



Food and Agriculture  
Organization of the  
United Nations



World Health  
Organization



# EVALUATION 2019 PART I - RESIDUES

**Pesticide Residues in Food**  
**Extra** Joint FAO/WHO Meeting  
on Pesticide Residues



# **Pesticide Residues in Food 2019**

## **Extra Joint FAO/WHO Meeting on Pesticide Residues**

### **Evaluation Part I - Residues**

Sponsored jointly by FAO and WHO Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Core Assessment Group  
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Pesticide residues in food 2019

Evaluations

Part I: Residues

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## Abbreviations

5-OH-dicamba	2,5-dichloro-3-hydroxy-6-methoxybenzoic acid
ADI	acceptable daily intake
AMBA	2-amino-4-methylsulfonylbenzoic acid
AR	applied radioactivity
ARfD	acute reference dose
BBCH	Biologische Bundesanstalt, Bundessortenamt Und Chemische Industrie
bw	body weight
CAS	Chemical Abstracts Service
CCPR	Codex Committee on Pesticide Residues
cGAP	critical GAP
DALA	days after last application
DAT	days after treatment
DCGA	3,6-dichlorogentisic acid
DCSA	3,6-dichlorosalicylic acid
DM	dry matter
equiv	equivalent(s)
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GAP	good agricultural practice
GC-ECD	gas chromatography – electron capture detector
GEMS	Global Environment Monitoring System – Food Contamination Monitoring and Assessment Programme
GLP	good laboratory practice
HPLC	high performance liquid chromatography
HR	highest residue level in the edible portion of a commodity
HR-P	highest residue level in a processed commodity
IEDI	international estimated daily intake
IESTI	international estimate of short-term dietary intake
IUPAC	International Union of Pure and Applied Chemistry
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
JECFA	Joint FAO/WHO Expert Committee on Food Additives
JMPR	Joint FAO/WHO Meeting on Pesticide Residues
LC-MS/MS	liquid chromatography-tandem mass spectrometry
LOD	limit of detection
LOQ	limit of quantification

LSC	liquid/solid chromatography
MNBA	2-nitro-4-methylsulfonylbenzoic acid
MRL	maximum residue limit
OECD	Organisation for Economic Co-Operation and Development
PBI	plant-back interval
PF	processing factor
PHI	pre-harvest interval
Po	post-harvest
ppm	parts per million
RAC	raw agricultural commodity
RTI	re-treatment interval
SC	suspension concentrate
SPE	solid-phase extraction
STMR	supervised trials median residue
STMR-P	supervised trials median residue in a processed commodity
TLC	thin layer chromatography
$T_{\max}$	time to reach maximum concentration
TRR	total radioactive residues
TTC	threshold of toxicological concern
UK	United Kingdom
USA	United States of America
WHO	World Health Organization
Xg	relative centrifugal force



## **Use of JMPR reports and evaluations by registration authorities**

Most of the summaries and evaluations contained in this report are based on unpublished proprietary data submitted for use by JMPR in making its assessments. A registration authority should not grant a registration on the basis of an evaluation unless it has first received authorisation for such use from the owner of the data submitted for the JMPR review or has received the data on which the summaries are based, either from the owner of the data or from a second party that has obtained permission from the owner of the data for this purpose.



## Introduction

The 2019 Extra Joint FAO/WHO Meeting on Pesticide Residues (JMPR) was held in Gatineau/Ottawa, Canada from 7 to 17 May. The meeting was opened by Mr Brent Wilson, Deputy Director of Technical Trade Policy, Department of Agriculture and Agri-Food.

Mr Wilson welcomed the participants of the first Extra JMPR Meeting to Canada and indicated that Canada is a strong supporter of the system of international standards, including those established by Codex, because they help to facilitate the production and trade of safe foods. He highlighted the fact that international food trade relied heavily on a predictable trade environment, in which decisions taken are based on scientific justification. As a result he believed the scientific advice provided by the JMPR played an important role in facilitating trade, as well as being used by many governments in their pesticide registration process to set standards when managing imports.

However, due to resource limitations and increasing submissions the timeframes for the scheduling of compounds for JMPR evaluation have been extended.

From that perspective he considered the hosting of the 2019 Extra JMPR by the Canadian government to be an important initiative in expediting the international standard setting process. Mr Wilson also noted that Canada's proposal and funding of the Extra JMPR Meeting opens the door for other countries to contribute to such a meeting.

The JMPR Secretariats expressed their appreciation to the Canadian government for hosting this meeting and as well as the training for the new JMPR experts in 2017, noting that half of the FAO experts participating in the current Meeting were the result of a previous training organized jointly by the Canadian government and FAO.

During the meeting, the FAO Panel of Experts on Pesticide Residues in Food and the Environment was responsible for reviewing residue and analytical aspects of the pesticides under consideration, including data on their metabolism, fate in the environment and use patterns, and for estimating the maximum levels of residues that might occur as a result of use of the pesticides according to good agricultural practice. The methodologies are described in detail in the FAO Manual on the submission and evaluation of pesticide residue data for the estimation of maximum residue levels in food and feed (2016) hereafter referred to as the FAO manual. The WHO Core Assessment Group on Pesticide Residues was responsible for reviewing toxicological and related data where necessary and possible.

The Meeting evaluated 19 pesticides for toxicity or residues, or both. The Meeting estimated maximum residue levels and recommended them for use by CCPR, and estimated supervised trials median residue (STMR) and highest residue (HR) levels as a basis for estimating dietary exposures.

The Meeting also estimated the dietary exposures (both acute and long-term) of the pesticides reviewed and, on this basis, performed a dietary risk assessment in relation to the relevant ADI and where necessary the ARfD. Cases, in which ADIs or ARfDs may be exceeded, if they occur, are clearly indicated in order to facilitate the decision-making process by the CCPR.





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