



FRESH FRUIT - PINEAPPLE - SPECIFICATION

PNS/BAFPS 09:2004

ILLUSTRATIVE GUIDE





Fresh Fruits - Pineapple - Specification
(PNS/BAFPS 09:2004)

Bureau of Agriculture and Fisheries Standards (BAFS)
Quezon City, 2021



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Disclaimer: Some photos in this document are not necessarily of the 'Smooth Cayenne' or 'Queen' pineapple varieties. These photos are used only for the purpose of presenting specific defects/damages or diseases.

Introductory Note

For years, the Department of Agriculture – Bureau of Agriculture and Fisheries Standards (DA-BAFS) developed Philippine National Standards (PNS), *i.e.* end-product quality standards, codes of practices, and guidelines, for agriculture and fishery products including agri-fishery machineries, tools and equipment. To date, DA-BAFS has developed a total number of 307 PNS for agriculture and fishery (AF) products, tools, machinery, equipment, and structures.

Disseminating information on adopted standards was identified as one of the strategies to encourage stakeholders' usage and implementation. To do this effectively, the standards developed need to be translated into Knowledge Products (KP) that will be easily understood by the intended stakeholders. One of the KPs is the Illustrative Guide (IG).

IG serves as supplementary PNS learning material aside from the usual learning and development activities conducted by the Bureau, *i.e.* seminars, workshops and trainings. Through this IG, it is envisioned that stakeholders will have uniform understanding and interpretation of the PNS for its efficient adoption and implementation.

The development of the Illustrative Guide for PNS/BAFPS 09:2004 Fresh Fruits – Pineapple – Specification was initiated in 2020. PNS/BAFPS 09:2004 was drafted in view of the increasing demand of pineapple for the domestic and export markets. Specifically, this IG for Pineapples provides supplementary photographs or images pertaining to some provisions of the end-product quality standard for pineapple. The photographs/images included in the document were either taken by the Technical Services Division (TSD) staff through field work, obtained from the internet, or provided by the Technical Working Group (TWG) members from the academe, government institutions and private sector organizations. To ensure that the IG is technically accurate, a series of TWG meetings were conducted.

Director's Message



We value broad collaboration in order to deliver the right resources for sustainable learning solutions at the right time. On this note, as part of BAFS' efforts in standards promotion, we are pleased to share with you this Illustrative Guide (IG), which would serve as a supplementary learning material of the Philippine National Standards for Fresh Fruit - Pineapple - Specifications (PNS/BAFPS 09:2004).

Next to Costa Rica, the Philippines remains as the world's second-largest exporter of fresh pineapples in 2019 with 631,486.224 MT volume of exports, according to the United Nations - Food and Agriculture Organization (UN-FAO). To help the country in maintaining its position in the global trade, this document was likewise drafted as a support to the Department of Agriculture's programs related to pineapple.

Positively, this Guide will aid the Philippine pineapple industry, especially our farmers, in continuously ensuring the quality of pineapple intended not only for the domestic markets but for export as well.

As the only standard setting agency for agricultural crops, the Bureau will unceasingly intensify its PNS information dissemination activities by incessantly developing illustrative guides and other knowledge products to broaden the cognizance of the stakeholders.


MYER G. MULA, Ph.D.
OIC Director
Bureau of Agriculture
and Fisheries Standards

Assistant Director's Message



If you type in the Google search engine the phrase 'pineapple in Filipino lives' you will come across an article that enumerates 12 facts about the Pineapple industry in the Philippines. Although the article may be a little outdated (2018), one of the facts remains true to this day. Most of the active players in the pineapple industry are farmers with a total land area size of 2 hectares

or less. These farmers cater to the local market.

This being said, the BAFS developed the Philippine National Standard (PNS) for Fresh Fruit - Pineapple - Specification (PNS/BAFPS 09:2004) in 2004. This is to standardize grading and classification of pineapples to be sold for fresh consumption, ensure food safety and increase the market competitiveness of Philippine fresh pineapples. Years after its adoption, the BAFS embarked on developing Illustrative Guides (IG) to guide farmers and increase their understanding and appreciation of adopted standards, and consumers so that they will have informed choice when buying their fresh pineapples.

This IG for Fresh Fruit-Pineapple-Specification is a compendium of photos gathered from years of study and field data gathering by our partners in the academe and private sectors. Our stakeholders can easily walk through the provisions of the standard now with the aid of photographs.

Through this IG, we intend to make learning more interactive. We enjoy everyone to use this IG.


