CODEX ALIMENTARIUS COMMISSION E

Food and Agriculture Organization of the United Nations

World Health Organization

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JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

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FAO/WHO SCIENTIFIC SUPPORT TO CODEX: REPORT ON ACTIVITIES, BUDGETARY AND FINANCIAL MATTERS[1]

(Prepared by FAO and WHO)

Contents of paper

PART I: RECENT FAO/WHO EXPERT MEETINGS AND OTHER RELEVANT INFORMATION

1.1. **The delivery of scientific advice continues at an accelerated level**; for example, FAO and WHO have started considerable work to develop the requested scientific advice on AMR, JECFA continue to meet twice a year, an additional JMPR meeting will be held in May 2019 and JEMNU is scheduled to meet in July 2019 to provide scientific advice for the establishment of science-based nitrogen to protein conversion factor to use when determining the protein content of soy-based ingredients and milk-based ingredients used in infant formula and follow-up formula. This enhanced level of activity has been made possible through the contributions of Australia, Canada, France, Japan, the Netherlands, Spain, Republic of Korea and the United States of America (USA). **These activities are the result of the high priority FAO and WHO assigns to the scientific advice programme,** realizing the importance of a strong scientific foundation for all Codex standards. The CAC remains the primary client of the joint scientific advice programme, as the results are used extensively in the development of Codex texts and standards. However, the results are also used by member countries of FAO and WHO, to strengthen the science-based decision making on food safety and nutrition issues at national and regional level. The following summarises the scientific advice provided in the 2018-2019 period since FAO and WHO's previous report to the Commission (CX/CAC 18/41/16).

1.2. **Joint FAO/WHO Expert Committee on Food Additives (JECFA), 86th Meeting, Geneva, Switzerland, 12–21 June 2018:** This meeting was held in the framework of the on-going programme on the risk assessment of food additives and contaminants in foods. The Committee undertook the toxicological evaluations and dietary exposure assessments and developed specifications for eight food additives, revised the specifications for 19 other food additives (including 16 modified starches), evaluated 69 flavouring agents according to the revised *Procedure for the Safety Evaluation of Flavouring Agents* and revised the specifications for three flavouring agents. The results were made available to and discussed by the 51st Session of the Codex Committee on Food Additives (CCFA).

1.3. **Joint FAO/WHO ad-hoc Expert Meeting on Ciguatera Fish Poisoning Rome, Italy, 19-23 November 2018:** This meeting was held to evaluate (toxicological assessment and exposure assessment) ciguatoxins, including geographic distribution and rate of illness; congeners; methods of detection; and based on this, to develop guidance for the development of risk management options. The Committee undertook the evaluation of the available occurrence and chemical data of known ciguatoxins, their corresponding toxicological, epidemiological, clinical and dietary exposure assessment data and elaborated on possible risk management measures. A final report is in development and will be discussed at the 14th Session of the Codex Committee on Contaminants in Foods (CCCF).

[1] This document has also been included in the agenda of the CCEXEC77 under agenda item 8

1.4. **Joint FAO/WHO Stakeholder Consultation and Expert Meeting on carry-over from feed to food of unavoidable and unintended residues of approved veterinary drugs, Rome, Italy 7-10 January 2019:** The Codex Committee on Residue of Veterinary Drugs in Foods (CCRVDF) requested FAO and WHO to provide scientific advice and risk management options to mitigate the unintended and unavoidable presence of residues of veterinary drugs in food of animal origin resulting from carry-over of veterinary drugs in feed. Even under circumstances where all relevant good practices (e.g. GAP, GMP, etc.) had been fully implemented and followed in feed manufacturing facilities, an unintended and unavoidable presence of low levels of certain veterinary drugs in feed lots that follow the production of medicated feed may occur. The Meeting evaluated any potential consequences for food safety from such feed to determine whether such low-level presence of residues in food associated with unavoidable and unintended carry-over in feed: (i) would constitute a threat to human health; and (ii) would impact negatively on trade. The Meeting furthermore developed potential risk management measures that can mitigate any risk. A full report is under development and will be discussed at the 24th Session of the CCRVDF.

1.5. **Joint FAO/WHO Meeting on Pesticide Residues (JMPR), Berlin, Germany, from 18 to 27 September 2018:** The Meeting evaluated 29 pesticides, of which eight were new compounds, and three were re-evaluations within the periodic review programme of the Codex Committee on Pesticide Residues (CCPR). The Meeting established acceptable daily intakes (ADIs) and acute reference doses (ARfDs). The Meeting estimated maximum residue levels, which it recommended for use as maximum residue limits (MRLs) by the CCPR. It also estimated supervised trials median residue (STMR) and highest residue (HR) levels as a basis for estimation of the dietary intake of residues of the pesticides reviewed. The recommendations were made available to and considered by the 51st session of the CCPR.

