

Foreword

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The Philippine National Standard (PNS) for Chilli Peppers- Specification and Grading (PNS/BAFS ____:2016) was prepared by the Bureau of Agriculture and Fisheries Standards (BAFS). Chilli is considered as one of the most important spice crops in the world because of its pungency, taste, flavor and color to dishes. Due to its perceived big demands for chilli and chilli products, standard for chilli is necessary. In 2011, the Codex Alimentarius Commission adopted a *Codex Standard for Chilli Peppers* (CODEX STAN 307-2011). This Product Standard is an adoption of this Codex Standard, with modifications to suit the local provisions of chilli peppers in the Philippines.

A Technical Working Group (TWG) was created through Special Order No. 199 Series of 2016 to develop the draft Philippine National Standard (PNS): Specification and Grading for Chilli Peppers. The TWG represented the relevant agencies of the Department of Agriculture (DA), the University of the Philippines- Diliman (UPD) and Los Baños (UPLB), Office of Presidential Assistance for Food Security and Agricultural Modernization (OPAFSAM) and Department of Science and Technology (DOST). Public consultations were conducted in Regions I, V, XI and National Capital Region (NCR), which represented the major hubs of production and trade of chilli peppers. Comments and recommendations were solicited from the relevant government agencies, academe, private sector and non-government organizations. Therefore, this Product Standard is the final output of the public-private sector collaboration between, and among the TWG and the relevant stakeholders who participated in the public consultations.

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35 **1 Scope**

36 This Standard applies to fresh chilli peppers with pungency exceeding 900 Scoville units,
37 grown from *Capsicum annuum* L. including varieties (cultivars) and/or commercial
38 types. Chilli peppers for industrial processing are excluded.

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40 **2 References**

41 The titles of the publications referred to in this Standard are listed in the inside back
42 cover.

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44 **3 Definitions**

45 For purposes of this Standard, the following definitions shall apply:

46 **3.1 Capsaicinoids** – colorless irritant phenolic amide $C_{18}H_{27}NO_3$ found in chilli peppers
47 that gives their pungency; measured in $\mu\text{g/g}$ dry weight. $1\mu\text{g/g}=15$ scoville units.

48 **3.2 Clean** – practically free from stain, pests and diseases, cuts and bruises, dirt or other
49 foreign matter.

50 **3.3 Damage/ Defect** – any specific feature which detracts from the appearance of the
51 edible or marketing quality of chilli peppers.

52 **3.4 Foreign matter** – shall include, but not limited to pests, dust, dirt, plastic, and stone
53 which are extraneous or foreign to chilli peppers.

54 **3.5 Practically free** – almost free of the concerned items.

55 **3.6 Scoville Units** – measurement of the pungency (spicy heat) of chilli peppers.

56 **3.7 Sound** – fresh, free from rotting and deterioration.

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58 **4 Provisions Concerning Quality**

59 **4.1 Minimum Requirements**

60 In all classes, subject to the special provisions for each class and the tolerances allowed,

61 the chilli peppers must be:

- 62 – whole, the stalk (stem) may be missing, provided that the break is clean and the
- 63 adjacent skin is not damaged;
- 64 – sound, produce affected by rotting or deterioration such as to make it unfit for
- 65 consumption is excluded;
- 66 – firm;
- 67 – clean, practically free of any visible foreign matter;
- 68 – practically free of pests and damage caused by them affecting the general
- 69 appearance of the produce;
- 70 – free of abnormal external moisture excluding condensation following removal
- 71 from cold storage;
- 72 – free of any foreign smell and/or taste; and
- 73 – free of damage caused by low and/or high temperatures.

74 **4.1.1** Chilli peppers must be harvested at an appropriate degree of maturity in
75 accordance with the criteria proper to the variety and the area in which they are grown.

76 The maturity and condition of the chilli peppers must be such as to enable them:

- 77 – to withstand transport and handling; and
- 78 – to arrive in satisfactory condition at the place of destination.

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80 **5 Classification**

81 Chilli peppers are classified in three classes defined below:

82 **5.1 Extra class**

83 Chilli peppers in this class must be of superior quality. They must be characteristic of the
84 variety. They must be free of defects, with the exception of very slight superficial defects
85 affecting an area of up to 0.5% of the produce surface, provided these do not affect the
86 general appearance of the produce, the quality, the keeping quality and presentation in
87 the package.

88 **5.2 Class I**

89 Chilli peppers in this class must be of good quality. They must be characteristic of the
90 variety. Slight defects, however, may be allowed, affecting an area of up to 2.0% of the
91 product surface, provided these do not affect the general appearance of the produce, the
92 quality, the keeping quality and presentation in the package.

