better to put all recommendations on chemical treatment together.
- Para 26: the EUMS propose to amend as follows "~~Treated wastewater or~~ Water **recycled from fishery production and processing or** originating from agricultural activities (e.g. hydroponics) may be reused, as long as the microbiological quality of the wastewater is safe and thorough controlled". Rationale: Not only treated wastewater can be reused.
- Para 27: The EUMS propose the following change: "Water reuse can be made more efficient by targeting the water quality requirements to specific processes. Matching water quality requirements with the type of water use requires ~~an analysis of the critical control points (CCPs) and~~ an evaluation of the potential for contamination of the food products **by a risk assessment**. Reuse of water in the processing facility should be integrated into **existing good hygiene practices (GHP)/**HACCP programs alongside the development of frameworks for water reuse in food/production and processing." Rationale: Correct terminology. The application of HACCP principles to primary production is not yet generally feasible, GHP should be added.
- Paragraph 30: the EUMS are wondering if this paragraph is needed. It could be a footnote to the third bullet point of paragraph 29. Rationale: simplification of reading;
- Para 31: the MS consider it appropriate to move the first sentence to Section 10. Rationale: This is a risk management recommendation, which fits better in water safety management section 10 than in the section 9 on fit for purpose assessment.
- Para 32: The EUMS propose the following changes:" ~~The possible~~ CCPs should aim at controlling (e.g., freezing as control measures for parasites) ~~of~~ the **most significant** pathogens ~~most significant~~ for ~~the~~ fish production. These pathogens should be identified by a case-by-case assessment (e.g., based on epidemiological data). In **the** case of marine or estuarine fish, *Vibrio parahaemolyticus* (Vp) is often of most concern but this ~~highly~~ depends on the **geographical** origin/area where the seawater is collected. In case of freshwater **and estuarine** aquaculture, faecal (enteric) pathogens ~~mostly represent~~ **is** the primary public health risks". Rationale: Clarity. Estuarine waters can also be heavily impacted by faecal pathogens and therefore this should be highlighted as a particular risk factor to be considered in any health assessment.
- **Example of DT to quantify ~~magnitude~~ the risk of faecal pathogens in freshwater aquaculture (Adapted from Figure 4 of MRA33) In the DT no reference to molluscs is made.** Rationale: The word "magnitude" is a noun.
- Para 37: The EUMS suggest modifying the sentence as follows: "Similar to freshwater aquaculture, when one or several risk factors have been identified by this DT, the possible presence of faecal pathogens should be considered **a risk that should be controlled by a CCP**, ~~until control measures have been introduced and validated.~~ Detailed information on the possible control measures at the

descaling and degutting step can be found in Section 6 of the Codex Code of Practice for fish and fishery products or in national guides. The use of potable water at this step should also be applied for contact surfaces (knives, cutting boards). Keeping the fish at a low temperature (e.g. 4°C) is one of the most important measures related to fish preservation and microbial pathogen die-off after death. Seawater pathogens (e.g. Vp) may need to be considered when cross-contamination can occur at this stage between freshwater and seawater products." Rationale: Correct terminology for risk and CCP + CCPs are already validated control measures regardless of the existence of other validated control measures.

