

CODEx ALIMENTARIUS COMMISSION



Food and Agriculture
Organization of the
United Nations



World Health
Organization

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Agenda item 9

CX/CAC 23/46/22

JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEx ALIMENTARIUS COMMISSION

Forty-sixth Session

FAO Headquarters, Rome, Italy

27 November – 2 December 2023

New food sources and production systems (NFPS)

1. BACKGROUND

1.1 CAC45¹ considered the report of the CCEXEC subcommittee on new food sources and production systems² (NFPS). The topic was discussed at CAC44, CCEXEC82 and CCEXEC83 and two views on potential approaches emerged:

- given the complexity and diversity of NFPS and to be proactive in preparing for the future of Codex, further discussions on NFPS could be facilitated in an electronic working group (EWG) to be established under the Commission; and
- the existing mechanisms within Codex are sufficient to address any new work proposals on NFPS. Codex Members should submit new work proposals providing Codex with concrete subjects on which working mechanisms could be further considered.

1.2 While CAC45 recognized the importance of Codex working in a flexible and timely manner to consider NFPS as an important topic in the development of international standards aimed at protecting consumer health and ensuring fair practices in the food trade there was no agreement on the best way forward or the need for a new cross-cutting coordination mechanism to address codex work on NFPS.

1.3 It was therefore agreed to seek further input from Members and Observers to identify possible issues related to NFPS that the current structure and procedures could not address and options to address them for discussion at CAC46.

1.4 Appendix I compiles the comments received in response to CL 2023/31/OCS-CAC from 21 Members and four Observers. A range of views were expressed in response to the Circular letter and these are summarized as below.

2. OVERVIEW OF COMMENTS RECEIVED

2.1 General comments:

- Opinions remain divided about the need to create a committee, task force or electronic working group to address requests for new work in the area of NFPS, with some Members/Observers (most) finding it necessary, while others arguing the current Codex structure is able and ready to address NFPS.
- The CCEXEC and the CAC were mentioned within the already existing structure as potential recipients of future applications and it was noted that a proposal was already presented to CCNFSDU.
- Those who noted the need to have a new space dedicated solely to NFPS mentioned the possible creation of a committee, task force, or electronic working group as alternatives.

¹ REP22/CAC, paragraphs 23-31

² CX/EXEC 22/83/4

- A member presented terms of reference for a new ad hoc inter-governmental task force for NFPS.

2.2 Specific comments

- (a) Please identify specific NFPS topics that require the development of a Codex standard, guideline or code of practice, but cannot be developed using the current Codex standard-setting structure and procedures.

The following specific NFPS topics were identified as areas where the development of a Codex standard would be appropriate:

- A new system for nomenclature for Algae-based foods.
 - A standard to assist in the mitigation measures to reduce or prevent potential safety hazards that may affect consumer health for algal protein production systems.
 - Good practices for the algae cultivation chain
 - Use of Nanomaterials in foods as additives.
 - Guidance on the Approval of new ingredients and new technologies: This includes technologies like Cellular Agriculture (tissue engineering and precision fermentation) and new ingredients that are produced using such technologies.
 - A comprehensive standard or set of standards for edible insects that includes: definition of edible insects, types and range of edible insects that can be used, guidelines for facilities and equipment for breeding, producing, processing, and storing edible insects, guidelines for production and hygiene management, standard for pesticide residues and veterinary drugs, and standard for manufacturing processes and storage methods to prevent rancidity.
 - Regarding cell-based foods with high market growth potential, need to develop criteria for disease, infection and contamination with pathogenic microorganisms in the carcass of the organism of origin, standard(s) for residues such as antibiotics, hormones, and pesticides, standard(s) for comparing and analyzing the equivalence of genomes, proteomes, and metabolites between cells of origin and cultured cells for each manufacturing process and evaluating allergy, standards for evaluating genetic equivalence between origin cells and cultured cells for each manufacturing process, management guidelines for risk factors (including allergen) that may occur when genetic differences exist.
 - Harmonization of terminologies for food products derived from NFPS.
 - Good practices for the storage, transport and production of food products derived from NFPS.
 - Risk analysis of food products derived from NFPS.
 - Guidance on Approval of New Ingredients and New Technologies.
 - Quality and safety specifications of NPFS for National Food Control Systems.
- (b) Please outline the challenges/inadequacies that in your view are hampering the current system from addressing the identified specific NFPS topics, and possible approaches to address these.
- Among the reasons that explain why NFPS issues are not addressed, the following were mentioned:
 - The lack of a clear definition of NFPS
 - Novelty
 - Low volume of trade
- (c) In the discussions on NFPS, in your view, are there aspects relevant to standard-setting that have not yet been considered by CAC? If yes, please elaborate and identify what you consider to be key points.
- The majority of the replies commented that there are no relevant aspects that have not been considered by the CAC in relation to the discussion of NFPS. Those who mentioned that there are issues that have not been addressed, commented on discussions to reflect consumer awareness, ethical issues and that NFPS may be associated with other legitimate factors.
- (d) Are you planning to propose any topics related to NFPS for consideration by Codex in short to medium term? If so, please indicate the topic(s) and the potential route by which you may submit the proposal(s) (e.g. specific committee or to the CCEXEC)

- Some Members mentioned a possible submission of diverse NFPS topics as new work.
- Some Members mentioned an intention to submit new work related to NFPS, while one Member commented that they had already done so in an existing Codex Committee (CCNFSDU).
- Most Members commented that they do not plan to submit new work on NFPS in the short term.
- Some Members commented that they will present topics once there is a body dedicated especially to NFPS.

3. ANALYSIS OF COMMENTS IN THE CONTEXT OF EXISTING PROCEDURES, AND PRACTICES.

3.1 The comments highlight that Members may indeed present new work proposals that would fall under the category of NFPS and that one has already been submitted to CCNFSDU. However, opinions are divided on how Codex might address such proposals. The establishment of a new working mechanism within Codex is not to be taken lightly as it incurs a cost not only on a possible host country but on all Members, Observers and the Codex Secretariat. Codex already has a dense schedule of Codex meetings, thus adding further to that schedule should ideally be based on clearly articulated work proposals which the CAC agrees cannot be addressed by any current Codex subsidiary bodies.

3.2 Codex has demonstrated in the past that when there was a clearly defined need to establish, for example, an ad hoc Task Force it had taken the decision to do so, ensuring that it had clear Terms of Reference. Such an approach might in the future also be an appropriate means to address NFPS. Without clear proposals for work it is difficult to clearly assess the need to establish a new working mechanism within Codex. Considering some Members indicated their intent to submit proposals, it may become much clearer in the near future the role Codex can play with regard to NFPS. Currently within Codex it is possible to submit new work through an existing committee or directly for the consideration of CCEXEC and CAC. It is ultimately up to the CAC to determine how and where any new work should be carried out. Thus, the most appropriate time to consider the work mechanism, be that an existing one or a new one, is probably when there is clarity on the nature of the work to be undertaken, which can be provided through discussion papers and new work proposals.

3.3 The development of discussion papers in advance of project documents has proven to be a valuable approach within Codex to explore the need for a Codex standard in a particular subject area. These documents can be subject of debate in a specific committee when there is one clearly identified by the Member presenting the topic, or by CCEXEC and later CAC when there is no clear direction as to where to the Member could submit the proposal.

3.4 The 2003 Evaluation of Codex recommended that Codex give particular attention to horizontal work which addresses the safety of many foods rather than focusing on standards for individual commodities and as a result horizontal committees now dominate the calendar of Codex meetings compared to commodity or vertical committees in the early years of Codex. Therefore, in many cases the means to address the safety aspects of food, be they new or otherwise, already exists.

3.5 One of the challenges highlighted was the lack of definition of NFPS. Topics such as this can already be presented as new work proposals as definition of terms within a particular commodity group is an approach that has been taken in the past. As some Members suggest this is an important first step it would be critical that a proposal for new work in this area is presented. It is then up to CAC to determine where the most appropriate mechanism to undertake such work.

3.6 With increasing costs, efficiency and prioritization of work is essential. This applies to existing work areas as well as new work areas. Work proposals allow such prioritization to be undertaken.

4. RECOMMENDATIONS

4.1 CAC46 is invited to:

- acknowledge the range of views with regard to how Codex might work on NFPS and note that there are likely to be new work proposals in this area in the coming years;
- advise Members that there are currently no procedural impediments to submitting new work proposals on NFPS and strongly encourage Members to submit discussion papers and/or new work proposals either to existing Codex Committees or the CCEXEC so as to better inform the CAC on the nature of the work that needs to be undertaken in this area; and

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- highlight that it is the role of the CAC to determine how agreed new work should be undertaken noting that when there is clarity on the work to be undertaken CAC can, if appropriate, establish a new working mechanism such as an electronic or physical working group, a task force or a new committee.

COMMENTS ON POSSIBLE ISSUES RELATED TO STANDARD SETTING FOR NEW FOOD SOURCES AND PRODUCTION SYSTEMS (NFPS) THAT COULD NOT BE ADDRESSED BY THE CURRENT CODEX STRUCTURE AND PROCEDURES AND OPTIONS TO ADDRESS THEM

(Comments in reply to CL 2023/31/OCS-CAC)

Comments of Australia, Brazil, Canada, Colombia, Costa Rica, Ecuador, Egypt, European Union, Iran, Iraq, Kazakhstan, Kenya, New Zealand, Norway, Peru, Republic of Korea, Saudi Arabia, Singapore, Thailand, Uruguay, USA and European Vegetable Protein Association, Food Industry Asia, Good Food Institute, IDF/FIL

The comments below are those received through the Codex Online Commenting Systems (OCS), or via email by the time this document was issued. The OCS is an online tool that enables Codex Contact Points to submit comments on draft texts in a standardized way, thus providing more transparency and better management of comments on different Codex texts as requested through Circular Letters.