1.6. **FAO/WHO Joint Meeting on Pesticide Specifications (JMPS), 17th Meeting, Panama, 5-9 June 2018:** This meeting was held in the framework of the on-going programme on the evaluation and development of pesticide specifications. The Joint Meeting reviewed 51 specifications/equivalences. Four JMPS related issues were discussed and a priority list for the JMPS programme for 2019 was prepared. The pesticide specifications established at the meeting are published on the FAO (http://www.fao.org/agriculture/crops/thematic-sitemap/theme/pests/jmps/en/) and WHO (https://www.who.int/neglected_diseases/vector_ecology/pesticide-specifications/newspecif/en/) websites.

1.7. **2nd JEMRA Meeting on the Safety and Quality of Water Used in Food Production and Processing, Rome, Italy 14-18 May 2018:** This meeting was held in response to a request from the 48th Session of the Codex Committee on Food Hygiene (CCFH) on defining clean water use in food production. The expert meeting highlighted that water used in food production and processing should not compromise the safety of the final product and that “fit-for-purpose” water should be determined by a risk-based approach. There were several decision analysis tools (decision trees) developed to assist in the assessment of the quality of water used in fresh produce and fishery food production/processing. An update was provided to the 50th session of CCFH. This work is ongoing, and third meeting is tentatively scheduled for later in 2019.

1.8. **Joint FAO/WHO Expert Meeting in collaboration with OIE on Foodborne Antimicrobial Resistance: Role of the Environment, Crops and Biocides, Rome Italy, 11-15 June, 2018:** This meeting was held in response to a request from the fifth Session of the Ad hoc Codex Intergovernmental Task Force on Antimicrobial Resistance (TFAMR) to inform the work of the Task Force in the areas of crops, environment and biocides for both the revision of the Code of Practice (CoP) and the guidelines for integrated surveillance. The expert meeting highlighted that widespread reports of contamination of foods of plant origin with antimicrobial-resistant bacteria and outbreaks of antimicrobial-resistant foodborne infections traced to foods of plant origin clearly indicate the potential for these products to transmit antimicrobial resistant organisms to humans. The food production environment serves as both a sink and a source for antimicrobial resistant organisms with respect to agriculture and food production. The expert meeting recommended good practices in the use of biocide products in line with manufacturers’ instructions. Regarding integrated surveillance, the expert meeting recommended: 1) inclusion of plant-based and aquatic animal-origin foods; 2) that testing of environmental components in direct contact with foods could complement food-centric approaches; and 3) the scope of sampling be expanded progressively, starting with country-level priorities, noting the existence of tools that may support the implementation of a progressive approach. An update was provided to the TFAMR6.

Risk Assessment Methodology Work

1.9. In addition to the scientific advice requested directly, the FAO/WHO secretariats have been working to update risk assessment methodologies, taking into account recommendations from expert meetings and the latest scientific developments. This is critical to assure that the scientific advice provided is based on up-to-date methodology and scientific knowledge.

1.10. The currently planned work aims at reviewing and modernizing selected sections of the risk assessment methodologies including those in chapter 3, 5, 8 and 9 of the international guidance EHC240 “Principles and methods for the risk assessment of chemicals in food” and those regarding information in Volume 4 of JECFA Monograph 1 and in individual specifications monographs. For the latter, dedicated resource persons were enlisted to prepare the necessary in-depth reviews and to provide suggestions that will be discussed in suitable international expert meetings with the aim to provide updates to the relevant sections of EHC240 and the chemical analytical methods used in JECFA specifications for food additives.

1.11. Several activities are under way to address the following areas of risk assessment methodology:

- **Joint FAO/WHO Expert Meeting on Enzyme Evaluation:** An expert meeting took place 11 -14 December 2018, Rome Italy to discuss recent advances in the understanding of the safety of enzyme preparations for use in food, the need to revise current guidance pertaining to enzyme preparations for use in food and update JECFA procedures for risk assessment of enzymes. A report is in development and will be discussed at the 87th JECFA meeting.
- **Joint FAO/WHO Expert meeting on dose-response assessment and derivation of health-based guidance values:** An expert meeting took place Geneva, Switzerland, 25-29 March 2019, Geneva, Switzerland.
- **Joint FAO/WHO Expert Working Group on guidance for genotoxicity evaluation**: An expert meeting took place 8-10 October 2018, Ann Arbor, USA, to revise and update the guidance on evaluation and implementation of genotoxicity tests and overall evaluation of genotoxicity of compounds in food. A report is in development and will be made available by mid-2019 and further discussed at the 87th JECFA and JMPR meeting.
- **Joint FAO/WHO Expert Meeting on Microbiological Risk Assessment**: An expert meeting took place 11-15 March 2019, Rome, Italy to consolidate the existing technical guidance documents on the methodologies of microbiological risk assessment into one single document and update with the latest knowledge. A report is in development.
- **A Joint FAO/WHO JECFA/JMPR/OECD** working group met in Geneva, Switzerland on 3-7 December 2018 to discuss the harmonization of residue definitions. At the workshop, the experts further discussed the way forward and concluded that for the residue definition (RD) for risk assessment, a number of points remained open for discussion which would require case studies to better inform the positions e.g.: 1) selection of metabolites to include in the RD, 2) definition of toxicological burden, and 3) the need for different strategies between the European Food Safety Agency (EFSA) and other organizations due to differences in available data at the time of evaluation. A JECFA/JMPR working group organized back-to-back with the workshop made recommendations to harmonize the methodology used for residues of pesticides and veterinary drugs. The results have been discussed at the 51st session of CCPR, the 2019 annual meeting of JMPR and will be discussed at the 88th meeting of JECFA.
- **Joint FAO/WHO Expert Meeting on Dietary Risk Assessment of Chemical Mixtures:** An expert meeting took place 16-18 April 2019, Geneva, Switzerland.

