



# POLICY BRIEF

A publication of the Policy Advocacy Group (PAG) of the Department of Science and Technology-Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (DOST-PCAARRD)



## Fit for a Queen: Restructuring the Philippine National Standard for Queen Pineapples

(Image credit: CNSC Project Team 2016)

The Philippines produces quality pineapples and has an expanding local and overseas market. But the promise of a high net profit margin is hardly felt by pineapple farmers/growers, specifically those in Bicol, the third top producer of pineapple.

Current practices show that Queen pineapples harvested in the region are classified by traders based on their standards. It was found that both traders and growers are not aware of the Philippine National Standard (PNS) for Fresh Pineapples issued

in 2004. Moreover, the current standards were also found to be unfit for the Queen pineapple variety. Updating the standard grading system for Queen pineapple and an effective information dissemination campaign on

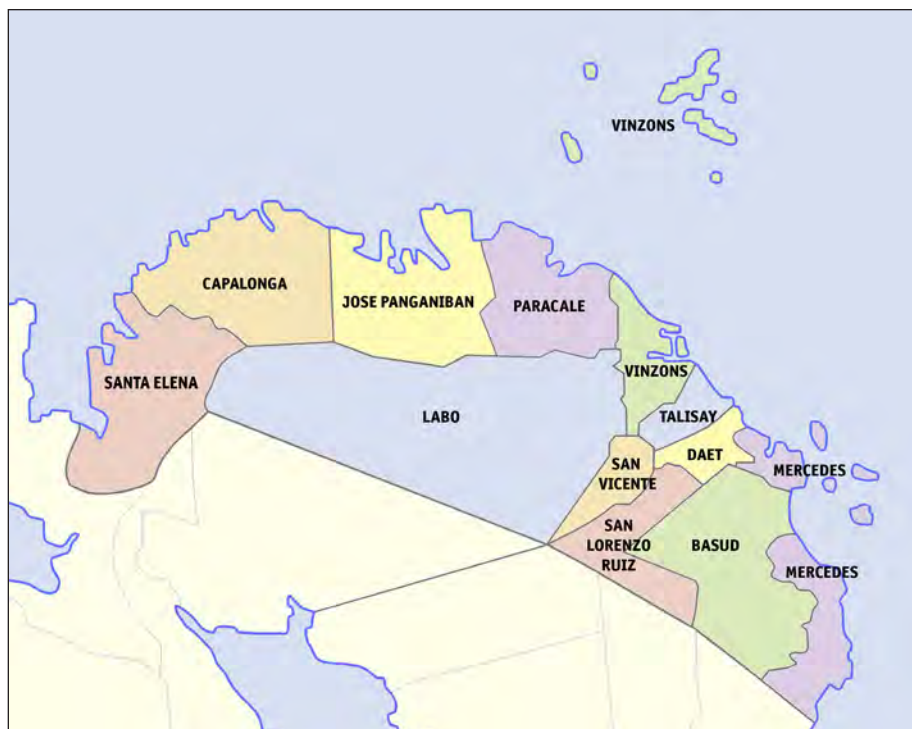
such standards will allow farmers to assign appropriate value to their produce and increase their bargaining power. Hence, pineapple farmers can profit more as they can command better prices for their products, thereby, in general, positively affecting the Queen pineapple industry.

## THE QUEEN PINEAPPLE OF CAMARINES NORTE

The Queen pineapple (Formosa variety, *Ananas comosus* [Linn.] Merr.), touted as the sweetest pineapple in the world, has a distinct aromatic sweetness and crispiness. Queen pineapple fruits, weighing around 450–950 grams (g), are relatively smaller than other varieties such as Smooth Cayenne or Hawaiian and Native Philippine Red or Red Spanish.

It is mainly produced in the municipalities of Basud, San Lorenzo Ruiz, San Vicente, Labo, and Daet in Camarines Norte where 96 percent (%) of pineapples from the Bicol region come from. Pineapple is among the food crops such as coconut, papaya, banana, and other fruit trees that contribute to the total agricultural value of the province. An estimated 3,000 farmers in Camarines Norte alone are dependent on the Queen pineapple industry.

Other than the fresh fruit, Queen pineapple is also used to produce fresh juice extracts and processed into dry fruit snacks. Meanwhile, its byproducts are also made into piña cloth, which is woven and transformed into exquisite barongs, kimonos and



**Camarines Norte political map.**

(Image credit: Everipedia 2020)

gowns, and daily use items such as coin purses and pouch bags.

The Queen pineapple fruits are traded in nearby provinces, in Metro Manila, and even abroad. But while there is an expanding market and promising business opportunities for Queen pineapples, the industry seems slow to progress and economic impact is barely felt by pineapple growers. Among the problems that surfaced is that the pricing of pineapple is being controlled or decided by traders and not by pineapple producers/growers themselves. The traders or their hired sorters classify the pineapple fruits based on their standards.