The comments received are presented in a table format, with two columns as follows:

- First column – Presents the comments with the rationale.
- Second column – Presents the provider of the comments (name of country or observer)

GENERAL COMMENTS

| COMMENT | MEMBER / OBSERVER |
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| <p>Currently, Brazil understands that the structure and procedures within Codex are sufficient to handle any new work proposals on NFPS.</p> <p>Concerns regarding labelling, nutrition, and specific safety aspects related to NFPS fall under the mandate of Codex General Subject Committees. Labelling issues are in the scope of the Codex Committee on Food Labelling (CCFL); nutritional matters should be handled by the Codex Committee on Nutrition and Foods for Special Dietary Uses (CCNFSDU), and contaminants concerns are dealt with by the Codex Committee on Contaminants in Foods (CCFC). Moreover, certain NFPS might qualify as food additives, placing them under the mandate of the Codex Committee on Food Additives (CCFA).</p> <p>Certain NFPS are associated with products that are already covered by Codex Standards developed by Commodity Committees. For instance, plant-based protein alternatives are covered by the General Standard for Vegetable Protein Products and the General Guidelines for the Utilization of Vegetable Protein Products in Foods. These standards were developed by the Codex Committee on Processed Fruits and Vegetables (CCPFV), which is currently adjourned sine die.</p> | <p>Brazil</p> |

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| <p>Risk analysis guidance on certain NFPS and the development of standards that fall outside the mandate of Codex Commodity Committees could be dealt with by Ad hoc Codex Intergovernmental Task Forces and Joint FAO/WHO expert bodies and consultations. Currently, Brazil understands that the structure and procedures within Codex are sufficient to handle any new work proposals on NFPS.</p> | |
| <p>Kazakhstan considers the need to work more horizontally on NFPS.</p> | <p>Kazakhstan</p> |
| <p>New Zealand (NZ) appreciates the opportunity to comment on CL 2023/31/OCS-CAC the 'Request for comments on possible issues related to standard setting for new food sources and production systems (NFPS) that could not be addressed by the current Codex structures and procedures and options to address them'.</p> <p>We would like to thank the Chairperson of the CCEXEC sub-committee for leading this workstream including the completion of the comprehensive report.</p> <p>NZ has the following comments in response to CL 2023/31/OCS-CAC.</p> <p>NZ considers that the evidence provided by the membership through the work of the CCEXEC subcommittee strongly confirms that there are no specific issues related to NFPS within the current Codex standard-setting. Furthermore, existing structures and procedures adequately cover all specific NFPS that require a Codex standard, guideline or code of practice.</p> <p>As with the development of any Codex standard, NZ considers that the level of Codex involvement in standard setting for NFPS should be commensurate with the level of risk posed. In this way, risk analysis enables us to estimate the risk to human health and safety of a food, so that appropriate measures can be implemented to control and communicate those risks.</p> <p>We note that, in many instances, NFPS are proposed to address global climate change, food insecurity and sustainability challenges. We agree Codex standards have a role in helping to address global nutritional, sustainability and food insecurity challenges to the extent of Codex's mandate.</p> <p>NZ notes that Codex already supports a wide variety of innovative NFPS. There are also examples where, due to the low level of risk posed, national legislative approaches alone are sufficient to support such innovation globally.</p> <p>It is NZ's view, where issues arise as to whether a NFPS is included in the scope/TOR of a relevant Codex Committee, the first step should be clarifying the scope/TOR, and if necessary, seek approval to explicitly cover and/or extend the scope/TOR for the Committee (within the extent of Codex's mandate).</p> <p>As such NZ does not see the need for an e-WG to explore this aspect further.</p> | <p>New Zealand</p> |
| <p>Singapore would like to commend the work of the CCEXEC Sub-committee on New Food Sources and Production Systems (NFPS) in supporting Codex Members and Observers to share views on NFPS. We would also like to thank the Codex Secretariat for consolidating the collegial discussions on NFPS during CAC45, and for its efforts to advance this work through the circular letter.</p> <p>Singapore supports the establishment of a Codex ad hoc inter-governmental task force with specific terms of references (TORs) to work on emerging topics related to NFPS, and for a defined duration to deliver the outcomes of the TORs. As outlined in CRD34 rev. during CAC45,</p> | <p>Singapore</p> |

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| <p>Singapore views that the establishment of an ad hoc inter-governmental task force, as opposed to using existing Codex structures, is necessary to provide Codex with sufficient agility to respond to the rapidly growing and varied nature of NFPS. This agility is critical for Codex to minimise barriers to the trade of food from NFPS, so that they can contribute to a supply of safe food around the world, in alignment with Codex's dual mandate of protecting consumer health and promoting fair food trade practices.</p> <p>Singapore also had an exchange of views with other Codex Members when preparing our response. There was a shared view among some Members that because NFPS spanned across wide-ranging disciplines, the existing Codex structure and mechanism is insufficient for Codex to address NFPS in a timely manner, and to prioritise NFPS-related topics among other non NFPS-related topics. Therefore, there was support for the establishment of an ad hoc inter-governmental task force for NFPS.</p> | |
| <p>Thailand would like to provide general comment as follows;</p> <p>In Thailand, the prominent topics within NFPS are include, edible insects, insects for feed, plant-based foods, seaweeds, microalgae and aquatic plants. For food safety aspects, we viewed that Codex horizontal standards could cover some of the safety requirements of NFPS. However, for quality aspects, the current vertical standards may not be applicable to NFPS if they are not related to a product that already has a Codex standard. The establishment of a new task force may be necessary with a specific mandate to work on for this aspects. It should be noted that the common agreed definition of "new food sources and production systems" and "novel foods" should be further clarified before embarking on new work on NFPS.</p> <p>Thailand has concern related to food safety of new food derived from new technological innovations especially cell culture-based food products. Advice from the FAO/WHO expert bodies and/or expert consultations would be necessary. In addition, the diversification of national legislation relevant to the registration of novel foods for placing on the market could raise barriers to international trade. Therefore, Codex committee should consider to develop the registration guideline for novel foods to reduce trade barriers.</p> <p>In short term, Thailand is not planning to propose any topics related to NFPS for consideration by Codex.</p> | Thailand |
| <p>General Comments:</p> <p>The United States believes that New Food Sources and Production Systems (NFPS) is an important topic and welcomes the forward-looking discussion on this subject in Codex. However, it would be challenging to design a single mechanism for standardizing new technologies, many of which are still in the research and development stage and with which members have little or no experience, or knowledge of what is yet to be created.</p> <p>While the U.S. food system has some experience with many of the NFPS, there is currently still a need to understand and learn more about the impact of specific NFPS in terms of potential food safety, regulatory, labelling, nutritional, and quality issues. It is also difficult to imagine a single mechanism capable of effectively drafting standards for all foods, all new production systems, or all new technologies, and to consider all aspects of such products, such as hygiene, contaminants and potential residues in food, nutrition, and other subjects already considered by existing committees. Many of the issues that may be raised by NFPS may be addressed by the standing general subject committees, which can deal with any identified unique food safety or fair trade issues consistent with their terms of reference.</p> <p>Codex should only develop vertical/commodity standards when existing standards exclude these new production processes for analogous foods. Not all foods require a Codex standard. In some cases, it may be appropriate to modify existing Codex texts to accommodate new production processes. (For example, it may be appropriate to develop new food categories in the General Standard for Food Additives.)</p> <p>Finally, the United States believes that new work should proceed when it is supported by sufficient science and there is significant international trade, consistent with the Codex Working Principles for Risk Analysis and an evaluation according to the Codex Criteria for the Establishment of</p> | USA |