1.12. In addition, the FAO/WHO Roster for JEMRA meetings has been updated and published.

Other activities

WHO Nutrition Guidance Expert Advisory Group (NUGAG) Subgroup on Diet and Health:

Carbohydrates, polyunsaturated fatty acids, and dietary patterns:

1.13. The 12th meeting of the WHO Nutrition Guidance Expert Advisory Group (NUGAG) Subgroup on Diet and Health was held in Geneva, Switzerland on 3-6 December 2018. The NUGAG subgroup on Diet and Health finalized evidence-informed recommendations for carbohydrates (including dietary fibre) and polyunsaturated fatty acids (including EPA and DHA), taking into consideration not only the quality of evidence, but additional criteria including the balance of evidence on benefits and harms, values and preferences, resource implications, priority of the problems, equity and human rights, acceptability and feasibility. Several of the systematic reviews serving as the evidence base for formulation of recommendations have recently been published, including: three Cochrane reviews covering polyunsaturated fatty acids, and two covering carbohydrates, including a review published in The Lancet. Several additional reviews will be published in 2019. Regarding dietary patterns, the NUGAG Subgroup reviewed the results from the initial systematic review which is now currently being finalized, for review and discussion at the 13th meeting of the NUGAG Subgroup on Diet and Health to be held in Qingdao, China in early December 2019.

Saturated fatty acids, trans-fatty acids and total fat:

1.14. A public consultation on the draft WHO guidelines on saturated fatty acid intake and trans-fatty acid intake in adults and children was held in May 2018. Comments have been reviewed and the guidelines are now being finalized for release in 2019. Similarly, a public consultation and subsequent release of the WHO guideline on total fat intake in adults and children are planned for 2019.

Non-sugar sweeteners:

1.15. A public consultation and subsequent release of the WHO guideline on non-sugar sweetener use in adults and children are planned for 2019.

WHO Nutrition Guidance Expert Advisory Group (NUGAG) Subgroup on Policy Actions

1.16. To help implement the development of evidence-informed policy guidance and measures to support Member States in creating an enabling food environment to promote healthy diets and nutrition, WHO established the WHO NUGAG Subgroup on Policy Actions, which will work alongside the NUGAG Subgroup on Diet and Health. The NUGAG Subgroup on Policy Actions will initially focus on developing three guidelines on policy actions, namely nutrition labelling policies, policies to restrict food marketing to children and fiscal policies to promote healthy diets. Developing guidelines on policy actions to promote healthy diets and nutrition will contribute greatly to the implementation of the UN Decade of Action on Nutrition (2016-2025), which aims to increase action at the national, regional and global levels to achieve commitments of the outcome documents of the second International Conference on Nutrition (ICN2). It will also contribute to achieving commitments of the Political Declaration of the third high-level meeting of the General Assembly on the prevention and control of non-communicable diseases, and ultimately the health- and nutrition-related Sustainable Development Goals (SDGs).

1.17. The first meeting of the NUGAG Subgroup on Policy Actions was held in Geneva, Switzerland on 11-14 December 2018. At this 1st meeting the NUGAG Subgroup discussed and finalized the scope and PICO questions to guide the undertaking of the systematic reviews and subsequently to formulate the recommendations for the policy guidelines. All systematic reviews are currently being conducted. Additional reviews are underway on the balance of evidence on benefits and harms, values and preferences, resource implications, equity and human rights, acceptability and feasibility of implementing the defined policies. The second meeting of the NUGAG Subgroup on Policy Actions is scheduled to be held in Qingdao, China in mid-December 2019, with the objective to review and discuss the results of the systematic reviews and formulate recommendations. It is also planned to discuss and finalize the scope and PICO questions for undertaking evidence review related to school food and nutrition policies.

FAO/WHO GIFT (FAO/WHO Global Individual Food consumption data Tool).