93

94 5.3 Class II

95 This class includes chilli peppers, which do not qualify for inclusion in the higher classes,
96 but satisfy the minimum requirements specified in Section 4.1 above. Defects, however,
97 may be allowed, affecting an area of up to 3.0% of the product surface, provided the chilli
98 peppers retain their essential characteristics as regards the quality, the keeping quality
99 and presentation.

100

101 6 Provisions Concerning Sizing

102 Size is determined by length of the chilli pepper in accordance with the following table:

103 **Table 1. Size specification for chilli peppers**

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Size code	Length (in centimeters)
1	≤ 4
2	$4 < 8$
3	$8 < 12$
4	$12 < 16$
5	≥ 16

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107 7 Provisions Concerning Tolerance

108 Tolerance in respect of quality and size shall be allowed in each package for produce not
109 satisfying the requirements of the class indicated.

110 7.1 Quality Tolerances

111 7.1.1 Extra class

112 Five percent (5%) by number or weight of chilli peppers not satisfying the requirements
113 of the class, but meeting those of Class I or, exceptionally, coming within the tolerances
114 of that class.

115 7.1.2 Class I

116 Ten percent (10%) by number or weight of chilli peppers not satisfying the requirements
117 of the class, but meeting those of Class II or, exceptionally, coming within the tolerances
118 of that class.

119 **7.1.3 Class II**

120 Ten percent (10%) by number or weight of chilli peppers satisfying neither the
121 requirements of the class nor the minimum requirements, with the exception of produce
122 affected by rotting or any other deterioration rendering it unfit for consumption.

123

124 **7.2 Size Tolerances**

125 For all classes, 10% by number or weight of chilli peppers corresponding to the size
126 immediately above and/or below that indicated on the package.

127

128 **8 Sampling**

129 Sampling for ascertaining the conformance shall be in accordance with *Fresh Fruits and*
130 *Vegetables—Sampling* (PNS/ISO 874) in Annex A.

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132 **9 Provisions Concerning Presentation**

133 **9.1 Uniformity**

134 The contents of each package must be uniform and contain only chilli peppers of the same
135 origin, quality, size and variety. The visible part of the contents of the package must be
136 representative of the entire contents.

137 **9.2 Packaging**

138 Chilli peppers must be packed in such a way as to protect the produce properly. The
139 materials used inside the package must be new, clean, and of a quality such as to avoid
140 causing any external or internal damage to the produce. The use of materials, particularly
141 of paper or stamps bearing trade specifications is allowed, provided the printing or
142 labeling has been done with non-toxic ink or glue.

143 Chilli peppers shall be packed in each container in compliance with the *Code of Practice*
144 *for Packaging and Transport of Fresh Fruits and Vegetables* BAFS/PNS ____:2016

145 **9.2.1 Description of containers**

146 The containers shall meet the quality, hygiene, ventilation and resistance characteristics
147 to ensure suitable handling, shipping and preserving of the chilli peppers. Packages must
148 be free of all foreign matter and smell.

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151 **10 Marking or Labeling**

152 **10.1 Consumer Packages**

153 In addition to the requirements of the *Codex General Standard for the Labeling of*
154 *Prepackaged Foods* (CODEX STAN 1-1985), the following specific provisions apply:

155 **10.1.1 Nature of Produce**

156 If the produce is not visible from the outside, each package shall be labeled as to the name
157 of the produce and the variety and may be labeled as to the level of pungency (Annex B).

158 **10.2 Non- Retail Containers**

159 Each package must bear the following particulars, in letters grouped on the same side,
160 legibly and indelibly marked, and visible from the outside, or in the documents
161 accompanying the shipment.

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163 **10.2.1 Identification**

164 Name and address of exporter, packer and/or dispatcher. Identification code (optional).

165 **10.2.2 Nature of Produce**

166 Name of the produce if the contents are not visible from the outside. Name of the variety,
167 level of pungency (optional).

168 **10.2.3 Origin of Produce**

169 Country of origin and, optionally, district where grown or national, regional or local place
170 name.

171 **10.2.4 Commercial Identification**

- 172 – Class;
173 – Size;
174 – Variety; and
175 – Pungency.

176 **10.2.5 Official Inspection Mark (Optional)**

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178 **11 Contaminants**

179 **11.1 Heavy Metals**

180 Chilli Peppers shall comply the maximum limits for heavy metals (e.g., cadmium (Cd) and

181 lead (Pb)) established by the Codex Alimentarius Commission and/or competent
182 authority for this commodity.

