CODEX ALIMENTARIUS
INTERNATIONAL FOOD STANDARDS

Food and Agriculture Organization of the United Nations

World Health Organization

PRINCIPLES AND GUIDANCE ON THE SELECTION OF REPRESENTATIVE COMMODITIES FOR THE EXTRAPOLATION OF MAXIMUM RESIDUE LIMITS FOR PESTICIDES TO COMMODITY GROUPS

CXG 84-2012

Adopted in 2012. Amended in 2017.

INTRODUCTION

Residue extrapolation is the process by which the residue levels on representative commodities are utilised to estimate residue levels on related commodities in the same commodity group or subgroup for which trials have not been conducted. Representative commodities are chosen based on their commercial importance and the similarity of their morphology and residue characteristics to other related commodities in the group or subgroup. Ideally representative commodities are the most economically important commodities in production and/or consumption in a group or subgroup and have a greater dietary burden and have residue characteristics similar to other members of the group or subgroup. Residue extrapolation is a common consideration utilised by regulators internationally for ensuring that data requirements are only at a level that is scientifically justified in conducting risk assessment and to ensure the regulatory process does not become unnecessarily burdensome especially for minor crops.

The objective of this document is to (1) propose criteria for the selection of representative commodities; (2) propose example representative commodities and (3) provide a detailed justification for the selection of the representative commodities.

GENERAL PRINCIPLES

Representative commodities within each Classification[1] commodity group and subgroup will be selected and proposed, based on consideration of all available information. The following principles will be used for the selection of representative commodities:

- – A representative commodity is most likely to contain the highest residues.

- – A representative commodity is likely to be major in terms of production and/or consumption.

- – A representative commodity is most likely similar in morphology, growth habit, pest problems and edible portion to the related commodities within a group or subgroup.

The application of the three principles in the selection of representative commodities is based on the assumption that all of the commodities, covered by the commodity group maximum residue limit (MRL), are produced following a similar[2] use pattern or good agricultural practice (GAP).

To facilitate the global use of the commodity groups for MRLs, alternative representative commodities may be selected giving flexibility for use of residue research conducted in different countries or regions that may vary due to regional differences in dietary consumption and/or areas of production for certain commodities.

> **Note**: Table 1 in this document is provided to (1) separate the selection of representative commodities from the Classification itself; (2) propose examples of representative commodities in parallel with the respective Codex commodity grouping Classification revisions; (3) provide flexibility on the selection of representative crops and (4) provide guidance not only to the Committee on Pesticide Residues (CCPR) and Codex members, but also to the Joint Meeting on Pesticide Residues (JMPR), product manufacturers and other data generators.

Detailed background information regarding production, consumption, MRLs and characteristics and justification for selection of the representative commodities according to the indicated principles were provided in working documents considered by the Committee when developing the representative commodities for each commodity group.

GUIDANCE AND PROCEDURES

As proposals for the revision of the Classification are made and revised commodity groupings are developed and provided to CCPR for their review, proposals on representative commodities will also be provided in parallel with the respective commodity grouping revisions and will advance through the Step Procedure for adoption by the Codex Alimentarius Commission (CAC).

As comments are addressed on the revisions of the Classification and the proposed representative commodities and these are agreed by CCPR and adopted by CAC, two separate documents will be created and maintained: (1) the Classification (without mention of representative commodities) and (2) principles and guidance on the selection of representative commodities.

The JMPR may be advised to use the representative commodities adopted by CAC. However, JMPR may use other representative commodities (including those which may be specifically requested by member nations)

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[1]   Classification of Foods and Animal Feeds (CXM 4-1989)
[2]   Submission and Evaluation of Pesticide Residues Data for the Estimation of Maximum Residue Levels in Food and Feed (Section 6.7, Point a), FAO Plant Production and Protection Paper 197, Food and Agriculture Organisation of the United Nations, Rome, 2009 (Second Edition)

on a case-by-case basis. The JMPR will be requested to provide to CCPR justification for the use of any alternative representative commodities, based on all available data.

ALTERNATIVE REPRESENTATIVE COMMODITIES

To facilitate the global use of the commodity groups for MRLs, alternative representative commodities may be selected giving flexibility for use of residue research conducted in different countries or regions that may vary due to regional differences in dietary consumption and/or areas of production for certain commodities. Table 1 in this document proposes examples of representative commodities for commodity groups. Depending on country or regional differences, alternative representative commodities may be proposed by a country. For example, leeks may be proposed as an alternative representative commodity for green onions in the green onion subgroup of bulb vegetables.

PRECEDENCE IN SELECTION OF REPRESENTATIVE COMMODITIES

In situations where a representative commodity does not meet all three of the above principles, a representative commodity should at least meet the first two principles (likely to contain the highest residues and also major in terms of production and/or consumption).

Selection of Representative Commodities

When representative commodities are utilised to extrapolate residue levels to other members of a commodity group, it is on the assumption that residues in other members of the commodity group will not be significantly different to residues found in the representative commodity. That is, the representative commodities are good indicators of the upper range of residues likely to be encountered for the group or subgroup, based on the same or comparable GAP and other available information.

An MRL for the group may be estimated from the highest residue level for any of the individual representative commodities or from the larger combined data set. The ALARA[3] principle should be considered in terms of whether the larger residue data set should be combined and the potential impact of derived values used in the dietary risk assessment.

WIDER EXTRAPOLATIONS

A representative commodity should meet at least the first two principles described above, i.e. likely to contain the highest residues and also major in terms of production and/or consumption. However, it may not always fit well with the growth habits, or pest problems of morphology within one group or subgroup. In such situations, extrapolations beyond the members of a commodity group may be appropriate. These can be considered on a case-by-case basis when commodities (with similar GAPs) have similar size, shape and surface area. Examples of these possible wider extrapolations include (1) translation of certain stone or pome fruit MRLs to a tropical fruit; (2) where residues are all <LOQ (limit of quantification) for pre-emergent herbicide uses and (3) seed treatments for non systemic pesticides.

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[3]   ALARA (as low as reasonable achievable)