1.18. The FAO/WHO Global Individual Food consumption data Tool (FAO/WHO GIFT) is an open-access online platform, hosted by FAO and supported by WHO, providing access to harmonised individual quantitative food consumption data, especially in low- and middle-income countries. The platform is a growing data repository; in 2018, FAO/WHO GIFT received a four-year grant from the Bill & Melinda Gates Foundation to transform the platform into a robust global tool that will contain at least 50 datasets by 2022. FAO/WHO GIFT provides sex and age-disaggregated microdata, which are needed in the field of nutrition and dietary exposure. To facilitate the use of these data by policy makers, ready-to-use food-based indicators are provided under the form of infographics for a user-friendly overview of key information by population segments and by food groups. The synergy between the FAO/WHO GIFT platform and the dashboards of FAO/WHO FOSCOLLAB (Global platform for food safety data and information) hosted by WHO has a huge potential. In fact, in order to enhance the consistency and reliability of nutrient intake and dietary exposure assessments, all datasets available as microdata in FAO/WHO GIFT are harmonised with the food classification and description system FoodEx2. FoodEx2 is also the system used to map all food chemical occurrence microdata available on FAO/WHO FOSCOLLAB. The combination of the two platforms will make it much easier to perform refined dietary exposure assessment for a large variety of food chemicals in all regions of the world. Moreover, all datasets available as microdata in FAO/WHO GIFT are also being made available as summary statistics on FAO/WHO FOSCOLLAB.

1.19. For datasets that are not yet available as microdata in FAO/WHO GIFT, the platform provides an up-to-date inventory of individual quantitative food consumption surveys conducted and ongoing in low- and middle-income countries, with detailed survey information on identified studies. The FAO/WHO GIFT platform is available at http://www.fao.org/gift-individual-food-consumption/en/. The dashboards of FAO/WHO FOSCOLLAB are available at http://apps.who.int/foscollab.

WHO Advisory Group on Integrated Surveillance of Antimicrobial Resistance (AGISAR)

1.20. The 8th meeting of the WHO Advisory Group on Integrated Surveillance of Antimicrobial Resistance (AGISAR**)** was held on 24-26 November 2018 in Utrecht, the Netherlands, with two objectives: (i) to finalize of the global ESBL-producing-*Escherichia coli* tricycle protocol to implement an integrated "One Health" surveillance in the human, the food chain and the environment sectors and (II) to update the WHO list of critically important antimicrobials for human medicine (WHO CIA List)[2] for its 6th revision. The global tricycle surveillance protocol is aimed to be published in 2019, and the WHO CIA List 6th revision was published in April 2019.[3]**Error! Hyperlink reference not valid.**

Toxicological profiling of compounds and less-than-lifetime dietary exposure assessment.

1.21. The 2015 meeting of JMPR raised concerns about the risk characterization of less-than-lifetime exposures (i.e. exposures that are longer than 1 day but shorter than a lifetime) to pesticide residues over a season or a life-stage – specifically, the possibility that dietary exposures above the acceptable daily intake (ADI) over short time frames could result in adverse effects in both normal and susceptible subpopulations when the lifetime (long-term or chronic) estimated dietary exposure was below the ADI**.** In 2018, the JMPR discussed a draft decision-tree, together with the wider issue of how best to profile the toxicological effects of pesticides to enable better alignment of the exposure assessment. It was agreed that the draft decision-tree required revision to better reflect uncertainty in the respective health-based guidance values, and that all three toxicological/exposure scenarios (developmental, offspring, less-than-lifetime) should be considered, regardless of the basis of the ADI. The draft decision-tree will be revised to address these and any other concerns raised in future consultation with JECFA experts. The WHO Secretariat for JECFA and JMPR convened an electronic working group to finalize the approach.

Acute probabilistic dietary exposure assessment for pesticide.

1.22. The FAO/WHO Scientific Advice Programme collected pesticide monitoring plans and individual food consumption data in order to perform a probabilistic assessment of the acute exposure for 47 pesticides having an acute reference dose. Data were submitted by Brazil, Canada, the European Union (EU) and the USA. Results should support the ongoing review of the international estimated short-term intake (IESTI) equation.

1.23. The Commission **is invited to note** the information above provided by FAO and WHO. To facilitate the transfer and uptake of the relevant scientific advice by Codex, the FAO and WHO Secretariats of these activities make every effort to attend Codex working groups and Codex committee meetings. FAO and WHO would like to thank all those who supported the programme of work to provide the above-mentioned scientific advice and in particular the various experts from around the world and the donors who contributed financially and in-kind to the programme.

Publications

JECFA publications

1.24. Peer-reviewed external publications:

- *Boobis, A; Cressey, P; Erdely, H; Fattori, V; Leblanc, JC; Lipp, M; Reuss, R; Scheid, S; Tritscher, A; Van der Velde-Koerts, T; Verger, P.;* ***Harmonized methodology to assess chronic dietary exposure to residues from compounds used as pesticide and veterinary drug****. Critical Reviews in Toxicology. 2019, in press*
- *Ingenbleek, L.; Sulyok, M.; Adegboye, A.; Hossou, S.E.; Koné, A.Z.; Oyedele, A.D.; K. J. Kisito, C.S.; Koreissi Dembélé, Y.; Eyangoh, S.; Verger, P.; Leblanc, J.-C.; Le Bizec, B.; Krska, R.* ***Regional Sub-Saharan Africa Total Diet Study in Benin, Cameroon, Mali and Nigeria Reveals the Presence of 164 Mycotoxins and Other Secondary Metabolites in Foods****. Toxins 2019, 11, 54.*