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| <p>Work Priorities.</p> <p>For these reasons, the United States believes that Codex should utilize existing mechanisms and should review any new work on a case-by-case basis, as it currently does, to ascertain if an existing committee or existing committees are best suited to undertake the work. Working groups could also provide a mechanism for initial review when necessary and make recommendations to the Codex Executive Committee and the CAC for assigning portions of the work to the best-suited existing committee(s).</p> | |
| <p>The Good Food Institute (GFI) appreciates the opportunity to comment on these important issues. GFI's comments apply to standard-setting and related matters pertaining to the alternative proteins subcategory of NFPS, including cultivated meat, fermentation-derived ingredients and foods, and plant-based protein alternatives.</p> <p>With respect to standard-setting for alternative proteins, any new or amended Codex standards, guidelines, or codes of practice should be flexible enough to encourage innovation rather than stifle it, to allow for maximum flexibility in the technology used to produce foods, and to account for the variation among categories of alternative proteins. Otherwise, the pace of evolution and diversity of materials in the alternative protein space may quickly render Codex texts not fit for purpose.</p> <p>Such texts should be science- and risk-based and informed by sufficient scientific expertise. As newer alternative proteins become more established in the market and in international trade, an ad hoc intergovernmental task force or a joint electronic working group (J-EWG) involving relevant committees could potentially assist in ensuring that horizontal issues relevant to these products—such as whether new principles or guidelines relating to food safety assessments are needed and whether existing texts should be revised—are addressed holistically and consistently across the relevant committees and that essential scientific expertise is gathered to establish the foundation for new or revised texts.</p> <p>Any Codex standards or related texts should not apply needlessly burdensome treatment to alternative proteins or other NFPS that other food categories are not subject to. For example, developing a nutrition composition guideline applying only to plant-based and other alternative protein foods or beverages without doing the same for all foods and beverages could create a distortion of fair practice in trade as well as a disparity in perception between foods that are presumed to be nutritionally sound and those that are not. [See GFI's CRD 33 to CCNFSDU43]. Similarly, clear and accurate labeling is essential to consumer protection and fair practices in trade, and Codex labeling standards and guidelines should enable a level playing field for alternative proteins. Such standards and guidelines should avoid mandating the use of inaccurate or disparaging terms, or terms that consumers do not understand, on the labels of alternative protein products.</p> <p>GFI stands ready to provide technical assistance to the CAC and any Codex committees, working groups, or task forces undertaking work relating to alternative proteins.</p> | <p>Good Food Institute</p> |
| <p>The International Dairy Federation is not aware of any NFPS topics which need special attention or a new structure or body within the Codex system as it appears that any issues can be dealt with, in the current Codex operational structure. Should the Commission conclude at any time that the current Codex structure is not sufficient to address identified standardization and/or determine that a new structure or body within the Commission is needed despite the above stated IDF position, we reiterate the importance that the terms of reference of any new work or structure reflect the existence of and not undermine existing Codex texts.</p> | <p>IDF</p> |

SPECIFIC COMMENTS

| (a) Please identify specific NFPS topics that require the development of a Codex standard, guideline or code of practice, but cannot be developed using the current Codex standard-setting structure and procedures. | |
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| Australia has identified none. | Australia |
| Canada has identified none. | Canada |
| La estructura actual del Codex Alimentarius permite abordar nuevos asuntos relacionados con las fuentes de alimentos y sistemas de producción (FASPN). Lo que se requiere, tal como se concluyó en la CAC, es trabajar de manera flexible y oportuna para garantizar la coordinación de los diferentes comités. | Colombia |
| Como ya se ha mencionado en los diferentes debates del CCEXEC y la CAC, Costa Rica considera que, el Manual de Procedimiento establece los mecanismos necesarios para abordar cualquier propuesta de trabajo nuevo sobre las FASPN. Adicionalmente, los comités han implementado en sus agendas el tema “criterios para la evaluación y el establecimiento de prioridades del trabajo” con el fin de identificar nuevos trabajos y establecer su orden de prioridad de modo que en un futuro sea adecuado para los fines previstos. Por lo anterior, Costa Rica considera que la estructura y los instrumentos con los que cuenta el Codex, permiten desarrollar cualquier texto del Codex en el ámbito de sus competencias, incluyendo la solicitud de asesoramiento cuando se considere necesario a los grupos de expertos o en su efecto a los comités horizontales que corresponda. | Costa Rica |
| Ecuador actualmente no cuenta con temas específicos que requieran la elaboración de una norma, directriz o código de prácticas del Codex; sin embargo, considera que los temas que al momento se están abordando en los diferentes comités técnicos, están bien definidos. Por otra parte, creemos pertinente que se cuente con una definición clara de las fuentes de alimentos y sistemas de producción nuevos (FASPN) donde se especifique el alcance para facilitar nuevos debates que vayan presentándose en función de este tema; es probable que esto viabilice la determinación de nuevos temas. | Ecuador |
| 1- There is a growing global interest in alternative sources of proteins as a new food source for sustainable protein supply. Recent research has indicated that vegan and microbial proteins (single-cell proteins sourced from algae, fungi, and bacteria) are sources of food. Algae-based foods have become mainstream among consumers in recent years, owing to their benefits. Adopting (i) a new system for nomenclature, (ii) good practices for the algae cultivation chain, and (iii) mitigation measures to reduce or prevent potential safety hazards that may affect consumer health are required for these algal protein production systems. 2- The aquaculture production systems have experienced rapid development in many countries and have become an important contributor to food security and the economy. More research on modern aquaculture farming practices, environmental integrity, labelling of aquaculture products, and maximum limits for cross-cutting and emerging chemical and microbial hazards are required. 3- Entailing special farming of food and indoor vertical soilless protected farming approaches (hydroponic and aquaponics greenhouse systems) to grow high-value products (such as vegetables, fruits, and seedlings) that increase food yields, act as an efficient option for water scarcity challenges, and offset the effects of climate change. Good greenhouse high-value food production Practices and technologies need to be addressed and represented by Codex. | Egypt |
| The EU and its Member States (EUMS) note that the submissions of Codex members and observers that are summarised in Appendix II of CX/EXEC 22/83/4 identify different types of NFPS (e.g. Cultivated meat, seafood and dairy, fermentation-derived ingredients, plant-based protein alternatives, edible insects, seaweed or microalgae). For each of these NFPS, the document provides preliminary considerations on the aspects that could merit Codex work. The EU is of the view that these considerations would merit exchanges in Codex that would enable to | European Union |

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| <p>identify areas of common interest and on which there would be consensus for further work. The EU and its Member States would in particular support exchanges on new food sources and production systems that can contribute to the transition towards sustainable food systems.</p> | |
| <p>The transition of herbal teas from natural to commercial and industrial production is indeed a complex issue. This transition often involves the use of pesticides, fertilizers, and other agricultural practices that can introduce contaminants like pesticide residues, heavy metals and mycotoxins into the products. These concerns are typically addressed through regulatory bodies like the Spices and Culinary Herbs Codex Committee, which may focus on the physico-chemical characteristics of these products.</p> | Iran |
| <ul style="list-style-type: none"> • Using Nano-materials in foods as additives • Foods produced using Food printers • Cell based foods | Iran |
| <p>عضوية مصادر او نباتية مصادر من البروتين بين الاغذية</p> <p>(Protein-rich foods from plant or organic sources – translation by GDC)</p> | Iraq |
| <p>The global demand for proteins is changing, creating opportunities for alternative sources of proteins such as cell-based and other possible protein sources e.g., insects, seaweed, etc. As the global demand for proteins grows, many in the food sector are looking into opportunities to expand the scope of diverse sources of proteins that can be both environmentally sustainable and nutritionally sound. The commercial landscape for cell-based food is fast expanding. As such foods are becoming a reality, national food safety authorities need to be prepared to regulate them and authorize them for use by food business operators.</p> <p>So, in this context, the topic below which is not covered within the scope of current Codex committees will be an important basis for standardization of what to be considered as NFPS.</p> <p>Kenya proposes the development of Guidance on the Approval of new ingredients and new technologies: This includes technologies like Cellular Agriculture (tissue engineering and precision fermentation) and new ingredients that are produced using such technologies.</p> <p>Rationale: To develop guidance that may be used by member countries while evaluating new technology or new ingredient developed by such technology, need cross-functional experts. Unfortunately, this is not within the terms of reference of current Codex subsidiary committees.</p> | Kenya |
| <p>New Zealand considers that current Codex standard-setting structure and procedures cover all specific NFPS that require a Codex standard, guideline or code of practice.</p> | New Zealand |
| <p>We see the need to work more horizontally on NFPS. We would also like to refer to our previous submission of comments and CX/EXEC 22/83/4, and especially note that for example seaweed is a commodity which would benefit from more horizontal work (safety, nutrition, quality and labelling) and that this commodity does not naturally fall under a specific committee.</p> | Norway |
| <p>Los temas específicos de FUENTES DE ALIMENTOS Y SISTEMAS DE PRODUCCIÓN NUEVAS – FASPN, que podemos señalar y que requerirían la elaboración de una norma, directriz o código de prácticas del Codex, serían:</p> <p>1. Hongos referidos como alimentos para consumo humano: GANODERMA LUCIDUM (CUERPO FRUCTÍFERO), HONGO REISHI (Ganoderma Lucidum), HONGO CHAGA (Inonotus obliquus), HONGO Turkey tail (Trametes versicolor), HONGO Cordyceps sinensis y HONGO Champiñon del sol (Agaricus subrufescens Peck), HONGO CORDYCEPS (cordyceps militaris), POLVO DE HONGO MELENA DE LEON (Hericium erinaceus), POLVO DE HONGO REISHI (Ganoderma lucidum), POLVO DE HONGO COLA DE PAVO (Coriolus versicolor o Trametes versicolor), se advierte que el Codex Alimentarius no cuenta con información para el uso de los mismos.</p> | Peru |