MARY GRACE R. MANDIGMA

Assistant Director
Bureau of Agriculture
and Fisheries Standards

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Scope

This standard establishes a system of grading and classifying fruits of commercial varieties of pineapple (*Ananas comosus* Merr.) of the Bromeliaceae family produced in the Philippines to be supplied fresh to the consumer. Pineapple fruits for industrial processing are excluded.

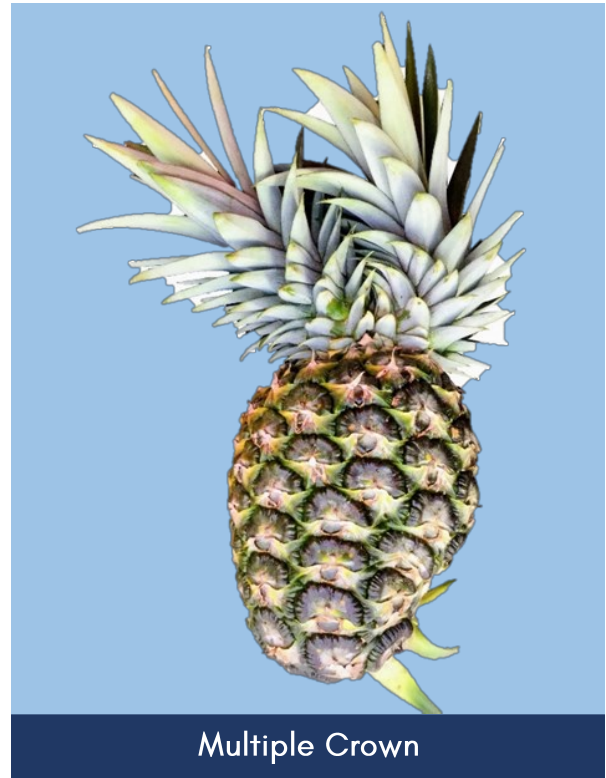
Varieties



Table 1. Characteristics of pineapple per variety

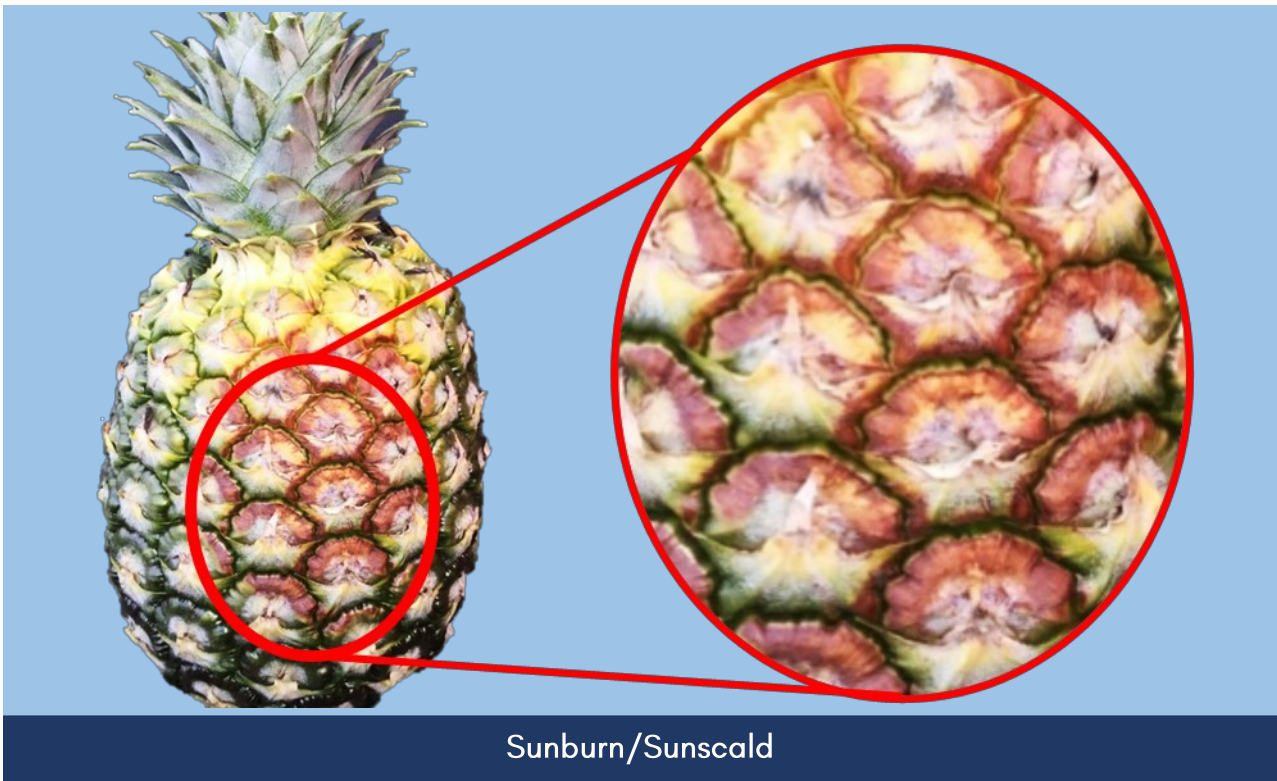
| Characteristics | 'Queen' or 'Formosa' | 'Smooth Cayenne' |
|-----------------|---|---|
| Fruit Size | Relatively small | Relatively large |
| Fruit Weight | <0.75 - 2.0 kg | <0.55 - >1.0 kg |
| Fruit Shape | Oblong, slightly tapering | Cylindrical |
| Fruit color | Green to straw yellow | Green to yellow |
| Eyes | Prominent, small and deep | Flat, not prominent and medium deep |
| Flesh | Deep yellow, tender, crispy, sweet, aromatic, and rich flavor | Yellow to bright yellow, very juicy, sweet, slightly fibrous, aromatic, and rich flavor |
| Core | Small and tender | Medium and fibrous |
| Crown | Spiny | Long, broad and spineless leaves with reddish bands |