JECFA publications are available on the following websites:

FAO http://www.fao.org/food/food-safety-quality/scientific-advice/jecfa/jecfa-publications/en/

WHO http://www.who.int/foodsafety/publications/jecfa/en/

1.25. Recent publications include:

- **Evaluation of certain food additives** (Eighty-sixth report of the Joint FAO/WHO Expert Committee on Food Additives) WHO Technical Report Series, No.1014, 2018 https://apps.who.int/iris/bitstream/handle/10665/279832/9789241210232-eng.pdf?ua=1

[2] https://www.who.int/foodsafety/areas_work/antimicrobial-resistance/cia/en/
[3] https://www.who.int/foodsafety/publications/antimicrobials-sixth/en/

- **Compendium of Food Additive Specifications, 86th Meeting.** FAO JECFA Monograph 22, 2018, http://www.fao.org/documents/card/en/c/CA2330EN
- **Residue evaluation of certain veterinary drugs, 85th meeting.** FAO JECFA Monographs 21, 2018 http://www.fao.org/documents/card/en/c/I9419EN
- **Evaluation of certain veterinary drug residues in food** (Eighty-fifth report of the Joint FAO/WHO Expert Committee on Food Additives) WHO Technical Report Series, No.1008, 2018 http://apps.who.int/iris/bitstream/10665/259895/1/9789241210171-eng.pdf?ua=1

JMPR publications

1.26. JMPR publications are available on the following websites:

FAO: http://www.fao.org/agriculture/crops/core-themes/theme/pests/jmpr/en/

WHO: http://www.who.int/foodsafety/publications/jmpr/en/

1.27. Recent publications include:

- **The 2018 JMPR Report.** Report of the Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and WHO the Core Assessment Group. FAO Plant Production and Protection Paper, 234 2018 http://www.fao.org/3/CA2708EN/ca2708en.pdf
- **Pesticide residues in food 2018 - Evaluations part I** – Residues, FAO Plant Production and Protection Paper 235, 2019 http://www.fao.org/3/ca3581en/ca3581en.pdf

JEMRA Publications

1.28. Peer-reviewed external publications:

- FAO/WHO STEC Expert Group. Hazard Identification and Characterization: Criteria for Categorizing Shiga toxin–producing *Escherichia coli* on a risk basis. Journal of Food Protection. 2019, 82(1), 7-21; https://jfoodprotection.org/doi/pdf/10.4315/0362-028X.JFP-18-291

1.29. JEMRA publications are available on the following websites:

FAO http://www.fao.org/food/food-safety-quality/scientific-advice/jemra/risk-assessments/en/

WHO http://www.who.int/foodsafety/publications/microbiological-risks/en/

1.30 Recent publications include:

- Shiga toxin-producing *Escherichia coli* (STEC) and food: attribution, characterization, and monitoring: Meeting Report. Microbiological Risk Assessment Series 31. FAO/WHO 2018. http://www.fao.org/3/CA0032EN/ca0032en.pdf
- Spanish version of Multicriteria-based ranking for risk management of food-borne parasites (Ranking basado en múltiples criterios para la gestión de riesgos de parásitos transmitidos por alimentos). Microbiological Risk Assessment Series 23. FAO/WHO 2018. http://www.fao.org/3/I3649ES/i3649es.pdf
- Joint FAO/WHO Literature Review: Histamine in Salmonids FAO/WHO 2018. http://www.fao.org/3/ca1207en/CA1207EN.pdf

1.31. Forthcoming publications in this series include:

- Risk assessment tools for *Vibrio parahaemolyticus* and *Vibrio vulnificus* associated with seafood: Meeting Report and follow-up.
- Microbiological hazards associated with spices and dried aromatic herbs: Meeting report.
- Microbial Safety of lipid-based ready-to-use foods for the management of moderate and severe acute malnutrition: Second meeting report.

Nutrition related publications

- Report of the FAO Expert Working Group on Protein Quality Assessment in Follow-up Formula for Young Children and Ready to Use Therapeutic Foods. Rome, Italy, 6 to 9 November 2017. http://www.fao.org/3/CA2487EN/ca2487en.pdf
- Second Global Nutrition Policy Review (2016 – 2017). https://www.who.int/nutrition/publications/policies/global_nut_policyreview_2016-2017/en/