- Para 38: the EUMS suggest the following change: "In case of on-board handling and processing of marine or estuarine fish, the DT in Figure 3 can be used to ~~magnitude~~ **quantify** hazardous events (e.g. unacceptable presence of Vp) due to the use of seawater." Rationale: **"**magnitude" is not a verb.
- Para 39: The EUMS suggest modifying the sentence as follows: "The ~~magnitude~~ **risk** of hazardous event depends on the on-board activities such as degutting, cavity-washing and the storage conditions. Keeping the fish on-board at a low temperature (e.g. 4°C) is again one of the most important measures. When one or several risk factors have been identified by the DT, the possible presence of pathogens such as Vp should be considered ~~as a CCP~~ **a risk that should be controlled at a CCP** until the handling and processing have been reviewed to control the risk and this revision has been validated. The risk can be further reduced if seawater can be used from areas that are known to be less contaminated or when the possibility exists to use potable water on-board." Rationale: Correct terminology for risk and CCP.
- Para 41:The EUMS suggest to modify the sentence as follows: "Similar to handling and processing of freshwater fish, when one or several risk factors have been identified by this DT, the possible presence of pathogens such as Vp should be considered ~~as a CCP~~ **a risk that should be controlled at a CCP** ~~until control measures have been introduced and validated~~ during on-shore handling and processing. Risk factors and control measures are similar as for post-harvest handling and processing of freshwater fish." Rationale: Correct terminology for risk and CCP + CCPs are already validated control measures regardless of the existence of other validated control measures.
- **Figure 3: Example of DT to ~~magnitude~~ quantify the risk of pathogens such as Vp, in on-board marine or estuarine handling and processing of fish *(Adapted from Figure 6 of MRA33).*** Rationale: The word magnitude is a noun.
- Para 47: the EUMS propose to include the following note after the word chlorine dioxide, "Attention must be paid to the possible formation of potentially toxic compounds such as chloramines when adding chlorine to seawater". Rational: To be consistent with the Code of Practice for Fish and Fishery Products.
- Paragraph 47: the EUMS consider that the last sentence could be removed. When CCFH agrees on including in the guidance an Annex IV on technologies, it could be replaced by a sentence such as: "**Detailed recommendations on technologies to reuse water can be found in Annex IV**."
- Para 55: the EU MS suggest deleting the first part of the paragraph. Rationale: redundant and out of the scope. Only the sentence "The selection of parameters should be prioritized according to the outcomes of a fit for purpose assessment of the water system and its historical data" should be maintained.

III. Specific comments on Annex III

Overall:

- Para 2 and 19: "Dairy products" should be replaced by "Milk products". Rationale: consistency with the rest of the draft Annex III;
- From para 23 on: The headings **"WATER INTENDED FOR REUSE", "TECHNOLOGIES FOR RECOVERY AND TREATMENT OF WATER FOR REUSE", "WATER REUSE FIT-FOR-PURPOSE ASSESSMENT", "WATER SAFETY MANAGEMENT"** and "**EXAMPLES OF FIT-FOR-PURPOSE REUSE WATER APPLICATIONS**" should not be in bold. Rationale: they are subheadings of "**DAIRY MANUFACTURING PLANT**" and should be differentiated from that heading.

Specific:

- Para 5, second sentence: The EUMS propose the following change:
    - "… to provide for practical and applicable **use and** reuse of water in the dairy sector." Rationale: the guidance contains also recommendations on the use of water in general.
    - Delete "since this provides a significant opportunity to limit the need for external water sources3. Rationale: it is already mentioned in para. 3.
- Definitions: the EUMS suggest to organize the filtration process as follows, to mention them in the order of increasing effect: Permeate: the fluid derived from milk or other milk products obtained after removing milk constituents by membrane filtration **(Micro-filtration (MF),** Ultra-filtration (UF), **Nano-Filtration (NF),** ~~Micro-filtration (MF),~~ Reverse Osmosis (RO) **and/or** Reverse Osmosis & Polishing (ROP)~~, Nano-Filtration (NF))~~ (from MRA40). Rational: editorial + several techniques might be used consequently.
- Para 13, first sentence: The EUMS propose the following change: "New water sources used for rinsing, cleaning and disinfecting the product contact surfaces of **milking** ~~processing~~ equipment, tanks, vessels and facilities …" Rationale: At primary production, processing normally does not take place + consistency with the rest of the text on primary production.
- Para 17: The EUMS propose the following change: "Differentiation should be made between ~~for food-contact applications of water with direct or indirect contact with food materials~~ **water that is used in food or on surfaces that come into contact with food** (e.g. ingredient water, water used to wash, clean, or disinfect food contact surfaces) **and water that will not come into contact with food, either directly or indirectly** ~~and non-food contact applications of water~~ (e.g. technical steam, boiler feed, water needed to extinguish fires, ~~or to wash vehicles (other than food and food ingredient transport vehicles~~ **tanks or vessels**~~)~~, ~~for cooling towers, to water lawns to clean external surfaces or to flush toilets~~". Rationale: the paragraph as written is cumbersome and lacks clarity
- Para 20: the EUMS suggest adding an additional bullet point: "**for cleaning non-food-contact surfaces (walls, floors);**". Rationale: even if it is less interesting in terms of saving drinkable water, not mentioning seems to exclude the possibility.
- Para 21, last sentence: The EUMS propose the following change: "… Sampling of water for microbiological testing is relevant **for regular verification and** upon any suspicion of contamination of the **supply** water on the premises.". Rationale: in order to take into account the case of regular verification and not only the case of suspicion +. for clarity. The paragraph is on supply water.
- Para 23: The EUMS propose an additional paragraph after paragraph 23: "**The recommendations made below as regards the fit-for-purpose assessment and the water safety plan for reuse of water, as appropriate, should be applied to externally sourced water if not potable water**." Rationale: The sections on "fit-for-purpose assessment" and the "water safety plan" are specifically addressed to the reuse of water, while the recommendations are also relevant for the use of externally sources water.
- Para 25, first bullet: The EUMS propose the split into two bullets. Rationale: two different elements to evaluate.
- Para 27: the EUMS suggest redrafting this paragraph as follows: "27. **External** Technical expertise~~, outside the dairy manufacturing plant,~~ might be needed for the design of safe water reuse systems in dairy operations." Rationale: simpler, editorial.
- Para 32: the EUMS suggest reorganising the process mentioned within the parentheses, for consistency with their comment on paragraph 6: (e.g. by UV treatment, thermal treatment, microbiocidal treatment, biological filters, **MF,** UF, ~~MF,~~ NF or RO filtration.
- Para 33, fourth sentence: The EUMS propose the following change: "Chemical disinfection of water will inevitably generate **disinfectant residues** ~~disinfection by-products whether it is externally sourced water or reuse water~~.". Rationale: More appropriate, precise wording + the Section is on the recovery of water, not on externally sourced water.
- Para 35, first sentence: The EUMS propose the following change: "A thorough hazards analysis of water should be conducted for each step of water usage from ~~externally sourcing of water, to~~ recovery, ...". Rationale: The Section is on reuse water, not on externally sourced water.
- Para 35, first bullet: The EUMS propose the following change: "• the microbiological hazards present in the ~~original~~ water sources from which the reuse water supplies, ...". Rationale: "Original" is confusing in this Section on water reuse since it might refer to the original externally sourced water.

- Para 39: on the last bullet point, the EUMS would like to indicate that cross-contamination with indirect contact should also be taken into account: "• measures to reduce the likelihood of cross-contamination and inadvertent reuse of water for **direct or indirect** food contact applications, which can introduce potential hazards, …."
- Para 41: 4th bullet point, the EUMS propose the following change: "If water of different qualities is mixed intentionally **or unintentionally**, the mixed water should always be categorized as that of the lower quality water used in the mixing." Rationale: we should also consider the possibility of an unintentional mixing of water of different qualities.
- Para 42, 2nd bullet point: The EUMS propose the following change: "Ensure the tightness of the RO membranes to avoid microbiological hazards bypassing the membranes. The "flux" and "life" of the membranes should be monitored and documented to identify when replacement should occur (based on the recommendations by the manufacturer **or the results of monitoring and verification if they reveal premature wear compared to the recommendations of the manufacturer** to ensure their effectiveness and proper performance." Rationale: Usually, FBO adapts recommendations from the manufacturer according to the situation.
- Para 47: The EUMS propose the following change at the beginning: "All water **for re**use~~s~~ should be included…". Rationale: it is not clear what is meant by "All water uses". Within the context, it is understood that this is only on reuse water.
- Para 53: on the second sentence, the EUMS suggest to make the following modification "When non-reconditioned water is fit for purpose, and when the food is subjected to microbiocidal treatments at a later step, there are no CCPs related to the verification of reconditioning performance **about microbiological hazards**." Rationale: only these hazards will be controlled by the microbiocidal treatment mentioned above.
- Para 54: the EUMS propose the following change: "To improve the microbiological quality of water, **treatments such as** heating, chlorination, ozonation or UV treatment can be used." Rationale: there are also other treatments possible, so this should only be examples.
- Para 55: the EUMS propose the following change: "The parameters of validated water reconditioning processes (such as total organic compounds (TOC), chemical oxygen demand (COD), biological oxygen demand (BOD), turbidity, pH or conductivity, based on the nature of the process) should be monitored, with occasional verification by microbiological **or physicochemical** testing.". Rationale: Not all parameters mentioned in the sentence can be verified by microbiological tests.
- Para 62: the EUMS suggest modifying the last sentence as follows "Such water should often be discarded **or have a new sanitizing treatment**." Rationale: for completeness. .
- Para 73: the EUMS suggest modifying the last sentence as follows "Treatment/purification steps such as **UF, NF and** RO ~~and UF~~ should be considered.", Rationale: to take into account nanofiltration and for consistency with our comment in para 6.