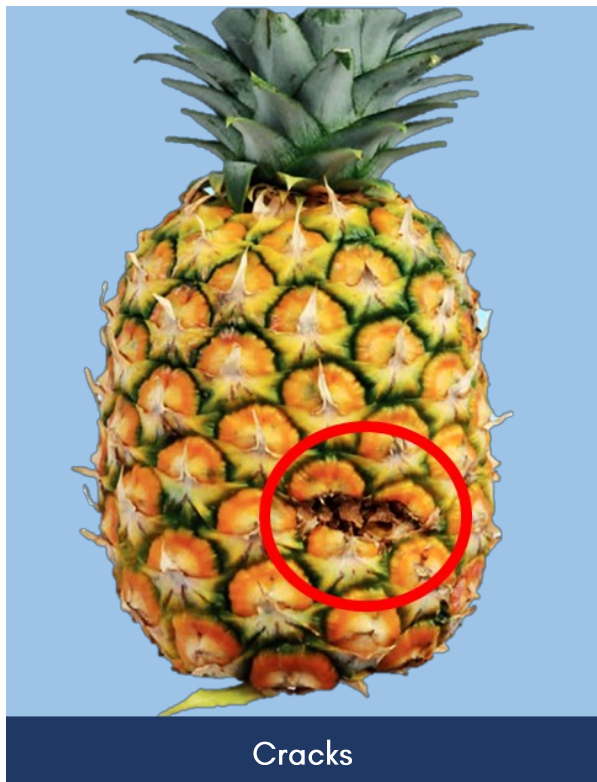
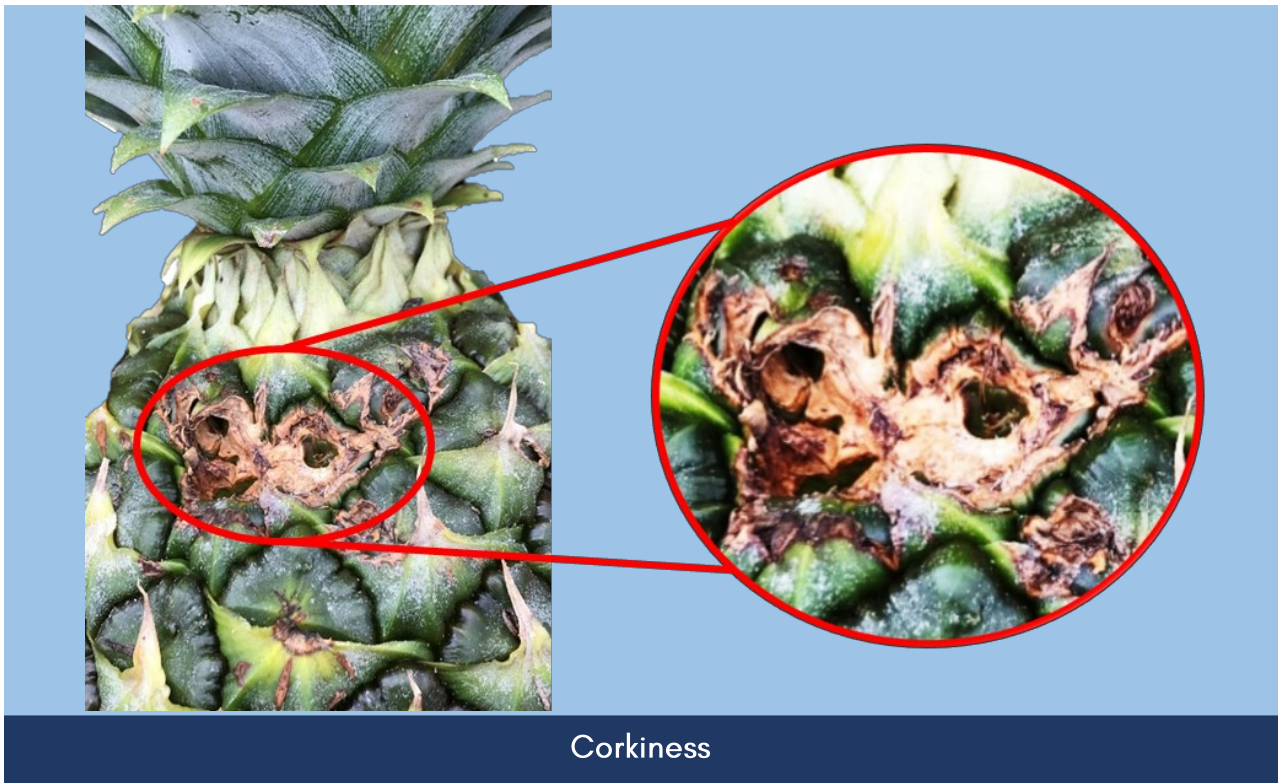
These are some examples of pre-harvest defects or damages:

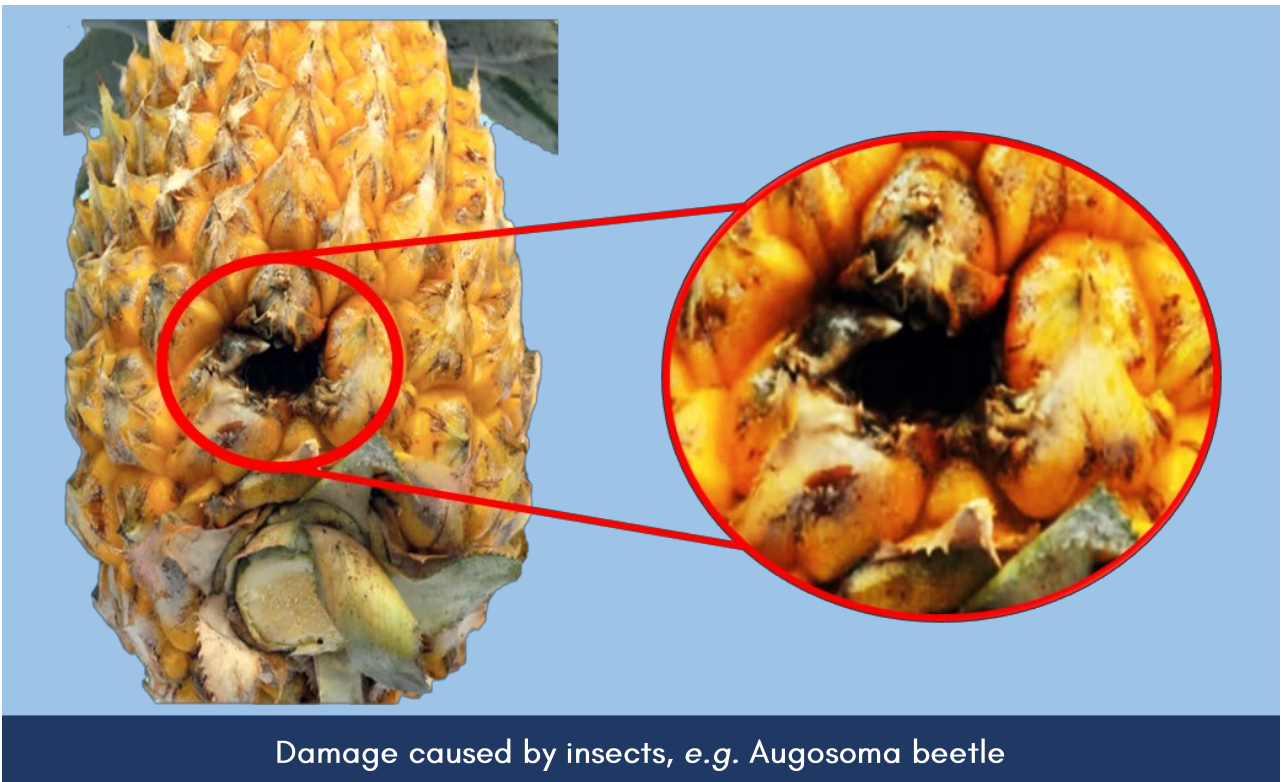
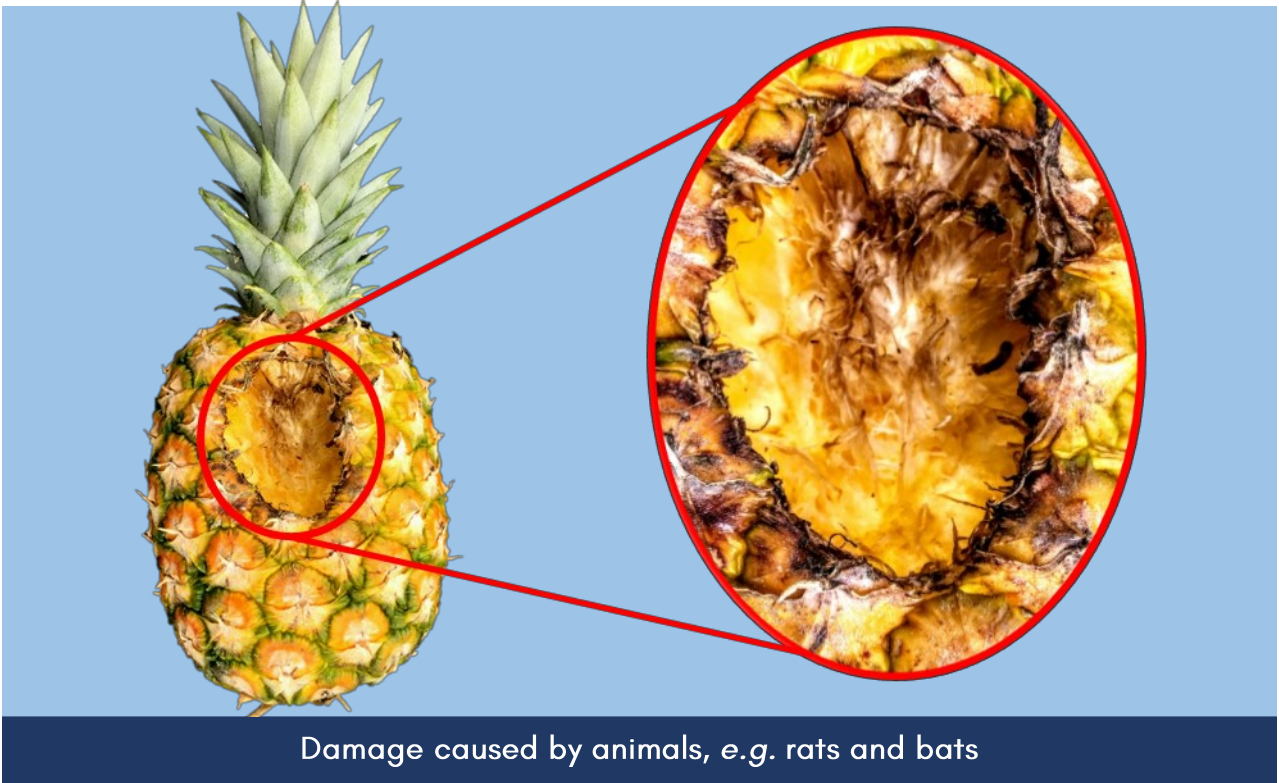