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| <ol style="list-style-type: none"> 2. Insectos comestibles: Suri - <i>Rhea pennata</i> 3. Alimentos de cultivo de celula, incluir en el etiquetado. 4. Proteínas vegetales alternativas: Soya (transgénicos) - proteína de soya, isoflavonas (compuestos de estructura similar a la hormona femenina estrógeno) 5. Alimentos impresos 3D – Repositorio de países que lo desarrollan y etiquetado. 6. Productos a base de cultivos de células - Repositorio de los países que lo desarrollan y etiquetado. 7. Alimentos encapsulados, regulación si estaría o no permitido y qué debe cumplir la cápsula de un alimento encapsulado. 8. Ashwagandha (<i>withania somnifera</i>) – utilizada para el estrés 9. Raíz de valeriana - <i>Valeriana officinalis</i>, Chuchuhuasi, Corteza de Cocobolo (<i>Dalbergia Retusa</i>), Cocobolo, Corteza de Clavo Huasca (<i>Tynnanthus Panurensis</i>), Corteza de Uña de Gato (<i>Uncaria Tomentosa</i>), Uña de Gato, Achioté, Curcuma (<i>Curcuma Longa L.</i> (<i>Zingiberaceae</i>), Kion Conjibre. 10. Probióticos (nombres), evaluar establecer límites para diferentes tipos de productos, líquidos, deshidratados, considerando que en el Codex Alimentarius hay información únicamente para Yogurth. 11. Hormiga - <i>Atta laevigata</i> se conoce como sikisapa (en Perú y Ecuador), hormiga culona (en Colombia y Argentina), Zompopo de mayo (en América Central), Bachaco culón (en Venezuela), Akango (en Paraguay), Chicatana (en México) y Cepe culón (en Bolivia). | |
| <p>As the need for new food sources and production systems(NFPS) is gradually increasing as an alternative to global food shortages and environmental pollution, the market size of NFPS is also expected to increase rapidly. Foods using various new technologies such as synthetic biology, genetic scissors, 3D technology, and cell culture technology are being developed, and investment in related R&D is increasing worldwide.</p> <p>However, despite this, there is no consistent and clear standards for NFPS around the world. In addition, each country has different definitions, intake history, classification standards, and technological development status of new food sources, so the regulatory status is very different. In this context, it is difficult to proceed with the work of covering both the NFPS currently identified and systems that will emerge in the future through the existing CODEX mechanisms.</p> <p>Furthermore, as the production systems for each new food source sector is diverse, the risk factors to be considered in the manufacturing process are more extensive depending on the manufacturing and processing technology. As technology advances and various NFPS are developed, consumer confusion and safety questions will increase. In order to prevent such international confusion, CODEX needs to develop an international standard that considers all the risk factors of various production processes of new food sources.</p> <p>In particular, since NFPS have a wide range of related fields and there is no clear definition regulation and classification standard, definition, classification criteria, scope, nutritional aspects, essential composition and quality factors, etc. should be discussed in NFPS Committee, as with the currently active commodity committees such as CCSCH, CCFFP, CCFFV, CCFO. If matters on labelling, residues of veterinary drugs, food additives, etc. are referred to the general subject committee for discussion, unnecessary time is wasted in determining the relevant committee, and all risk factors that require discussion could be considered without blind spots.</p> <p>For example, in the case of edible insects, comprehensive standards and specifications including the definition of edible insects, types and range of edible insects that can be used, guidelines for facilities and equipment for breeding, producing, processing, and storing edible insects, guidelines for production and hygiene management, standard for pesticide residues and veterinary drugs, and standard for manufacturing processes and storage methods to prevent rancidity is very needed to ensure the food safety. Among them, the definition of edible insects, types and range of edible insects that can be used, and guidelines for facilities and equipment for breeding, producing, processing, and storing edible insects are needed to be developed by committees on new food sources, not existing CODEX mechanisms.</p> <p>And for 3D printed foods, which is being actively developed currently, the scope of recognition of raw materials for 3D printed ink, foreign substances resulting from contact between the device inside the printer and food, damage to product quality caused by mixing cartridge materials, setting the shelf-life of cartridge materials, etc. are the subject that is difficult to deal with in existing committees.</p> <p>For cell-based foods with high market growth potential, it is necessary to develop criteria for disease infection and contamination with</p> | <p>Republic of Korea</p> |

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| <p>pathogenic microorganisms in the carcass of the organism of origin, and standards for residues such as antibiotics, hormones, and pesticides. And also standards for comparing and analyzing the equivalence of genomes, proteomes, and metabolites between cells of origin and cultured cells for each manufacturing process and evaluating allergy should be developed. Among these, standards for evaluating genetic equivalence between origin cells and cultured cells for each manufacturing process and management guidelines for risk factors(including allergen) that may occur when genetic differences exist are matters that should be developed by committees on new food sources. This is one of the guidelines that must be developed to ensure the safety of cell based foods, and since it is a task that requires expertise and systematicity, it could be possible to respond through the establishment of responsible committee.</p> <p>In order to proceed with such a vast amount of work related to new food sources, it is reasonable to discuss in a new committee. Some other Codex members also agree that it is difficult to respond to NFPS with the existing mechanism for similar grounds. Therefore, at Ad hoc Intergovernmental Task Force or committee level, it is necessary to respond to safety management issues professionally and systematically through cataloging NFPS and determining work priorities.</p> | |
| <p>The Kingdom of Saudi Arabia would like to thank the Codex Secretariat for the opportunity to comment on the circular letter (CL) on possible issues related to standard setting for new food sources and production systems (NFPS).</p> <p>The Kingdom of Saudi Arabia believes that the existing mechanisms and procedures for standard setting within Codex are sufficient to address and develop any new work proposals on NFPS. In addition, focus is placed on general or horizontal standards that apply to all foods under the Codex framework. As a result, these specified food topics will already be bound by current Codex standards and work by the relevant Committees. With that being said, there is a need to develop new work related to several aspects that were not necessarily covered in previous Codex work such as the labeling of these products, quality issues, nutrition related concerns, and MRLs in the case of edible insects. Thus, general guidance particularly in terms of safety evaluation, definition, scope, food additives and labelling would be of great benefit.</p> | Saudi Arabia |
| <p>Singapore views that several topics in the context of NFPS would require the development of Codex standards, guidelines or codes of practice. Based on current developments in the industry, Singapore views that the foods derived from NFPS urgently requiring Codex's attention include substances derived from modern techniques used in biomass or precision fermentation of microorganisms, cultivated meat, plant-based protein alternatives, and insect cultivation. Microalgae, macroalgae, 3D-printed foods, nanotechnology-derived substances and other types of NFPS should also be included in the future as these sectors develop further. The topics are:</p> <ol style="list-style-type: none"> 1. Risk analysis of food products derived from NFPS. Risk analysis guidelines should be elaborated for NFPS. The guidelines would need to encompass science-based risk assessment criteria. The criteria would cut across multiple disciplines (e.g. Food science and engineering, Nutrition, Bioinformatics, Epidemiology, Public health, Toxicology, Microbiology), as well as involve expertise to address risks presented by substances and/or processes not previously used in food production (e.g. bacterial, fungal, plant and insect species with no history of safe consumption, growth factors, hormones, process of cell culture). 2. Risk prioritization of food products derived from NFPS. It is foreseen that Codex will need to establish work priorities across different aspects of NFPS to tackle the food safety risks related to non-food grade materials, antimicrobials, pathogens, microbial toxins, food allergenicity, heavy metal contamination, unintended metabolites, and new toxicity end-points which are known to possibly occur in some forms of NFPS production. 3. Harmonisation of terminologies for food products derived from NFPS. Drawing from Singapore's experience in developing regulations for some examples of NFPS, it is apparent that there is currently no international agreement on the terminologies for several examples of NFPS (e.g. cultivated meat, and foods derived from biomass fermentation, precision fermentation and insect cultivation). This could lead to differences in how different Codex Members scope their national legislation to regulate such types of NFPS. For example, some Codex Members may have developed specific, self-contained conditions to regulate cultivated meat products, while others may have layered on | Singapore |

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| <p>existing conditions for 'processed food' or 'meat products' to regulate such products. This heterogeneity in the understanding of NFPS could introduce unnecessary barriers in the international trade of such products. It could also lead to challenges in the provision of data related to food products derived from NFPS should there be a need for international scientific expert committees (e.g. JECFA, JEMRA, JEMNU, JMPR) to perform risk assessments on such food products.</p> <p>4. Good practices for the storage, transport and production of food products derived from NFPS. Some forms of NFPS, especially the production of cultivated meat and insects as alternative proteins, involve inputs and processes that have not been considered in any existing guidelines, standards and codes of practice. For example, the production of cultivated meat, or substances from precision or biomass fermentation may require a consideration of suitable aseptic conditions (through Good Cell Culture Practices (GCCP) or otherwise), as well as adequate measures to prevent chemical cross-contamination of new and existing food allergens. Meanwhile, insect cultivation may require that the facility adopts a fit-for-purpose Hazard Analysis Critical Control Point (HACCP) or Food Safety Management System (FSMS).</p> <p>Currently, there are no standardised HACCP, Good Manufacturing Practice (GMP), GCCP or FSMS guidelines that cover such types of food products derived from NFPS. Therefore, the elaboration of Codex guidelines, standards and codes of practice on this matter would guide the industry in this sector as they plan, design and build such facilities. It would also help national competent authorities to establish clear conditions in their legislation to regulate such facilities and ensure that these conditions are aligned with international standards.</p> <p>As the NFPS space continues to grow rapidly, the development of all these Codex guidance would be necessary to enhance Codex's efforts to protect consumer health, while facilitating the trade of food products derived from NFPS globally. Singapore is of the view that Codex guidance on these topics cannot be efficiently developed using the current Codex standard-setting structure and procedures, for reasons which will be elaborated in our response to question (b).</p> | |
| <p>Uruguay entiende que la estructura actual y procedimientos establecidos en el Manual son suficientes para la elaboración de las normas de alimentos, incluidos los FASPN. De ser necesario, se podría realizar capacitaciones virtuales sobre los procedimientos establecidos en Codex para la presentación de nuevos trabajos, de forma que estos estén claros para todos los miembros.</p> | Uruguay |
| <p>The United States is unaware of any specific topics or proposals for new work that cannot be developed using the current Codex standard-setting structure and procedures.</p> | USA |
| <p>EUVEPRO believes that the existing Codex Committee on Vegetable Proteins (CCVP) is the appropriate mechanism to address emerging plant-based protein ingredients, such as those obtained from pulses (e.g., pea, chickpea, lentils), potatoes and rice. In general, any assessment of the need for new work and/or revisions should be assessed by the relevant Codex Committee for the standards and guidelines within their scope. Each Committee could then report back to the Codex Alimentarius Committee.</p> | European Vegetable Protein Association |
| <p>The global demand for protein is changing, creating opportunities for alternative sources of protein such as products that are produced via cellular agriculture. As the global demand for protein grows, many in the food sector are looking into opportunities to diversify the sources of protein that are made available to consumers that can be both environmentally sustainable and nutritionally sound.</p> <p>The commercial landscape for cell-based food is expanding rapidly. As such foods are becoming a reality, national food safety authorities need to be prepared to regulate them and authorise them for use by food business operators.</p> <p>In light of this, FIA would like to highlight the following topic, which is not covered within the scope of current Codex committees: Guidance on Approval of New Ingredients and New Technologies. This topic should encompass technologies such as cellular agriculture (tissue engineering</p> | Food Industry Asia |