## INTERNATIONAL POLICIES AND CURRENT PNS FOR FRESH FRUITS AFFECTING THE QUEEN PINEAPPLE INDUSTRY

Grades and standards are used as a basis for classifying the quality

of fresh produce. Grading involves the inspection, assessment, and sorting of various foods regarding quality, freshness, legal conformity, and market value. Food grading often occurs by hand or machinery, where foods are assessed and sorted by size, shape, and quality. Quality grades for fruits and vegetables depend on factors specified in each product standard such as color, consistency, absence of defects, character, uniformity of size, flavor, and odor (USDA 2018).

The Worldwide Codex Standard for Fresh Pineapple (CODEX Stan 182-1993 revised 1999) applies to commercial pineapple varieties that will be supplied fresh to consumers after preparation and packaging. At a minimum, the Codex requires pineapples to be whole (with or without crown), fresh (crown should be free of dead or dried leaves), clean and free of any visible foreign matter,





**Hauling plant materials for NICER Program for Queen pineapples.**  
(Image credit: DA RFO-V 2021)



**Newly-planted Queen pineapples.**  
(Image credit: DA RFO-V 2021)

free of pests and damages caused by such, and free of any foreign smell or taste, among others. The pineapples, to pass the Codex Standard, must be carefully picked and have reached an appropriate degree of maturity and ripeness based on the criteria for the variety and/or commercial type and the area in which these are grown.

There are three pineapple classifications in the Codex Standard—Extra, for superior quality fruits; Class I, for good quality fruits; and Class II, for pineapples that do not qualify for inclusion in the higher classes, but still satisfy the minimum requirements. Sizing of fruits in Codex is based on the average fruit weight—Size A (2,750 g with crown and 2,280 g without crown) to Size H (800 g with crown and 660 g without crown) (Table 1). Note that the Codex size standards do not cover small varieties such as the Queen pineapple, which can have a minimum weight of 250 g.

**Table 1. Codex size standards for pineapple.**

Size	Average weight (+/-12) (g)	
	With crown	Without crown
A	2,750	2,280
B	2,300	1,910
C	1,900	1,580
D	1,600	1,330
E	1,400	1,160
F	1,200	1,000
G	1,000	830
H	800	660





**Project staffer harvesting pineapples in Brgy. Caayunan, Basud, Camarines Norte.**  
(Image credit: CNSC Project Team 2016)



**Weighing harvested Queen pineapple in Brgy. Caayunan, Basud, Camarines Norte.**  
(Image credit: CNSC Project Team 2016)





**Gathering Queen pineapples in Brgy. Caayunan, Basud, Camarines Norte.** (Image credit: CNSC Project Team 2016)



**Measuring the Queen pineapple produce in Camarines Norte.** (Image credit: CNSC Project Team 2016)

To compare, the Smooth Cayenne variety usually weighs 2,350–3,600 g, the Native Philippine Red variety weighs around 910–1,400 g, and the Queen pineapple is around 450–950 g.

The Philippines followed suit in setting a standard on fresh pineapples. In 2004, the Bureau of Agriculture and Fisheries Product Standards (BAFPS), now known as Bureau of Agriculture and Fisheries Standards (BAFS), formulated the Philippine National Standard PNS/BAFPS 09:2004 for Fresh Fruits—Pineapples. Among the minimum requirements set by the PNS to determine pineapple quality are the following: it must be whole, fresh, free from any spoilage, discoloration, or deterioration, and the peduncle is cut clean, not longer than 2 centimeters. Size is determined by the weight of the fruit (Table 2).

**Table 2. Size of pineapples based on their weight.<sup>a</sup>**

Size	Weight (g) / Variety	
	Smooth Cayenne	Queen Pineapple/Formosa
SS (Batterball)	-	< 550
Small	< 1,500	550–700
Medium	1,500–2,000	700–850
Large	> 2,000	850–1,000
Extra large	-	> 1,000

<sup>a</sup> PNS/BAFPS 09:2004 for fresh fruits—pineapples.

To qualify for marketability or harvest, a maturity index for pineapples was developed. A harvested green-eyed pineapple with whitish bracts and grooves between





**Focus group discussion conducted in Barangay Iberica, Labo, Camarines Norte.**

(Image credit: CNSC Project Team 2016)

1 and 2 layers of eyes from the bottom showing separation and yellowing is best for dried candied pineapple; suitable harvest stage for long-term storage. The best pineapple for fresh consumption and for juice and jam processing is when about 2–3 layers of the eyes are at the base with yellowing. Moreover, pineapple is also mature if 50–75% of the eyes are yellow. A full yellow (overripe) pineapple is also considered mature.

Many of the Queen pineapple farmers and traders in Camarines Norte lack awareness of the existing PNS for pineapple, specifically the size standards for Queen pineapples. As such, the standards are not used as

reference in sorting. Instead, farmers and traders continue to adopt traditional pineapple sorting and trading practices where the traders estimate the price of pineapple.

Harvested Queen pineapple fruits are sorted into two groups—good and out. Good size has at least 5 layers of eyes while out, which is sometimes called batterball has 3–4 layers of eyes. Good-size pineapples are priced at P4.50–7.00 per piece, while out are priced at P1.00–2.00 per piece, depending on the season and the prevailing market price. On the other hand, smaller-sized or batterball pineapples are bought

at P0.75–1.75 per piece, or as low as P1.00 for three pieces.