Upcoming meetings

- **Joint FAO/WHO Expert Committee on Food Additives (JECFA), 87th Meeting, Rome, Italy, 4-13 June 2019:** The meeting will be dedicated to the (re)evaluation of a number of food additives and flavourings. The call for data is accessible at http://www.fao.org/food/food-safety-quality/scientific-advice/calls-data-experts/en/ ; http://www.who.int/foodsafety/call-data/en/
- **Joint FAO/WHO Expert Committee on Food Additives (JECFA), 88th Meeting, Rome, Italy, 22-31 October 2019:** The meeting will be dedicated to the (re)evaluation of a number of residues of veterinary drugs in foods. The call for data is accessible at http://www.fao.org/food/food-safety-quality/scientific-advice/calls-data-experts/en/ ; http://www.who.int/foodsafety/call-data/en/
- **Joint FAO/WHO Expert Meetings on Nutrition (JEMNU) meeting for the establishment of nitrogen to protein conversion factors, tbc 2019.** The meeting will be dedicated to establishing nitrogen to protein conversion factors to use when determining the protein content of soy-based ingredients and milk-based ingredients used in infant formula and follow-up formula.
- **Joint FAO/WHO Expert Meeting on Microbiological Risk Assessment (JEMRA), 13-15 May 2019, Weymouth, UK.** This meeting will focus on the Microbiological Risk Assessment on *Vibrio parahaemolyticus* and *Vibrio vulnificus*.
- **Joint FAO/WHO Expert Meeting on Microbiological Risk Assessment, tbd 2019, Geneva, Switzerland.** This meeting will focus on the safety and quality of water used in Food Production and Processing
- **Extraordinary Joint FAO/WHO Meeting on Pesticide Residues (JMPR), Ottawa, Canada, 7-17 May 2019:** The meeting will evaluate 22 compounds for additional MRLs. The call for data is accessible at http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/JMPR/2019_May_JMPR_Call_for_Data.pdf
- **Joint FAO/WHO Meeting on Pesticide Residues (JMPR), Geneva, Switzerland, 17-26 September 2019:** The meeting will evaluate 6 new compounds, 4 within the periodic re-evaluation program, and 17 for additional MRLs. The call for data is accessible at http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/JMPR/2019__JMPR_Call_for_Data.pdf

PART II: FINANCIAL AND BUDGETARY MATTERS

2.1. The budget requirements presented here are based on the requests for scientific advice from a number of Codex subsidiary bodies. This section provides a summary of cost for the provision of scientific advice to Codex in 2018-19 by FAO and WHO based on budgeted expenditures. The final information on 2018-19 expenditure will become available in early 2020.

WHO budget

2.2. In WHO, the majority of the funds for the activity and staff costs related to the provision of scientific advice in food safety and nutrition is provided through voluntary extra-budgetary contributions from Member States and other donors rather than through the Regular Programme budget (i.e. assessed contributions). The scientific advice programme is implemented by the Department of Food Safety and Zoonoses and the Department of Nutrition for Health and Development.

2.3. For the biennium 2018-19 the planned activity cost for scientific advice are estimated at USD 1,834,442 in food safety and USD 2,084,000 in nutrition, based on actual expenditures in the previous biennium plus additional activities to address some of the backlog in particular in food safety. Estimated staff cost are USD 2,616,616 for food safety and USD 2,937,334 in nutrition.

2.4. By April 2019, Australia, the European Union, Germany, Japan, the Netherlands, the Republic of Korea, Switzerland, USA, the Bill & Melinda Gates Foundation and Vital Strategies have made voluntary contributions to food safety and nutrition. The EU has now also committed funds for the food safety programme and other Members are strongly encouraged to follow this example.

2.5. The scientific advice activity of WHO heavily depends on extra-budgetary contribution received from a small number of Members which is gratefully acknowledged, in particular the long-standing support from the USA to food safety and Japan to nutrition.

FAO budget

2.6. In FAO, funds to support the activities and staff costs related to the provision of scientific advice to Codex are budgeted in FAOs regular Programme of Work and Budget and through extra-budgetary resources. Food Safety scientific advice to Codex is supported by a number of units and divisions within FAO including the Office of Food Safety, the Plant Production and Protection Division, the Fisheries and Aquaculture Policy and Resources Division, and the Animal Production and Health Division. Scientific advice on nutrition, when requested, is provided by the Nutrition and Food Systems Division.

2.7. For the biennium 2018-19, USD 4.6 million is budgeted for activity and staff costs related to scientific advice to Codex, including USD 4,035,000 in food safety (staff costs: USD 1,945,000 and activity costs: USD 2,090,000) and USD 570,000 in nutrition (staff costs: USD 533,000 and activity costs: USD: 37,000). We note that the increase in the 2018-19 Regular Programme budget of USD 0.2m reported here, compared to the biennial budget reported previously (CX/CAC 18/41/16 para 2.11), is mainly due to an increase in the budget for nutrition.

2.8. In the 2018-19 biennium, approximately 81 percent of the budget, amounting to USD 3.7m, are supported by FAO's Regular Programme budget. The remaining 19 percent is funded from extrabudgetary contributions which were received from Canada, France, Spain and USA.

2.9. The recognition of key scientific advice meetings and consultations to Codex (such as JECFA, JEMRA and JMPR) as Corporate Technical Activities in FAO's Programme of Work and Budget has ensured budgetary security for non-staff activities in the current biennium and is gratefully acknowledged.

Conclusion

2.10. As indicated above, the way the provision of scientific advice is currently funded is different between WHO (heavily dependent on voluntary contributions) and FAO (mainly covered by assessed contributions).

