

**PHILIPPINE
NATIONAL
STANDARD**

**PNS/BAFS 378:2024
ICS 65.100.01**

**Sweet and Chili Peppers — Product Standard —
Maximum Residue Limits (MRL) of Pesticides**



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Published by:

Bureau of Agriculture and Fisheries Standards

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ISBN 978-621-455-535-2 (PDF)

www.bafs.da.gov.ph

Foreword

In 2019, the Philippine Association of Food Technologists (PAFT), Inc. submitted a proposal to the DA-BAFS for the development of PNS for MRL of Pesticides in Sweet and Chili Peppers. The development of this standard aims to protect consumer health by ensuring food safety and quality of sweet and chili peppers produced locally and imported in the Philippines. It also facilitates trade by serving as a measurable trading standard and promoting responsible pesticide use in the industry. Hence, in 2023, the DA-BAFS Standards Development Division (SDD) prioritized the development of PNS for MRL of Pesticides in Sweet and Chili Peppers to establish national MRL that is harmonized with the Codex and ASEAN MRL.

A Technical Working Group (TWG) was established through Special Order No. 305, series of 2024 (Creation of the Technical Working Groups [TWG] and Project Management Team [PMT] for the Development of the PNS for Agricultural and Fishery Products and Machinery). The TWG was composed of relevant stakeholders from the government sector, academe/research institutions, private sector organizations, and Civil Society Organizations (CSO). The draft PNS underwent a series of TWG meetings and stakeholder consultations conducted via an online platform before its endorsement to the DA Secretary for approval.

This document was drafted in accordance with the editorial rules of the DA-BAFS- Standards Development Division (SDD) Standardization Guide No. 1: Writing the PNS.

1 Scope

This Standard covers the maximum residue limits (MRL) of pesticides established for commercial varieties of sweet (e.g., bell pepper) and chili peppers grown from *Capsicum annuum* (L.) of the Solanaceae family.

2 Normative References

The following documents are referred to in the text in such a way that some or all their contents constitute the requirements of this document. The latest edition of the referenced documents (including any amendments) applies.

Bureau of Agriculture and Fisheries Standards (BAFS)-Department of Agriculture (DA). (2023). Performance criteria for methods of analysis for the determination of pesticide residues in food and feed — Guidelines (PNS/BAFS 367:2023).

<https://bafs.da.gov.ph/page/PhilippineNationalStandards>

Codex Alimentarius Commission (CAC). (1993). Guidelines on good laboratory practice in pesticide residue analysis (CAC GL 40-1993).

http://www.fao.org/input/download/standards/378/cxg_040e.pdf

CAC. (1999). Recommended methods of sampling for the determination of pesticide residues for compliance with MRLs (CAC GL 33-1999).

http://www.fao.org/input/download/standards/361/CXG_033e.pdf

CAC. (2005). Guidelines on the use of Mass Spectrometry (MS) for identification, confirmation, and quantitative determination of residues (CAC GL 56-2005).

http://www.fao.org/input/download/standards/10185/cxg_056f.pdf

CAC. (2010). Portion of commodities to which maximum residues limits apply and which is analyzed (CAC GL 41-1993).

http://www.fao.org/input/download/standards/43/CXG_041e.pdf

CAC. (2017). Principles and guidance on the selection of representative commodities for the extrapolation of maximum residue limits for pesticides to commodity groups (CXG 84-2012). http://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FStandards%252FCXG%2B84-2012%252FCXG_084e.pdf

http://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FStandards%252FCXG%2B84-2012%252FCXG_084e.pdf

International Atomic Energy Agency (IAEA). (2022). Food contaminant and residue information system.