If the PNS is adopted, the farmers' income will increase by about 20–30% or an estimate of P20,000–40,000 per cropping season (Azuelo 2018). Further, this will result in a win-win situation for both farmers and traders as the price adjustments will also benefit traders.

A second concern, however, is that the PNS for pineapples, specifically its size standards for batterball, which is used for Queen pineapple variety, is not suitable. Since Queen pineapple varieties are smaller than usual pineapples, they tend to be underpriced and





**Consultation on explanatory brochure for fresh fruit pineapple specification with BAFPS and DA-Region 5.**

(Image credit: CNSC Project Team 2018)

undervalued. There is a need to update the PNS for pineapples to adjust the size classification that is fitting for the Queen pineapple. This will give a fair advantage to Queen pineapple farmers, especially in Camarines Norte.

## POLICY RECOMMENDATIONS

To address the concerns of Queen pineapple growers and to ensure the sustainability of the Queen pineapple industry, several recommendations are advocated. The first is to update the PNS for Fresh Pineapples, specifically to add an "extra small" size classification to the Queen pineapple or Formosa variety. This may also be

submitted to the Provincial Board (*Sangguniang Panlalawigan*) of Camarines Norte to give input to the province's grading and trading of Queen pineapples. The restructuring of the size qualification for the Queen pineapple variety is highly recommended (Table 3).

Secondly, an extensive and strategic information and education campaign to promote the CODEX and PNS for Fresh Pineapples should be implemented. This should target both pineapple farmers/producers and traders.

Adopting a new standard for Queen pineapple and

**Table 3. Proposed size qualification for Queen pineapple variety.**

Size	Weight (g) / Variety
Batterball	< 350
Extra small	351–550
Small	551–700
Medium	701–850
Large	851–1,000
Extra large	> 1,000

informing and educating key players in the industry will strengthen farmers' bargaining power vis-à-vis traders and potential buyers. Further, this will result in more social and economic benefits and help contribute to rural poverty alleviation.

REFERENCES

Bureau of Agricultural Research. [Internet]. 2012. Bicol: A haven for the Queen. [cited 2018 August 8]. Available from: <https://www.bar.gov.ph/index.php/digest-home/digest-archives/367-2012-3rd-quarter/4416-julsep2012-bicol-queen-pineapple>.

[BAFPS] Bureau of Agriculture and Fisheries Product Standards. [Internet]. 2017. Philippine National Standard for Fresh Fruits—Pineapple. [cited 2018 May 18]. Available from: <http://www.bafps.da.gov.ph/2017-10-12-00-46-55/standard-formulation/philippine-national-standardsdownload=22;pns-bafs-09-fresh-fruit-pineapple-specification>.

[FAO] Food and Agriculture Organization of the United Nations. [Internet]. 1999. Codex Standard for Fresh Pineapples 182-1993, revised 1999. [cited 2020 November 20]. Available from: [http://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FStandards%252FCXS%2B182-1993%252FCXS\\_182e.pdf](http://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FStandards%252FCXS%2B182-1993%252FCXS_182e.pdf).

[USDA] United States Department of Agriculture. [Internet]. n.d. Fruit and vegetable grade standards. [cited 2018 June 22]. Available from: <http://dairyprogramhearing.com/getfile711b711b.pdf?dDoc%20Name=STELPRDC51%2008129>.

EDITOR’S NOTE

This policy brief is based on results of the DOST-PCAARRD-funded project, Evaluation of Queen Pineapple Grades and Standards and Assessment of Implementation and Compliance in Camarines Norte as Basis for Policy Reforms and Formulations (2018). The project was implemented by Camarines Norte State College and the team was composed of Dr. Maria Cristina C. Azuelo, Mr. Jesse O. Opeña, and Ms. Kathleen Mae M. Idnani.

**POLICY BRIEF** is a quarterly publication of the Policy Advocacy Group (PAG) of DOST-PCAARRD that highlights the Council’s stance on policy issues on S&T in agriculture, aquatic, and natural resources. PAG spearheads policy and advocacy related to PCAARRD Medium-term Plan.

*For more information, please contact:*

**The Executive Director**  
DOST-PCAARRD  
Los Baños 4030, Laguna, Philippines  
Tel. No.: (6349) 554-9670  
Fax No.: (6349) 536-0016; 536-7922  
E-mail: [pcaarrd@pcaarrd.dost.gov.ph](mailto:pcaarrd@pcaarrd.dost.gov.ph)  
Website: [www.pcaarrd.dost.gov.ph](http://www.pcaarrd.dost.gov.ph)

Technical Writers	: Maria Cristina C. Azuelo Jesse O. Opeña Farah Y. Sevilla
Technical Editors	: Kathleen Mae M. Idnani Princess Alma B. Ani Mia Barbara D.V. Aranas
Editor	: Joel Eneristo A. Joven
Layout Artist	: Reinier Josef D. Abagat
Editorial Advisers	: Ernesto O. Brown Marita A. Carlos