2.11. Overall the contribution of FAO and WHO to the provision of scientific advice equals to approximately USD 14 million per biennium. To ensure the ability of the joint scientific advice programme to be able to deliver even at the current rate, it will be of paramount importance ensure this level of stable and predictable funding from both organizations.

PART III: STATUS OF REQUESTS FOR FAO/WHO SCIENTIFIC ADVICE

3.1. Both organizations continue to jointly prioritize the requests for scientific advice taking into consideration the criteria proposed by Codex as well as the requests for advice from Member Countries and the availability of resources. A table of the current requests for scientific advice posed to FAO and WHO directly by the Codex Alimentarius Commission and its subsidiary bodies as well as meetings being planned by FAO and WHO in response to requests from member countries is attached as Annex I. It presents the overall status of pending requests for scientific advice received by FAO/WHO as of May 2019.

ANNEX I

JOINT FAO/WHO ACTIVITIES ON PROVISION OF SCIENTIFIC ADVICE

STATUS OF REQUESTS FOR FAO/WHO SCIENTIFIC ADVICE[4]

In prioritizing the requests for scientific advice to be addressed, FAO and WHO continue to consider the set of criteria for the prioritization proposed by Codex (ALINORM 05/28/3, para. 75) as well as the requests of advice from Member Countries and the availability of resources. The table below presents the overall status of requests for scientific advice as of May 2019.

#	Request for Advice	Originator	Reference	Required Action by FAO/WHO	Status of Planning/ Implementation	Estimated Cost (US$)[5]	Expected Output by Codex
1.	Safety evaluation of food additives (Current requests: CCFA 22 compounds/groups of compounds and approximately 70 flavourings)	CCFA	51st Sessions of CCFA	Joint FAO/WHO Expert Committee on Food Additives (JECFA)	Evaluation of certain food additives scheduled for the 87th JECFA meeting (Rome, 4-13 June 2019, full (re)evaluation of 6food additives, establishment of framework for safety assessment of steviol glycosides and 6 food additives for revision of specifications;	350,000 (fully funded)	Maximum levels, specifications for food additives, or other advice as appropriate
					Tentative plan for 2 food additives meeting in 2019 and a meeting dedicated to enzyme evaluation in early 2020	500,000 (partially funded)	

[4]FAO and WHO express appreciation to those governments who have contributed to support FAO/WHO scientific advice activities, either through direct financial support, facilitation of meetings at national institutes, and technical input by national experts. Figures indicate cost of pending actions related to each activity. Figures do not consider staff costs.
[5] Total activity costs for FAO/WHO, including publication of reports, but excluding staff costs.

#	Request for Advice	Originator	Reference	Required Action by FAO/WHO	Status of Planning/ Implementation	Estimated Cost (US$)[5]	Expected Output by Codex
2	Safety evaluation of contaminants in food (CCCF 6 contaminants or groups of related contaminants)	CCCF	13th Session of CCCF	Joint FAO/WHO Expert Committee on Food Additives (JECFA	JECFA meeting in 2020	350,000	Maximum levels for key food commodities, or other advice as appropriate; Code of practices
3.	Safety evaluation of residues of veterinary drugs	CCRVDF	24th Sessions of CCRVDF	Joint FAO/WHO Expert Committee on Food Additives (JECFA)	Evaluation of certain veterinary drugs. JECFA meeting 22-31 October 2019	350,000 (fully funded)	Maximum residue limits, Risk management recommendations or other advice as appropriate.
4.	Development and validation of risk assessment tools on *Vibrio* spp. in seafood and advice on methodology for *Vibrio* spp. in seafood.	CCFH	41st and 42nd Sessions of CCFH	Expert meeting to review methodology and develop and validate web-based risk assessment tools.	Following up on the previous activities, a review of new data and the possible impacts on risk assessment models and risk management tools is underway and will be presented to a wider expert meeting for further input in the course of 2019..	250,000 (Fully funded)	Web-based tools and consensus methodology to support the implementation of Codex Guidelines.
5.	Pesticide Residues	CCPR	50th and 51st Session of CCPR	Meeting of the Joint FAO/WHO Meeting on Pesticide Residues (JMPR)	2019 JMPR to be held from 17-26 September in Geneva, Switzerland 2019 extraordinary JMPR (7-17 May, Canada)	220,000 (fully funded) 235,000 (fully funded)	Maximum Residue Limits or other advice as appropriate.