Malaysia

Malaysia would like to thank the Electronic Working Group chaired by the European Union (EU) and co-chaired by Chile and the International Dairy Federation (IDF) for preparing the Draft Guidelines for the Safe Use and Reuse of Water in Food Production and Processing (Annexes on Water Re-Use in Fish and Fishery Products (Renamed from Fishery Products) and on the Production of Milk and Milk Products (Renamed From Dairy Products) and also appreciates the opportunity to provide comments on the draft guidelines.

Malaysia supports the draft guidelines as presented in Appendix I : Annex II, Annex III and Annex IV respectively on "Fish and Fishery Products", "Production of Milk and Milk Products" and "Technologies for Recovery and Treatment of Water for Reuse" for adoption at Step 5/8.

With regards to the proposed new Annex IV, Malaysia is of the view that the proposed Annex IV is appropriate to be maintained and prefers a restricted revision of the Annex I on Fresh Produce to be aligned with the formatting of draft Annex II and Annex III. Malaysia believes that technologies will be updated on a regular basis, thus amendment on the individual annex is for easy reference.

Republic of Korea

Draft Guidelines for the Safe Use and Reuse of Water in Food Production and Processing (Annexes on water re-use in fish and fishery products (renamed from Fishery products) and on the production of milk and milk products (renamed from Dairy Products)

The Republic of Korea agrees to maintain the annex Ⅳ, however, since current version is too dairy specific, it will need further review and development to cover the technologies in relation to products mentioned in Annex Ⅰ and Ⅱ.

If the annex Ⅳ will maintain separately, a restricted revision on Annex Ⅰ would be appropriate.

Singapore

Singapore thanks the European Union, Chile and the International Dairy Federation for putting together this document summarising the comments received in Sep 2023 by the eWG for consultation papers for Annex II (Fish and fishery products) and Annex III (Production of milk and milk products).

Specific Comments to Agenda 6 CX/FH 24/54/7 Appendix I and IV:

Singapore proposes replacing the term 'faecal pathogen' in Figure 2 of Annex II with the term 'pathogen'. This change aligns with the terminology used in Figure 5 of MRA 33, where the outcome indicated VP or pathogen. Additionally, this ensures consistency with Figures 3 and 4, which were also adapted from MRA 33 Figures 6 and 7, respectively, where the outcome indicated pathogen.

Singapore supports the Chairs' proposal for a new Annex IV to be incorporated of which outlines the technologies used in recovery and treatment of reuse water with recommendations for their safe applications in the various food processing sectors. Singapore agrees to the restricted revision of the General Section and Annex I to include a cross-reference to the new Annex IV and to indicate the relevant technologies for Annex I.

Thailand

Thailand appreciates the work done by the EWG Chair and Co-Chairs, and would like to provide the following comment:

Question a) whether you agree with the proposed new Annex IV and consider it appropriate to maintain it

Thailand would like to propose moving the detail as appeared in Annex IV back to Annex III under the Section called Technologies for Recovery and Treatment of Water for Reuse.