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| <p>& precision fermentation) as well as include new ingredients which are produced using such technologies.</p> <p>To develop such guidance, which may be used by member countries when evaluating new technology or new ingredients developed by the aforementioned technologies, experts from multiple disciplines are needed; this unfortunately is not within the terms of reference of current Codex subsidiary committees.</p> | |
| <p>The International Dairy Federation is not aware of any NFPS topics which need special attention or a new structure or body within the Codex system as it appears that any issues can be dealt with, in the current Codex operational structure.</p> <p>Should the Commission conclude at any time that the current Codex structure is not sufficient to address identified standardization and/or determine that a new structure or body within the Commission is needed despite the above stated IDF position, we reiterate the importance that the terms of reference of any new work or structure reflect the existence of and not undermine existing Codex texts. In particular, the Codex General Standard on the Use of Dairy Terms (GSUDT) (CXS 206-1999) offers important guidance on the use of dairy terms in relation to foods offered to consumers or for further processing. The GSUDT ensures fair practices in trade and protects public health by preventing consumers from being misled about the nutritional attributes of the foods they consume. The GSUDT has served as an important Codex reference text since 1999 and only increases in value as the global marketplace becomes more crowded with non-dairy products seeking to mimic dairy products in order to take advantage of the positive consumer perception, known nutritional value and strong market position of milk-based dairy products.</p> | IDF/FIL |
| <p>(b) Please outline the challenges/inadequacies that in your view are hampering the current system from addressing the identified specific NFPS topics, and possible approaches to address these.</p> | |
| <p>Australia's view is that existing Codex procedures and structures provide the necessary mechanisms to assess whether new work should be undertaken in Codex on issues related to new foods and production systems, including what scientific advice would be necessary for the new work.</p> | Australia |
| <p>Brazil is of the opinion that proposals on NFPS should be prioritized and that the safety of NFPS should constitute the foremost concern for Codex Alimentarius. Guidance on risk analysis of selected NFPS could be addressed by Ad hoc Codex Intergovernmental Task Forces. Specific concerns related to safety, hygiene, nutrition, and labelling could be addressed by Codex General Subject Committees.</p> | Brazil |
| <p>Canada is of the view that the current system can address the identified specific NFPS topics. We note that general Codex texts on food hygiene, labelling, contaminants, etc. are written to apply to all foods, regardless of the source of the food or how it is produced. The mechanism or method of production of a food is not the defining feature on whether a Codex standard is needed. Commodity standards are not needed for every type of food, rather it is recognized that a Codex standard is required to protect consumer health and promote fair trade practices. Currently, Canada believes that, in the absence of a specific NFPS topic that requires a Codex standard, guideline or code of practice, it is premature to create a new mechanism to address specific NFPS topics. We note the CCEXEC is tasked to assist in Codex work management, and may currently be best placed to discuss potential approaches to address specific NFPS topics before consideration at CAC.</p> | Canada |
| <p>Desafíos</p> <ul style="list-style-type: none"> * Conocimiento del estado de la técnica * Aplicabilidad: Construir una norma para alimentos que serán producidos y comercializados por países en específico, particularmente teniendo en cuenta que países desarrollaron la tecnología y cuales están en la capacidad de adquirir estos alimentos. * Preferencias de consumo, por ejemplo: aspectos sensoriales. * En algunos casos los países requerirían un nuevo marco reglamentario para el ingreso de productos derivados de las FASPN al mercado. | Colombia |

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| Actualmente no identificamos deficiencias. | Costa Rica |
| <p>Se considera que las FASPN, al no tener un alcance definido y por el contrario tener un enfoque muy amplio y general, puede dar cabida a desafíos importantes como la falta de equipamiento tecnológico para la determinación de datos lo que impediría contar con respaldos suficientes para emprender nuevos trabajos.</p> <p>No se desconoce las oportunidades y ciertas ventajas que pueden llegar a brindar las FASPN, sin embargo, es importante prestar especial atención a las posibles repercusiones sobre la promoción de alimentos altamente procesados, el uso excesivo de aditivos y el aumento de la necesidad de materias de embalaje, enfoque importante para su abordaje cuando se habla de nuevas tecnologías.</p> | Ecuador |
| <ul style="list-style-type: none"> • Some food beliefs and practices are religion-based. Consumers are connected to their religious and ethnic groups through food patterns, distinct dietary preferences, and prohibitions. Most religions have specific restrictions of consuming some types of foods. Globally, an understanding of the religious and cultural aspects of food is key to defining, classifying, labelling, and the production system to avoid impediments to addressing and identifying new food sources. • Lack of knowledge about new agriculture approaches and its applications. Globally, traditional agriculture systems are more preferred due to its feasibility and lower cost. Proper introducing of new aquaculture production systems skill and knowledge is required. | Egypt |
| The EU and its Member States will provide a reply to this question at a later stage. | European Union |
| <ul style="list-style-type: none"> • Quality and safety specifications of NPFS are required for National Food Control Systems. • Code of hygienic practices for production of NPFS are required • Labelling NPFS • MRLs or TDIs setting after risk assessment | Iran |
| <p>Comment</p> <p>Currently, cell-based foods and ingredients produced thereof are considered a new technology and new ingredient across the globe and must be submitted to national authorities before being introduced in the market. The novelty of these products and their process is giving rise to various safety questions some unique to the technology and end products. Due to the complex and novel production process, all the different stages generate different risks. Some key safety concerns: Food hygiene, tissue biopsy, cell banking, possible harmful by-products, storage, allergenicity, product stability, and scaling of production.</p> <p>Therefore, to enable innovation and to address this emerging technology, enable decision-making at the national level, and foster harmonization, the Codex Alimentarius Commission must develop guidance on how to evaluate this new technology and the ingredients produced thereof from this technology.</p> <p>The new food sources do not fall under the currently established Codex Subsidiary bodies as outlined in their ToRs.</p> <p>Secondly, some of the new food sources may not fit within the current Codex Food categories e.g. meat alternatives, and plant-based protein alternatives.</p> <p>Rationale</p> <p>Taking into consideration the dual Codex mandate objective and Codex's 2020-2025 Strategic Plan, especially Goals 1 which states that – "Address current, emerging and critical issues in a timely manner", there is urgent need for Codex Alimentarius Commission to develop a guidance on the proposed topic.</p> <p>Kenya proposes that Codex Alimentarius Commission (CAC) can take either of the below two approaches:</p> <ul style="list-style-type: none"> • Establishing Ad Hoc Intergovernmental Task Force to work on this agenda: As in past, CAC has established task force on Antimicrobial Resistance - (TFAMR) or Food Derived from Biotechnology (TFFBT) etc, CAC may establish an ad hoc intergovernmental task force to do the work on this agenda. Depending upon the output of this task force and if there will be need for any further work, review can be made for either establishing new Codex committee or reviewing the terms of reference of existing Codex Committee. | Kenya |