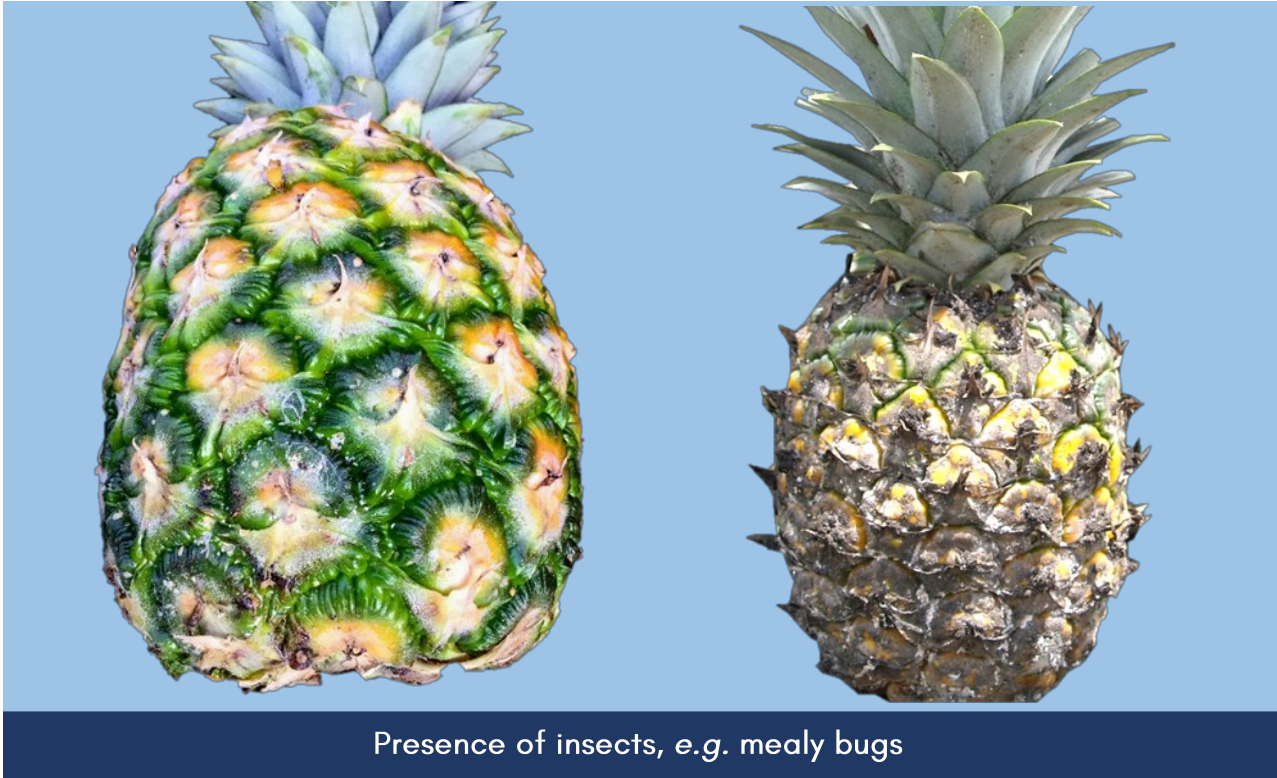
*Note: For export pineapples, crown must not be less than half the fruit length