183 **11.2 Pesticide Residue**

184 The produce covered by this Standard shall comply with the maximum residue limits for
185 pesticides established by the Codex Alimentarius Commission.

186 **12 Hygiene**

187 **12.1** It is recommended that the produce covered by the provisions of this Standard be
188 prepared and handled in accordance with the appropriate sections of the *Recommended*
189 *International Code of Practice – General Principles of Food Hygiene* (CAC/RCP 1-1969), ,
190 and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.
191 COHP for Spices and Dried Aromatic Herbs

192 **12.2** The produce should comply with any microbiological criteria established in
193 accordance with the *Principles for the Establishment and Application of Microbiological*
194 *Criteria for Foods* (CAC/GL 21-1997).

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210 **ANNEXES**211 **Annex A**
212 **Method of Sampling**213 **A.1. Preparation of the lot for sampling**

214 The lot shall be prepared for sampling in such a way that samples can be taken without
215 hindrance or delay. The samples shall be taken by the interested parties or by a
216 representative authority.

217 Each lot shall be sampled separately, but if the lot shows damage due to transport, the
218 damaged portions of the lot shall be isolated and sampled separately from the sound
219 portions. It shall be divided into uniform lots and each lot shall be sampled by agreement
220 between buyer and seller, unless they have decided otherwise.

221 **A.2. Increments**

222 Increments shall be taken at random from different places and from different levels in
223 the lot.

224 **A.2.1 Packaged products**

225 In the case of packaged products (wooden packages, cardboard packages, bags, etc.), the
226 samples shall be taken at random in accordance with table 2.

227 **Table A.1. Number of packages to be taken**

Number of similar packages in the lot	Number of packages to be taken, each constituting an increment
Up to 100	5
101 to 300	7
301 to 500	9
501 to 1000	10
Over 1000	15 (min.)

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229 **A. 2.2 Products in bulk**

230 At least five increments shall be taken from each lot, corresponding to a total mass or a
231 total number of bundles as given in table 3.

232 **Table A.2. Size of Increments**

Mass of lot in (in kg) or total number of bundles in lot	Total mass of increments (in kg) or total number of bundles to be taken
Up to 200	10
201 to 500	20
501 to 1000	30

(Table A.2 continued)	
1001 to 5000	60
Over 5000	100 (min.)

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234 In the case of large fruits and vegetables (over 2 kg per unit) the increments shall
235 consist of at least five units.

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237 **A.3. Preparation of bulk sample or reduced sample**

238 The bulk sample is formed, if required, by assembling and, if possible, mixing the
239 increments. The reduced sample, if required, is obtained by reduction of the bulk sample.

240 On-the-spot examination is carried out on the bulk sample or the reduced sample and
241 this shall be carried out as quickly as possible after sampling in order to avoid any change
242 in the characteristics to be examined.

243 **A.4. Size of laboratory samples**

244 The size of the laboratory samples depends on the laboratory tests to be carried out,
245 which shall be indicated in the contract. Minimum quantities are given in table 4.

246 **Table A.4 – Size of laboratory samples**

Product	Size of laboratory sample
Small fruits, medlars, walnuts, hazelnuts, almonds, chestnuts and vegetables other than those listed below	1 kg
Cherries, morello cherries, plums	2 kg
Apricots, bananas, quinces, citrus fruits, peaches, apples, pears, grapes, avocados, garlic, aubergines, beetroots, cucumbers, turnips, cabbages, root vegetables, onions, paprika, radishes, tomatoes	3 kg
Pumpkins, melons, water-melons, pineapples	5 units
Cabbages, cauliflowers, red cabbages, lettuces	10 heads
Sweet corn	10 cobs
Vegetables in bundles	10 bundles

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Annex B
Levels of Pungency

Pungency	Scoville Units	Total Capsaicinoids (microg/gm dry weight)
Mild	900 – 1,999	60 – 133
Medium	2,000 – 19,999	134 – 1,333
Hot	20,000 – 100,000	1,334 – 6,600
Extra Hot	>100,000	>6,600

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Annex C
Classification of Siling Haba



Figure C.1. Extra class

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Figure C.2. Class 1



Figure C.3. Class 2



Figure C.4. Class 3

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Annex D
Classification of Siling Labuyo

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Figure D1. Extra class

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Figure D2. Class 1

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Figure D3. Class 2

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Figure D4. Class 3

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Philippine National Standard for Specification and Grading for Chilli Peppers**

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