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| <ul style="list-style-type: none"> Establish Working Group (WG) under Codex Alimentarius Commission: CAC may establish WG under its leadership to work on this agenda. This will enable that this WG will not be restricted within the terms of reference of individual Codex Committee and also experts from multiple disciplines can join such working group to enable the development of this proposed Codex guidelines. | |
| <p>In response to global challenges such as climate change and sustainability, Codex has been called upon to clarify the boundaries of its existing Committees.</p> <p>To avoid hampering the system in progressing NFPS, we support the approach of first exploring whether the Committee could clarify/extend its scope/TOR for a NFPS if it is not sufficiently clear to the relevant committee.</p> | New Zealand |
| <p>En el marco de una de las esferas propuestas para las FASPN : “alimentos de origen vegetal, animal y microbiano que formaban parte de la dieta tradicional en algunos países, pero que todavía no se consumían de forma generalizada en otras partes”, el aporte que podrían hacer los países, entre ellos el Perú es identificar (investigación coordinada con la academia) aquellos alimentos que forman parte de la dieta tradicional de diferentes regiones y etnias dentro de un país, que aún no se consumen de forma generalizada. Esto implica tener en cuenta que este tipo de dietas se asocia a los recursos propios de dichas regiones o zonas y a las formas de consumo, que dificulta su generalización. Con esa información realizar un repositorio para compartir entre los países.</p> | Peru |
| <p>CODEX develops standards for foods actively traded in the international market with the goal of protecting consumers' health and ensuring fair international trade. Therefore, according to the Criteria for the Establishment of Work Priorities used when considering new work proposals, volume of production and consumption in individual countries, trade volume between countries, and the number of commodities which would need separate standards are required to be submitted.</p> <p>However, in the case of NFPS, there are status of research and developments that have not been closely figured out and unidentified technologies and dietary habits by country. Also, few new foods are traded internationally. As such, although commodities are not actively traded at present, work that requires preemptive and urgent development of international standards will continue to occur, so the establishment of mechanism that can respond to this is very needed.</p> <p>For example, cell-based food, which have a small current trade volume but have great market growth potential and have many risk factors that must be considered to ensure consumer safety, there are many hazard factors including cell-donor animal disease infection, allergy evaluation, additives safety evaluation method, etc, that need to be considered to ensure safety. Including this case, issues that require the development of CODEX standard in advance in line with the growth of the international market will continue to arise indefinitely. Furthermore, since the current trends in scientific and technological development and food experiences of new food sources vary greatly by country, it is essential to establish and operate a solid foundation and continuous system through toxicity and nutritional evaluation.</p> <p>Therefore, Korea would like to propose the establishment of the Ad hoc Intergovernmental Task Force or committee to preemptively respond to the safety management of new food sources.</p> | Republic of Korea |
| <p>The Kingdom of Saudi Arabia would like to outline the challenges the might have hindered the current system from addressing the identified specific NFPS topics as follows:</p> <ul style="list-style-type: none"> Lack of a clear and unified definition among country members regarding NFPS. Lack of history of consumption of certain new food sources. Insufficient scientific studies/data on the specified NFPS topics. Assessing and managing the types of risks including, but not limited to, toxicological, microbiological, nutritional, and allergens that may require an extensive risk assessment to ensure the safety of the final product for the consumer. The difference in the legislative system among country members, as some countries obtain a general standard on novel food products and production systems, while others depend on case-by-case scenarios. In addition, some countries differentiate between the novelty of a production system and the final novel product when setting a standard. Having said that, technologies and resources that are employed to create new foods may not necessarily by themselves be new and/or may not necessarily produce a new food. | Saudi Arabia |

Topic 1 – Risk analysis of food products derived from NFPS

In order for NFPS matters to be considered in an integrated and holistic manner, a range of relevant expertise is required. For example, to develop standards on the appropriate use of cell-lines, certain bacterial, fungal, plant or insect species as food ingredients requires a wide-ranging discussion covering many issues including the mitigation of new or elevated allergenicity or toxicity risks, the acceptable use of non-food grade, pharmaceutical grade, antimicrobial or even small molecules in the production media, potential genetic drifts and genome instabilities, as well as possible anti-nutrient effects associated with some production inputs. A comprehensive consideration of all these factors, that is not scoped to a particular Codex committee, is required for Codex to recommend appropriate standards, guidelines and codes of practice to manage these risks.

Singapore would like to recall the report of the CAC33 (ALINORM 10/33/REP) where the grouping of expertise through the ad hoc inter-governmental task force on animal feeding allowed for more efficient progress on the subject. We would also like to recall the discussions from the CCEXEC46 report (ALINORM 99/4), where the ad hoc inter-governmental task force on foods derived from biotechnology was established to (i) elaborate standards, guidelines or recommendations considering existing risk analysis principles, and (ii) to coordinate and closely collaborate with appropriate Codex Committees on such foods. We envisage that similar benefits could be reaped for foods derived from NFPS if an ad hoc inter-governmental task force on NFPS is set up.

Topic 2 – Risk prioritization of food products derived from NFPS

Under the existing Codex standard-setting structures and procedures, the prioritization and establishment of work priorities across such a variety of areas would be challenging because work is prioritized and established by individual Codex Committees. Without a centralized platform for the prioritization of work related to NFPS, the discussion on topics specifically relating to NFPS could be diluted among other work priorities within the individual Codex committees. On the other hand, a centralized platform could begin work immediately. We note that NFPS-related discussions have already begun to emerge in some Codex subsidiary bodies, as well as on platforms outside of Codex. For example, CCNFSDU43 called for discussions around the proposed new work on Guidelines, including General Principles, for the Nutritional Composition of foods and beverages made from plant-based and other alternative protein sources, which would potentially cover foods and beverages containing substances derived from NFPS. FAO has also released a publication entitled 'Food Safety Aspects of Cell-based Food' which focuses on cultivated meat, which is an example of foods derived from NFPS.

Topic 3 -- Harmonisation of terminologies for food products derived from NFPS

Under the existing Codex structure, the elaboration of a Codex standard to harmonise terminologies for a particular food commodity would be most appropriately undertaken by the relevant Codex commodity committee. For example, in the dairy sector, work led by the Codex Committee for Milk and Milk Products resulted in the establishment of CXS 206-1999 "General Standard for the Use of Dairy Terms". Codex standards on a food commodity have also been established by a relevant Codex Regional Committee if the commodity is of interest only to a particular region. One example is CXS 40R-1981 "Regional Standard for Chanterelles", which was elaborated by CCEURO.

Food products derived from NFPS are traded globally and not limited to a particular region. There is no apparent Codex commodity committee of a similar nature for NFPS under the existing Codex structure and mechanism. This further supports the call to establish an ad hoc inter-governmental task force for NFPS, which can lead in work on NFPS, both horizontally and vertically.

The task force could also provide a singular point of coordination across other Codex committees should there be a need to tap on their inputs in the development of these standards. For example, the task force would be a platform for CCFICS to provide their views on the terminology's implications on the import and export of food products derived from NFPS, or for international scientific expert committees (e.g. JECFA, JEMNU, JEMRA, JMPR) to weigh in on the terminology's usefulness in helping them collect relevant and comprehensive data on NFPS for risk

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| <p>assessments.</p> <p>Topic 4 -- Good practices for the storage, transport and production of food products derived from NFPS For Codex to develop standards, guidelines and codes of practice for the management of NFPS facilities, Codex would need to consider issues that span across various general subjects of food safety concern.</p> <p>For example, if Codex were to develop a code of practice to implement HACCP or GMP principles for the production of cultivated meat, or substances derived from precision or biomass fermentation, expertise would be needed from food hygiene (to address microbiological risks), veterinary and drug residues (to consider the appropriate use of antimicrobials), cell biology (to consider the appropriate conditions for the storage and transport of cell banks, bacterial, fungal or insect species) and food allergenicity (to determine how tools, equipment and the production environments should be designed with adequate separation). A dedicated task force on NFPS would be a resource-efficient way to address this topic, because the relevant experts would already be congregated onto such a platform to address the other NFPS-related topics.</p> <p>Conclusion CAC45 recognised in REP22/CAC that it is important for Codex to work in a flexible and timely manner to consider NFPS as an important topic in the development of international standards aimed at protecting consumer health and ensuring fair practices in the food trade. The establishment of a cross-cutting mechanism, such as an ad hoc inter-governmental task force, is therefore warranted to overcome the challenges in the context of NFPS in a flexible and timely manner.</p> <p>Singapore proposes that the ad hoc inter-governmental task force could be set up to work on NFPS under the following TORs:</p> <ol style="list-style-type: none"> 1. To elaborate standards, guidelines, or other principles, as appropriate, for foods derived from NFPS, including but not limited to substances derived from modern techniques used in biomass or precision fermentation of microorganisms, cultivated meat, plant-based protein alternatives, and insect cultivation 2. To coordinate and closely collaborate, as necessary, with appropriate Codex Committees within their mandate as it relates to foods derived from NFPS, including but not limited to substances derived from modern techniques used in biomass or precision fermentation of microorganisms, cultivated meat, plant-based protein alternatives, and insect cultivation; and 3. To take into account existing work carried out by national authorities, FAO, WHO, other international organizations and other relevant international fora, when carrying out its work. | |
| <p>Uruguay considera que, si bien podrían existir desafíos en cuanto a la información científica, existen organismos internacionales (FAO – OMS) que pueden colaborar en la investigación y generación de información, contando el Codex con los ámbitos de evaluación de información adecuados para apoyar el avance de normas cuando son necesarios (JECFA, JEMRA, etc). La deficiencia podría ser falta de presupuesto adecuado para que funcionen estos ámbitos de evaluación, necesarios para avanzar en el proceso de elaboración de normas.</p> | Uruguay |
| <p>The United States is unaware of any challenges or inadequacies that are hampering the current system from addressing specific NFPS topics. The Secretariat has been charged with developing guidance on how to apply existing procedures to ensure that Members do not perceive procedural obstacles to submitting new proposals for work in this and other areas of Codex. The United States looks forward to this guidance and hopes it will be helpful to Members.</p> | USA |
| <p>The current system is adequate in addressing issues related to plant-based protein ingredients, however the standards established by Codex in the field, such as the General Standard for Vegetable Protein Products (CXS 174-1989), were developed three decades ago and consideration could be given on whether these are still fit-for-purpose in the context of novel/emerging plant-based ingredient sources and</p> | European Vegetable Protein Association |