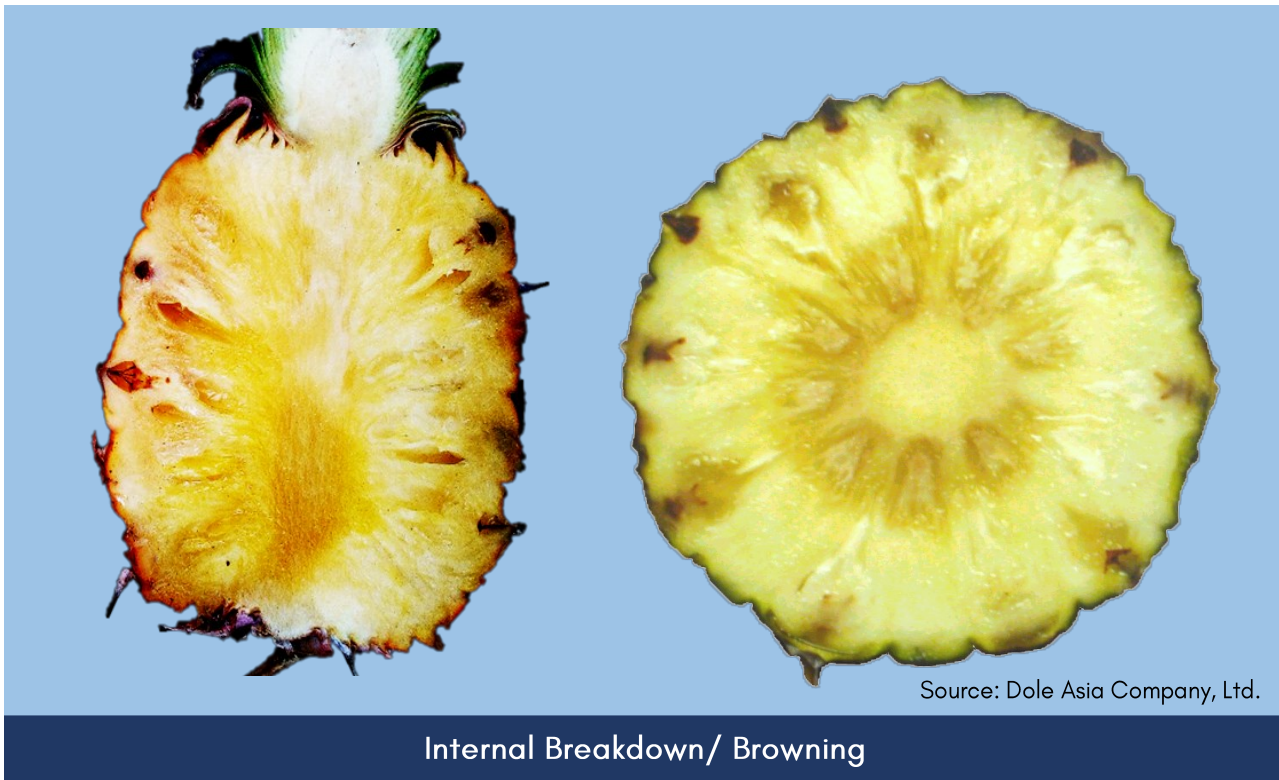