<https://www.iaea.org/resources/databases/food-contaminant-and-residue-information-system>

US Food and Drug Administration (FDA). (1999). Pesticide Analytical Manual (PAM) Volume I (3rd ed.). <https://www.fda.gov/food/laboratory-methods-food/pesticide-analytical-manual-volume-i-pam-3rd-edition>

US FDA. (2002.) PAM Volume II. <https://www.fda.gov/food/laboratory-methods-food/pesticide-analytical-manual-volume-ii>

3 Terms and Definitions

For the purpose of this Standard, the following definitions shall apply:

3.1

active ingredient

part of the product that provides the pesticidal action (Food and Agriculture Organization of the United Nations [FAO] & World Health Organization [WHO], 2014)

3.2

Maximum Residue Limit (MRL)

maximum concentration of a pesticide residue (expressed as mg/kg) to be legally permitted in or on food commodities and animal feeds (CAC, 2024)

3.3

pesticide

any substance or product, or mixture thereof, including active ingredients, adjuvants and pesticide formulations, intended to control, prevent, destroy, repel or mitigate directly or indirectly, any pest. The term shall be understood to include insecticide, fungicide, bactericide, nematicide, herbicide, molluscicide, avicide, rodenticide, plant regulator, defoliant, desiccant, and the like (Creating the Fertilizer and Pesticide Authority and Abolishing the Fertilizer Industry Authority, 1984)

3.4

pesticide residue

any specified substance in food, agricultural commodities, or animal feed resulting from the use of a pesticide. The term includes any derivatives of a pesticide, such as conversion products, metabolites, reaction products, and impurities considered to be of toxicological significance (CAC, 2024)

4 Minimum Requirements

The MRL of pesticides in sweet and chili peppers are shown in Table 1. The listed MRL apply to both commodities unless specified.

Table 1. MRL of pesticide per active ingredient in sweet and chili peppers

Active ingredient	MRL (mg/kg)
abamectin	0.005 (chili pepper) ^{1b} 0.09 (sweet pepper) ²
afidopyropen	0.10 ^{1a}
bifenthrin	0.50 ^{1a}
buprofezin	2.00 ^{1a}
carbaryl	0.50 (chili pepper) ^{1b,2} 5.00 (sweet pepper) ^{1c,2}
chlorfenapyr	0.30 ^{1a}
chlorothalonil	7.00 ^{1a,2,3}
chlorpyrifos	3.00 (chili pepper) ² 2.00 (sweet pepper) ²
chlorpyrifos-methyl	1.00 ^{1a}
cyclaniliprole	0.15 ^{1a}
cycloxydim	9.00 ^{1a}
cyfluthrin	0.20 ^{1a,2}
cypermethrin	2.00 (chili pepper) ^{1b,2} 0.01 (sweet pepper) ^{1c}
diazinon	0.50 (sweet pepper) ²
dimethoate	0.50 (sweet pepper) ²
dithiocarbamates	1.00 (sweet pepper) ^{1c,2}
dinocap	0.20 ^{1a}
fenbuconazole	0.60 ^{1a}
Fenhexamid	2.00 ^{1a}
fenpropathrin	1.00 ^{1a,2}
fenpyroximate	0.20 ^{1a}
flubendiamide	0.70 ^{1a}

Active ingredient	MRL (mg/kg)
fludioxonil	1.00 ^{1a}
fluopyram	3.00 ^{1a,3}
flupyradifurone	0.90 ^{1a}
flutriafol	1.00 ^{1a}
imidacloprid	1.00 ^{1a,2}
indoxacarb	0.30 ^{1a}
malathion	0.10 ^{1a,2}
mandipropamid	1.00 ^{1a}
metaflumizone	0.60 ^{1a}
metalaxyl	1.00 ^{1a,2}
methomyl	0.70 ^{1a,2}
methoxyfenozide	2.00 ^{1a}
myclobutanil	3.00 ^{1a}
oxamyl	0.01 ^{1a}
permethrin	1.00 ^{1a,2}
piperonyl butoxide	2.00 ^{1a}
prochloraz	3.00 (chili pepper) ²
propamocarb hydrochloride	3.00 (sweet pepper) ^{1c,2}
pyraclostrobin	0.50 ^{1a}
pyrethrins	0.05 ^{1a}
pyriproxyfen	0.60 ^{1a}
quinoxifen	1.00 ^{1a}
spinetoram	0.40 ^{1a}
spinosad	0.30 ^{1a}
spiromesifen	0.50 ^{1a}
spiropidion	1.00 ^{1a}
tebuconazole	1.00 ^{2,3}
tebufenozide	1.00 ^{1a,2}
tetraniliprole	0.40 ³
trifloxystrobin	0.30 ^{1c,3}
tolfenpyrad	0.50 ^{1a}