#	Request for Advice	Originator	Reference	Required Action by FAO/WHO	Status of Planning/ Implementation	Estimated Cost (US$)[5]	Expected Output by Codex
6.	Ciguatoxins: Full evaluation, including geographic distribution and rate of illness; congeners; methods of detection	CCCF	11th Session of CCCF	FAO/WHO expert consultation	FAO/WHO Expert Meeting 19-23 November, Rome, Italy Report in finalization	200,000 (fully funded)	Maximum levels for key food commodities, or other advice as appropriate; Code of practices
7.	Shiga toxin-producing *Escherichia coli* (STEC)	CCFH	47th Session of CCFH	Data collection and analysis Review papers on the 3 key issues identified Implementation of 2 experts meetings	Two expert meetings implemented and report published. Preparation of final report on further work on source attribution underway	300,000 (fully funded)	Reports on attribution of STEC to foods, characterization of STECs, of concern for food safety and a review of monitoring and assurance programmes for STECs in food as a basis for management and control.
8.	Scientific advice to help clarify the use of clean, potable and other types of water in the General Principles Food Hygiene and other hygiene text	CCFH	47th and 48th session of CCFH	Collation and review of existing water quality related guidance Gap analysis Development of scenario-based advice/guidance on indicator/criteria of water quality appropriate for use	Collation of relevant texts complete 2nd expert meeting was convened in May 2018 3rd meeting to be held Q3-4 2019	200,000 (fully funded)	Review of the existing FAO and WHO guidelines and related data as the basis for the development of sector specific examples and guidance documents Illustrate the implementation of the approach to define and achieve 'fit-for-purpose' water

#	Request for Advice	Originator	Reference	Required Action by FAO/WHO	Status of Planning/ Implementation	Estimated Cost (US$)[5]	Expected Output by Codex
9.	Review of the list of acceptable previous cargoes on fats and oils	CCFO	24th Session of CCFO (request reiterated by the 25th and 26th sessions of the CCFO)	Evaluate whether the 23 substances were suitable as previous cargoes and to provide an assessment against the four criteria as mentioned in the *Code of Practice for the Storage and Transport of Edible Fats and Oils in Bulk* (CAC/RCP 36-1987). Cluster the 23 substances based on chemical properties and rank according to priorities (i.e. low, medium or high).	Work planning to be carried out upon confirmation of resource availability	120,000 (no funding)	Technical report with the conclusion on suitability as well as the assessment results of the four criteria stated in the CoP. This should include a priority ranking.
10.	Request for the establishment of nitrogen to protein conversion factors for soy and milk proteins	CCNFSDU	39th Session of CCNFSDU	Joint FAO/WHO Expert Meetings on Nutrition (JEMNU)	Systematic review papers and expert meeting	200,000	Determination of science-based nitrogen to protein conversion factor(s) for soy and milk proteins
11	Foodborne antimicrobial resistance	CAC TFAMR	39th and 40th Sessions 5th and 6th Session	Review of data relevant to the development and transmission of foodborne antimicrobial resistance, guidance on the use of the WHO and OIE CIA lists and advice on alternatives to antimicrobials	Expert meeting conducted in June 2018 (summary report published)	500,000 (partially funded)	Revised Code of Practice to Minimise and Contain Antimicrobial Resistance (CAC/RCP 61-2005), new codex guidelines on integrated surveillance of AMR

#	Request for Advice	Originator	Reference	Required Action by FAO/WHO	Status of Planning/ Implementation	Estimated Cost (US$)[5]	Expected Output by Codex
12.	Review and modernization of analytical methods used in monographs	FAO JECFA secretariat		Comprehensive review and to establish modernization needs for all analytical methods used in Volume 4 of Monograph 1	Review paper in progress and one expert meeting On-going	100,000 (partial funding)	Replacing obsolete analytical detection methods and ensure consistency of analytical approaches
13.	Review of Enzyme evaluation guidelines	JECFA Secretariat		Review and update of the enzyme evaluation guidelines	expert meeting held December 2018, Preparation of draft reports and recommendations	100,000 (fully funded)	Work is required before enzyme evaluation for CCFA can resume
14.	Review and update of Chapter 3: Chemical Characterization, Analytical Methods and the Development of Specifications in EHC240: Principles and methods for the risk assessment of chemicals in food	FAO JECFA secretariat		Review, update and modernizations of current guidelines regarding the chemical characterization and the use of analytical methods	Review paper and expert meeting On-going	100,000 (no funding)	Critical modernization need to facilitate the work for CCFA, CCCF, CCRVDF
15.	Update guidance on genotoxicity evaluation, update of chapter 4.5 of EHC240	WHO JECFA & JMPR Secretariat		Update guidance on the evaluation and interpretation of genotoxicity data and overall conclusions of genotoxic potential, including minimum data requirements	Preparation of draft report for public consultation	80,000 (partial funding)	

#	Request for Advice	Originator	Reference	Required Action by FAO/WHO	Status of Planning/ Implementation	Estimated Cost (US$)[5]	Expected Output by Codex
16.	Update of Chapter 5 of EHC240 on dose-response assessment and derivation of health-based guidance values	WHO JECFA & JMPR Secretariat		Develop more detailed guidance in particular on the application of benchmark dose modelling and overall update on chapter taking latest developments and recommendations by JECFA and JMPR into account	On-going	80,000 (partial funding)	
17.	Update of Chapter 6 of EHC240 on Exposure Assessment	JECFA&JMPR Secretariat		Update chapter taking recent developments and recommendations from workshops and by JECFA and JMPR into account.	On-going	80,000 (partial funding)	
18	Update of microbiological risk assessment methodology	JEMRA secretariat		Review and update the principles, criteria and processes underpinning microbiological risk assessment	On-going	80,000 (partial funding)	