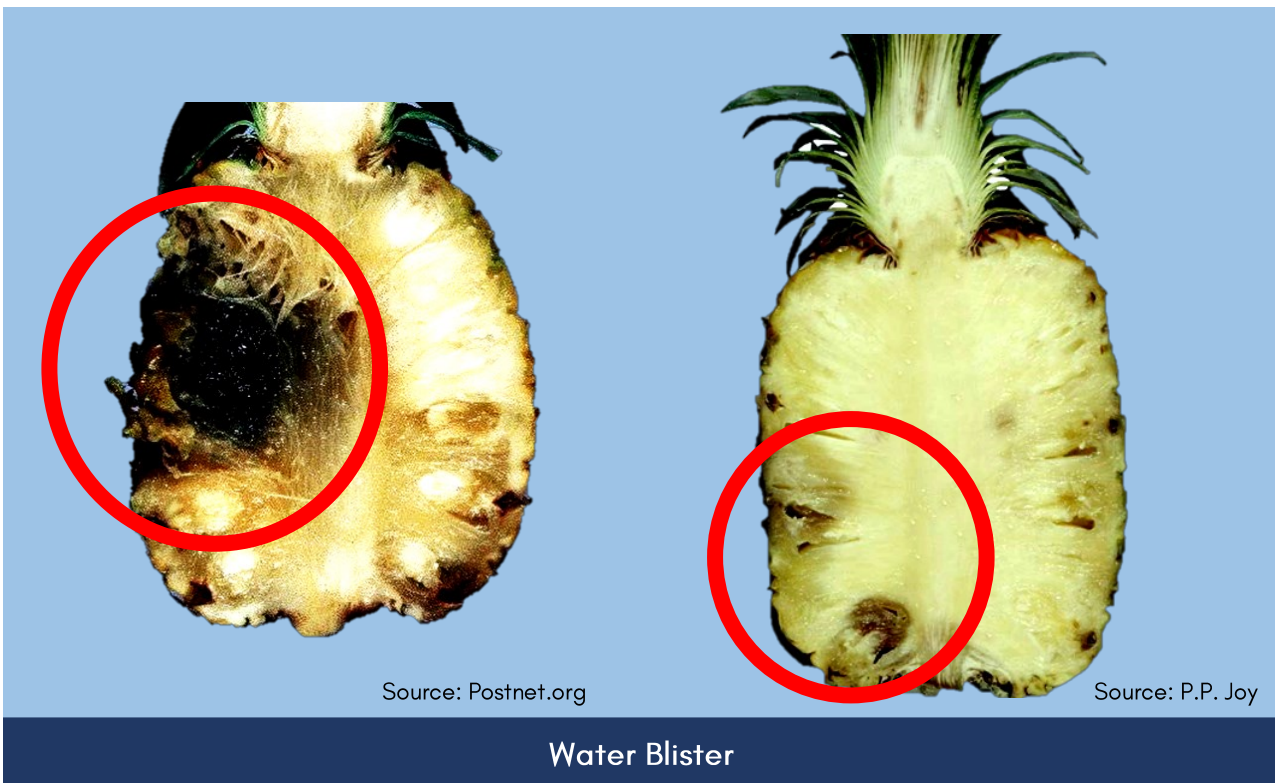


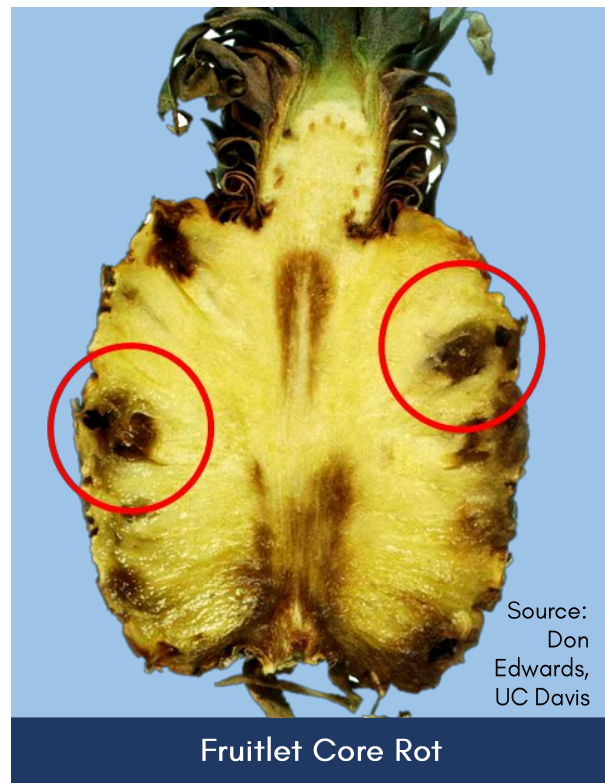