Active ingredient	MRL (mg/kg)
^{1a} Codex Alimentarius Commission (CAC). (2024a). Codex pesticides residues in food online database for subgroup 12b pepper and pepper-like commodities. https://www.fao.org/fao-who-codexalimentarius/codex-texts/dbs/pestres/commodities-detail/en/?c_id=323	
^{1b} Codex Alimentarius Commission (CAC). (2024b). Codex pesticides residues in food online database for chili pepper. https://www.fao.org/fao-who-codexalimentarius/codex-texts/dbs/pestres/commodities-detail/en/?c_id=378	
^{1c} Codex Alimentarius Commission (CAC). (2024c). Codex pesticides residues in food online database for sweet pepper. https://www.fao.org/fao-who-codexalimentarius/codex-texts/dbs/pestres/commodities-detail/en/?c_id=318	
² Association of Southeast Asian Nations (ASEAN). (2022). ASEAN MRL for sweet and chili peppers. [Unpublished raw data].	
³ Fertilizer and Pesticide Authority (FPA)-Department of Agriculture (DA). (2024). Registered agricultural pesticides for sweet and chili peppers.	

5 Methods of Analysis and Sampling

Analytical and sampling methods to be used for ascertaining conformance to the established limits should be in accordance with relevant texts by the CAC, national competent authority, and/or international organizations, which include but are not limited to the following:

- a) BAFS-DA. (2023). Performance criteria for methods of analysis for the determination of pesticide residues in food and feed — Guidelines (PNS/BAFS 367:2023).
- b) CAC. (1993). Guidelines on good laboratory practice in pesticide residue analysis (CAC GL 40-1993).
- c) CAC. (1999). Recommended methods of sampling for the determination of pesticide residues for compliance with MRLs (CAC GL 33-1999).
- d) CAC. (2005). Guidelines on the use of Mass Spectrometry (MS) for identification, confirmation and quantitative determination of residues (CAC GL 56-2005).

- e) CAC. (2010). Portion of commodities to which maximum residue limits apply and which is analyzed (CAC GL 41-1993).
- f) CAC. (2017). Principles and guidance on the selection of representative commodities for the extrapolation of maximum residue limits for pesticides to commodity groups (CXG 84-2012).
- g) International Atomic Energy Agency (IAEA). (2022). Food contaminant and residue information system.
- h) US Food and Drug Administration (FDA). (1999). Pesticide Analytical Manual (PAM) Volume I (3rd ed.).
- i) US FDA. (2002.) PAM Volume II.

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http://www.fao.org/input/download/standards/361/CXG_033e.pdf

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https://www.fao.org/fao-who-codexalimentarius/codex-texts/dbs/pestres/commodities-detail/en/?c_id=378

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https://www.fao.org/fao-who-codexalimentarius/codex-texts/dbs/pestres/commodities-detail/en/?c_id=318

Codex Alimentarius Commission (CAC). (2024d). Glossary of terms.

<https://www.fao.org/fao-who-codexalimentarius/codex-texts/dbs/pestres/glossary/en/#:~:text=%22Pesticide%20residue%22%20means%20any%20specified,to%20be%20of%20toxicological%20significance>

Creating the Fertilizers and Pesticide Authority and Abolishing the Fertilizer Industry Authority, Presidential Decree No. 1144, series 1977. (1984).

<https://fpa.da.gov.ph/NW/images/FPAfiles/DATA/B.G.Book-IRR-PD1144/PD%201144.pdf>

Fertilizer and Pesticide Authority (FPA)-Department of Agriculture (DA). (2024). Registered agricultural pesticides for sweet and chili peppers.

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http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/Code/CODE_2014Sep_ENG.pdf

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**Department of Agriculture (DA)
Bureau of Agriculture and Fisheries Standards (BAFS)**

**Philippine National Standards (PNS) on Sweet and Chili Peppers — Product
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