Rationale: The detail currently in Annex IV is specific to dairy industries, specifically those with technology for recovery, purification and treatment. Also, the detail comes from the MRA40 which is specific to safety and quality of water use and reuse in the production and processing of dairy products.

Annex II: Fish and Fishery Products

Section 9 Water Use or Reuse Fit for Purpose Assessment

Thailand would like to ask for more clarification for Figures 1 – 4 on the colour of the arrows which are used to identify the magnitude of the risk associated with different scenarios. Also, the MRA33 does not provide the detail about the magnitude of the pathogens or faecal contamination.

In Figure 3, the words 'yes/no' should be specified on the blue curved arrow in a similar way as Figure 2. Also, the position of the arrow should be fixed.

Section 10 Section Water Safety Management

In Section 10.2 Water quality monitoring (paragraph 52), we would like to propose amendment to the text for clarity as follows:

"...Microbiological indicators have disadvantages that must be understood when using test results to assess the microbiological quality of water.~~, when~~ **When** possible, testing for multiple groups of indicators should be more appropriate."

Annex III: Production of Milk and Milk products

General Comment

For the structure of the Annex, the numbering should be added to each Section to provide clarity. Also, we think that most information in Annex III is related to water for reuse in dairy manufacturing plant. Thus, we would like to propose the following numbering for the Draft:

Section 1 Introduction

Section 2 Purpose and Scope

Section 3 Use

Section 4 Definitions

Section 5 Primary Production and Transport from the Farm

Section 6 Dairy Manufacturing Plant

Section 6.1 General Recommendations

Section 7 Water intended for reuse

Section 7.1 Technologies for Recovery, Purification and Treatment of Water for Reuse

Section 7.1.1 General recommendations

Section 7.1.2 Specific recommendations for use of reverse osmosis in the reuse of water in dairy production

Section 7.1.3 Specific recommendations for the recovery of reclaimed water by condensation of vapours evaporated during concentration of milk and milk

Section 7.2 Water Reuse Fit-For-Purpose Assessment

Section 7.3 Water Safety Management

Section 7.3.1 Prerequisite programmes (PRPs)

Section 7.3.2 Establishment of control measures

Section 7.3.3 Selection of measures to control identified hazards

Section 7.3.4 Monitoring

Section 7.3.5 Corrective actions

Section 7.3.6 Validation

Section 7.3.7 Verification and testing

Section 8 Examples of Fit-For-Purpose Reuse Water Applications

Section 8.1 Examples of water fit-for-purpose decision tools

Section 8.2 Example of reuse of potable water by recirculation or recycling

Section 8.3 Example of recovery and reuse of water from CIP systems

Section 8.4 Example of recovery and reuse of water from food production/ processing (reclaimed water)

Section 8.5 Example of recovery and reuse of dairy effluents

Section 8.6 Example of water recovery and reuse from non-food manufacturing operations

Specific comment

Primary production and transport from the farm

In paragraph 13, Thailand would like to propose an amendment as follows:

> New water sources used for rinsing, cleaning and disinfecting the product contact surfaces of processing equipment, tanks, vessels and facilities for milk transport from dairy farms, should be tested for microbiological quality before first use~~, and then regularly thereafter in a similar way as in dairy manufacturing plants~~.

Rationale: Small-holder farmers do not have resources to regularly tested water for microbiological quality in a similar way as in dairy manufacturing plants. Also, the risk is varied depending on the product. For example, the risk of raw milk or raw milk products is higher than that of pasteurized or sterilized milk.

Verification and testing

In paragraph 63, Thailand would like to propose amendment for flexibility as follows:

> It is, therefore, ~~essential~~ **recommended** to conduct an operation-specific study to determine which microbiological parameters/indicator organisms may be appropriate for use in evaluating a particular water reuse scenario.

Rationale: As specified in CXC 1 – 1969, flexibility should be given to small and/or less developed food businesses for application of HACCP. The sector-specific guides from literature, industry associations and

academics can be used. Similarly, we are of the opinion that flexibility should be provided in case that the FBOs use the result of the study from relevant resources or experts to determine the appropriate indicator organisms.