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| <p>increasingly diverse applications in foods. It would be important for operators to have appropriate analytical methods for vegetable protein products (e.g., protein content, moisture).</p> | |
| <p>Currently, cellular agriculture and the foods and ingredients produce via this technology are considered to be “new” across the globe, and in turn must undergo pre-market approval processes by national authorities before being introduced into the market.</p> <p>The novelty of these products and the processes involved in producing them are spurring various safety-related questions; some unique to the technologies utilised, stages involved (varying risks) and end products. Some key safety concerns relate to: tissue biopsy, cell banking, possible harmful by-products, storage, allergenicity, product stability and scaling of production.</p> <p>In order to enable innovation and decision making at a national level, as well as to foster harmonisation, the Codex Alimentarius Commission (CAC) should develop guidance on how to evaluate this new technology and the foods/ingredients produced via it.</p> <p>Taking into consideration the dual mandate objective and Codex’s 2020-2025 Strategic Plan, especially Goal 1 which states “address current, emerging and critical issues in a timely manner”, Codex Alimentarius Commission should find a way to start working on this topic promptly.</p> <p>FIA would like to suggest the CAC proceed with one of the following options:</p> <p>1. Establish an ad hoc intergovernmental task force to work on this agenda In the past the CAC has established such a task force on e.g., Antimicrobial Resistance (TFAMR) and Food Derived from Biotechnology (TFFBT. Depending upon the output of the suggested task force and if there will be need for any further work, a review can be undertaken to assess whether a new Codex Committee should be established or if the terms of reference of an existing Codex Committee can be revised accordingly.</p> <p>2. Establish a Working Group (WG) under the CAC The CAC could consider establishing a WG under its leadership to work on this agenda. Establishing a WG could be an effective way forward as it would not be restricted within the terms of reference of an individual Codex Committee, and furthermore experts from multiple disciplines could join; enabling the development of the proposed Codex guidelines.</p> | <p>Food Industry Asia</p> |
| <p>IDF is not aware of any challenges or inadequacies within the Codex system that would hamper addressing NFPS topics within the current Codex structure.</p> | <p>IDF/FIL</p> |
| <p>(c) In the discussions on NFPS, in your view, are there aspects relevant to standard-setting that have not yet been considered by CAC? If yes, please elaborate and identify what you consider to be key points.</p> | |
| <p>No – the CCEXEC subcommittee did a very thorough job of collating and analysing a large amount of data collected from the membership which was considered by CCEXEC83. This work did not identify any issues with the existing mechanisms and CCEXEC83 recommended that CAC45 encourage Members to submit proposals related to NFPS using existing Codex mechanisms, and Codex subsidiary bodies to consider NFPS in their deliberations. CAC45 did not identify any new issues.</p> <p>An annual CL process of seeking information on any specific issues is a good way of continuing to assess the sufficiency of the system as a whole. Aside from this CL process, at this stage we would suggest the general subject committees remain best placed to examine if responsibilities under their mandates are sufficient as and when specific issues are brought forward by members related to new food and production systems.</p> | <p>Australia</p> |

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| The Codex Secretariat has been tasked with preparing guidance on how to apply existing procedures to ensure that Members do not perceive procedural obstacles to submitting new proposals for work in this and other areas of Codex. Australia thinks this work will be valuable. | |
| Brazil understands that the main aspects relevant to standard-setting have been considered by CAC. It is worth noting that the application of nanotechnology to food could be classified as a NFPS, although this was not addressed by the report of the CCEXEC subcommittee on NFPS. | Brazil |
| No, in the absence of a specific NFPS topic, Canada does not see that there are any further aspects to standard-setting that have not been considered by CAC at this time. The issue of dealing with “new foods” is not new in Codex, as seen in past discussions on foods produced through biotechnology. Over the decades, CAC has been able to address innovation in food products and processes through its regular Codex mechanism. CAC45 encouraged Members to submit proposals related to NFPS using existing Codex mechanisms. The Codex Secretariat has been asked to prepare practical guidance on how to apply existing procedures to ensure Members do not perceive structural obstacles to submitting proposals for new work, which Canada hopes will be helpful to Members. | Canada |
| Si, para iniciar estas conversaciones es necesario precisar por parte de FAO/OMS el alcance de las FASPN, así como, de las conversaciones que se deriven de ellas, información técnica relevante que permita contar con una aproximación real sobre las FASPN, que puedan ser usados como insumos para la definición de lineamientos específicos que eventualmente se requieran. | Colombia |
| No. No obstante, es importante mencionar que la Comisión del Codex debe velar por la correcta aplicación de los procedimientos existentes para garantizar que los miembros no perciban obstáculos de procedimientos a la hora de presentar nuevas propuestas de trabajo y, de esta manera, en el futuro minimizar el impacto que pueda generarse por la desarmonización fundada por falta de normas que son pertinentes al ámbito el Codex. | Costa Rica |
| Se considera que los aspectos pertinentes para el establecimiento de normas de la Comisión del Codex Alimentarius, ya se encuentran bien establecidas y pueden ser empleadas para el direccionamiento adecuado, sin embargo, de existir la necesidad, se deberá solicitar el apoyo de los grupos de expertos y la prestación de asesoramiento científico por parte de la FAO y la OMS. | Ecuador |
| Yes, as addressed in point (a), the following aspects need to be considered; 1- (i) new system for nomenclature for alternative sources of proteins, (ii) good practices for the algae cultivation chain, and (iii) mitigation measures to reduce or prevent potential safety hazards that may affect consumer health. 2- More research on modern aquaculture farming practices, environmental integrity, labelling of aquaculture products, and maximum limits for cross-cutting and emerging chemical and microbial hazards. 3- Good greenhouse high-value food production Practices and technologies | Egypt |
| The development of standards on certain NFPS may be associated with other legitimate factors. In such situation, it would be critical that the process to address these factors is agreed before initiating the development of the standard. | European Union |
| Analytical methods for detecting contaminants and ensuring product safety are crucial. These methods can involve various techniques, including those related to atomic energy or standards set by organizations like the European Union. It's important to have stringent testing and quality control measures in place to ensure the safety and purity of herbal teas as they transition to more commercial and industrial production processes. | Iran |
| <ul style="list-style-type: none"> • Yes. Development of standards for mentioned NFPS are necessary. For example, there is no evidences about risk assessment of using Nano- materials such as metals in foods as fortifier and its TDI. | Iran |

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| <p>One area related to NFPS that Codex may be able to improve on is how it develops standards for indigenous foods, which may be new to Codex but not new to the member country/ies proposing a draft standard.</p> <p>NZ notes the importance of ancestral consumption for certain groups and the difficulties obtaining scientific backing where the data does not exist.</p> <p>The development of indigenous foods standards in Codex can be impeded by the lack of data to support draft standards. Often this includes assessment of traditional food that has been consumed safely by indigenous people for tens if not thousands of years.</p> <p>Interventions at CAC45 noted the importance of ancestral consumption for certain groups and the difficulties obtaining scientific backing where the data does not exist.</p> <p>While considering how Codex develops standards for NFPS there may be an opportunity for Codex to consider how it could better support the development of standards for indigenous food or more specifically whether there may be a more appropriate approach to incorporate the traditional knowledge of indigenous peoples into the Codex assessment of indigenous foods while still ensuring a robust scientific process.</p> | <p>New Zealand</p> |
| <p>Some NFPS may be associated with other legitimate factors, and there is currently not a routine in place for this discussion, we consider the lack of a routine a challenge for Codex in the future.</p> | <p>Norway</p> |
| <p>Consideramos que siempre debe prevalecer los estudios científicos para el establecimiento de normas Codex.</p> | <p>Peru</p> |
| <p>First of all, it is necessary to discuss consumer perceptions of new food sources. Since each country has different religion, dietary habits, and development trends in science and technology, consumers in each country have different perceptions and awareness levels of new food sources and related technologies. In order to consumer to safely consume them in terms of safety and nutrition of new food sources and to properly recognize, the need to develop standards for NFPS is even greater.</p> <p>The negative perception of foods using new technologies such as genetic recombination is widespread in society. For the cell-based food, a consumer awareness survey indicated that most consumers had a very low purchase intention due to negative perceptions of safety. To relieve the vague anxiety of consumers, it is necessary to provide information to develop the standard for NFPS. And also for the alternative protein, it includes not only foods that replace meat, but also proteins such as fish and plants, but even the concept of each term is not clearly known, making it difficult for consumers to understand the characteristics of each food. Therefore, it is necessary to investigate, analyze and reflect consumers' perceptions and knowledge levels to prevent their confusion from the early stages before developing CODEX standard. Also, the ethical aspect needs to be discussed. In the case of cell-based foods, ethical issues have been steadily raised on the extraction of fetal serum for cell acquisition during the production process, and there are various views on cell-based foods from a religious perspective. Recently, FAO and WHO published related documents after a complex evaluation and analysis process of terms in consideration of consumer perception and ethical aspects of cell-based foods. We believe that CODEX also needs transparent and comprehensive discussions to reflect consumer awareness and ethical issues.</p> | <p>Republic of Korea</p> |
| <p>The Kingdom of Saudi Arabia encourages the committee to take into account the prior approaches that country members and observers have highlighted in previous responses and meetings. In addition, the Kingdom of Saudi Arabia deems appropriate the following proposals to be taken into account to move forward with this work:</p> <ul style="list-style-type: none"> •Develop a clear and unified definition for the term “new food” and the specified NFPS topics. An EWG or a task force can be established to develop such definitions. •Identify and divide the products that have a history of consumption in some countries from those new products that do not obtain a history of consumption, and accordingly request country members to provide the available information on these food sources, the regulatory framework and the history of consumption. | <p>Saudi Arabia</p> |

| •Request all Codex Committees to review and determine whether any Codex standards, guidelines, or codes of practice under their purview need to be amended to meet these "new foods". Then, the Codex Alimentarius Commission should be asked to receive reports from each Codex Committee outlining their conclusions including clear gaps and their recommendations to overcome them (perhaps the potential of developing new work in this field). | | | | | | | | | | | | | |
|--|---------------------------|-----------------|-----------------|---------------------------------|------------|--------|--------------------------------|-------------|--------|--|-------------|--------|--------------|
| Topics 3 and 4 have yet to be considered by CAC. These topics have been elaborated in our response under (a) and (b). | Singapore | | | | | | | | | | | | |
| Uruguay no encuentra aspectos que no se hayan examinado y sean necesarios considerar. | Uruguay | | | | | | | | | | | | |
| The United States is not aware of any aspects relevant to standard-setting that have not yet been considered by the CAC. As mentioned above, the guidance being prepared by the Secretariat should be useful in outlining the procedures available to members in addressing areas of new work. | USA | | | | | | | | | | | | |
| In the context of NFPS, there are certain aspects of standard-setting such as labelling which can be addressed within the current structure of Codex, however, as of yet no such work has been initiated. The adoption of consistent nomenclature is crucial in terms of bringing such products to the commercialised market. Codex guidelines on the labelling of NFPS would help ensure consumers are well informed and not misled. Furthermore, harmonisation regarding the approach taken to nomenclature would help prevent trade from being negatively impacted. | Food Industry Asia | | | | | | | | | | | | |
| IDF is not aware of any aspects relevant to standard setting for "new foods" that cannot be addressed within the current Codex structure and Procedures. | IDF/FIL | | | | | | | | | | | | |
| (d) Are you planning to propose any topics related to NFPS for consideration by Codex in short to medium term? If so, please indicate the topic(s) and the potential route by which you may submit the proposal(s) (e.g. specific committee or to the CCEXEC) | | | | | | | | | | | | | |
| None have been identified for the immediate future. | Australia | | | | | | | | | | | | |
| No. Brazil is not planning to propose any topics related to NFPS for consideration by Codex in short to medium term. | Brazil | | | | | | | | | | | | |
| Not at this time | Canada | | | | | | | | | | | | |
| No | Colombia | | | | | | | | | | | | |
| A la fecha el sector productivo no ha manifestado la necesidad de alguna norma relacionada con FASPN. | Costa Rica | | | | | | | | | | | | |
| Se considera que conforme se vayan profundizando los debates correspondientes, y, de acuerdo a la toma de decisiones el país estudiará la posibilidad de proponer o apoyar algún tema específico de conformidad a su realidad nacional. | Ecuador | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Topic</th> <th>Duration</th> <th>Potential Route</th> </tr> </thead> <tbody> <tr> <td>Alternative sources of proteins</td> <td>Short term</td> <td>CCEXEC</td> </tr> <tr> <td>Aquaculture production systems</td> <td>Medium term</td> <td>CCEXEC</td> </tr> <tr> <td>Soilless farming and protective agriculture approaches</td> <td>Medium term</td> <td>CCEXEC</td> </tr> </tbody> </table> | Topic | Duration | Potential Route | Alternative sources of proteins | Short term | CCEXEC | Aquaculture production systems | Medium term | CCEXEC | Soilless farming and protective agriculture approaches | Medium term | CCEXEC | Egypt |
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| Aquaculture production systems | Medium term | CCEXEC | | | | | | | | | | | |
| Soilless farming and protective agriculture approaches | Medium term | CCEXEC | | | | | | | | | | | |
| The EU and its Member States do not currently have proposals related to NFPS. This does however not exclude the submission of proposals in the coming years that would be based on the EU experience in the area . Should these proposals not fall under the remit of a Committee, the EUMS would submit these proposals directly to the Commission. The EUMS note that it would be beneficial for the membership to have more clarity on how such NFPS proposals would be considered by the CAC. | European Union | | | | | | | | | | | | |
| • At the moment no, but in future after doing preliminary studies, may propose the related topic. | Iran | | | | | | | | | | | | |
| In February 2023, Codex Committee of North America and the South West Pacific (CCNASWP16) agreed indigenous foods was as an issue of relevance that should be added to a list of key emerging issues expected to have an impact on food safety in the region in the next 5-10 years. | New Zealand | | | | | | | | | | | | |

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| <p>It was recognised that having a Codex standard for such foods, that addresses food safety concerns while facilitating trade, could also have benefits in addressing food security concerns that are important to the region.</p> <p>CCNASWP16 also had an engaged discussion on new work proposals and identified breadfruit flour, Galip nut, and fish and fishery products as three possible topics for regional standards development.</p> <p>Samoa offered to lead the development of a discussion paper on breadfruit flour. Such a discussion paper could be prepared or consideration by CCNASWP17 tentatively scheduled for 2024.</p> | |
| <p>We are not in a situation to propose new work, however we would support new work on seaweed, which is a commodity that, albeit not being “new” to some members, still would need new work in Codex. The production of seaweed is significantly high globally, however there is no Codex standard nor guideline specifically addressing food safety in seaweed. Furthermore, to our knowledge global standards are generally lacking for seaweed. We would like to refer to the Report of the expert meeting on food safety for seaweed – Current status and future perspectives (fao.org) "Despite the current global trade in seaweed – and its projected increased utilization to support food security – there is presently no Codex standard or guidelines that specifically address food safety in seaweeds."</p> | Norway |
| <p>Por el momento no tenemos previsto proponer tema relacionado con las FASPN.</p> | Peru |
| <p>In the short term, guidelines for definition, classification criteria, and cataloging of NFPS are required. Once NFPS database is established after such work, the development of standards or guidelines for risk analysis and safety evaluation will be carried out efficiently in the long run. Specifically, for the cell-based foods, which are expected to grow rapidly with active international research, guidelines for cell-based foods by production technology and guidelines for the use of cell-based food terminology are first needed.</p> <p>Due to the nature of rapid development and change of new food sources, the gap between national awareness and technology level will grow over time. Therefore, we believe that the best way is to establish a separate committee to build-up a consistent and professional framework from the early stage of standard development. Otherwise, it will take a long time to decide which committee will have jurisdiction on each agenda to discuss the definition and scope of NFPS that are difficult to define, and to set the boundary of discussion. In order to respond quickly to the vast and rapidly changing characteristics of new food sources and to prevent blind spots in safety management, the establishment of Ad hoc Intergovernmental Task Force or committee dedicated only to NFPS would be suitable to discuss the above topics.</p> | Republic of Korea |
| <p>At the moment, the Kingdom of Saudi Arabia has no project plans related to NFPS for consideration by Codex. Nevertheless, we are pleased and fully prepared to contribute in any new work related to NFPS in the mere future.</p> | Saudi Arabia |
| <p>Singapore will be developing the topics described in (a) further, in preparation for submission to Codex for consideration. Singapore plans to submit the proposals via CCEXEC, or the ad hoc inter-governmental task force on NFPS should this structure be established by Codex.</p> | Singapore |
| <p>Uruguay no tiene previsto proponer tema alguno relacionado con las FASPN</p> | Uruguay |
| <p>The United States worked with Canada to prepare a discussion paper on consideration of work to develop Guidelines including General Principles for the Nutritional Composition of Foods and Beverages made from Plant-based and other Alternative Protein Sources. The paper was discussed at the 43rd Session of the Codex Committee on Nutrition and Foods for Special Dietary Uses (CCNFSDU43, March 2023). The Committee agreed to continue its consideration of this topic based on a refined discussion paper at the next session.</p> <p>The United States is also considering submitting a discussion paper related to food contact material, specifically with respect to food safety considerations related to use of recycled packaging materials. One way forward could be review of the issue by a Working Group of the CAC. This approach may provide an example for how NFPS could be handled in the future.</p> | USA |

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| <p>EUVEPRO is not planning to propose any topics related to plant-based protein alternatives or other NFSP for consideration by Codex and would advise against the development of general Codex principles for the nutritional composition of foods and beverages made from plant-based and other alternative protein sources, as currently being considered by CCNFSDU. The plant-based food category currently lacks a universally accepted definition, which will be outlined in the ISO standard for plant-based foods to be published in 2024. It is also important to note that the composition and attributes of animal-derived products to which plant-based foods are commonly compared are not standardised. In general, these foods are not intended to be nutritionally equivalent in terms of advantageous or disadvantageous nutrients, therefore aiming for nutritional equivalence would be inappropriate. They each have their place in a balanced diet and premature guidelines risk hindering the innovation and development of new and diverse plant-based products that meet the varied needs and preferences of consumers in a sustainable way.</p> | <p>European Vegetable Protein Association</p> |
| <p>Please see the inputs provided in response to questions a) to c).</p> | <p>Food Industry Asia</p> |
| <p>At this time IDF is not planning to propose any topics related to NFPS but reserves the right to any opportunity to engage and comment on topics proposed by CODEX members or other NGOs.</p> | <p>IDF/FIL</p> |