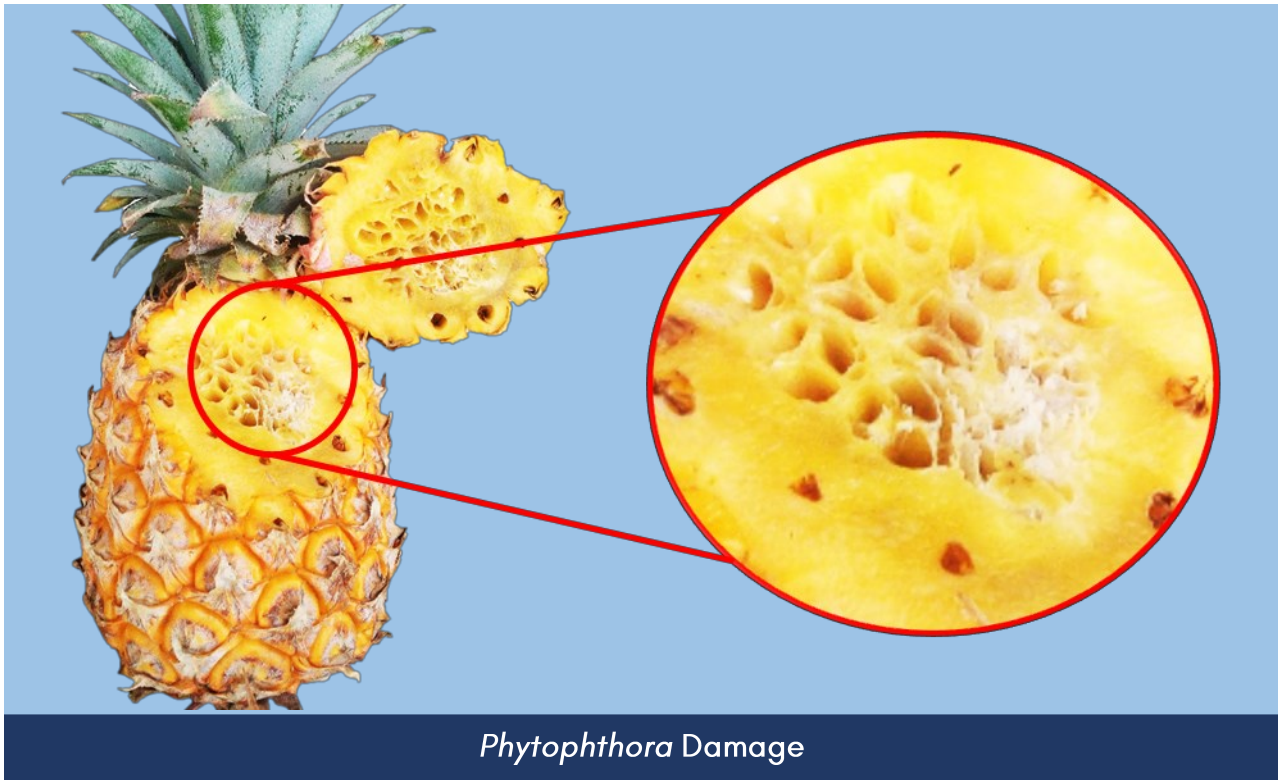


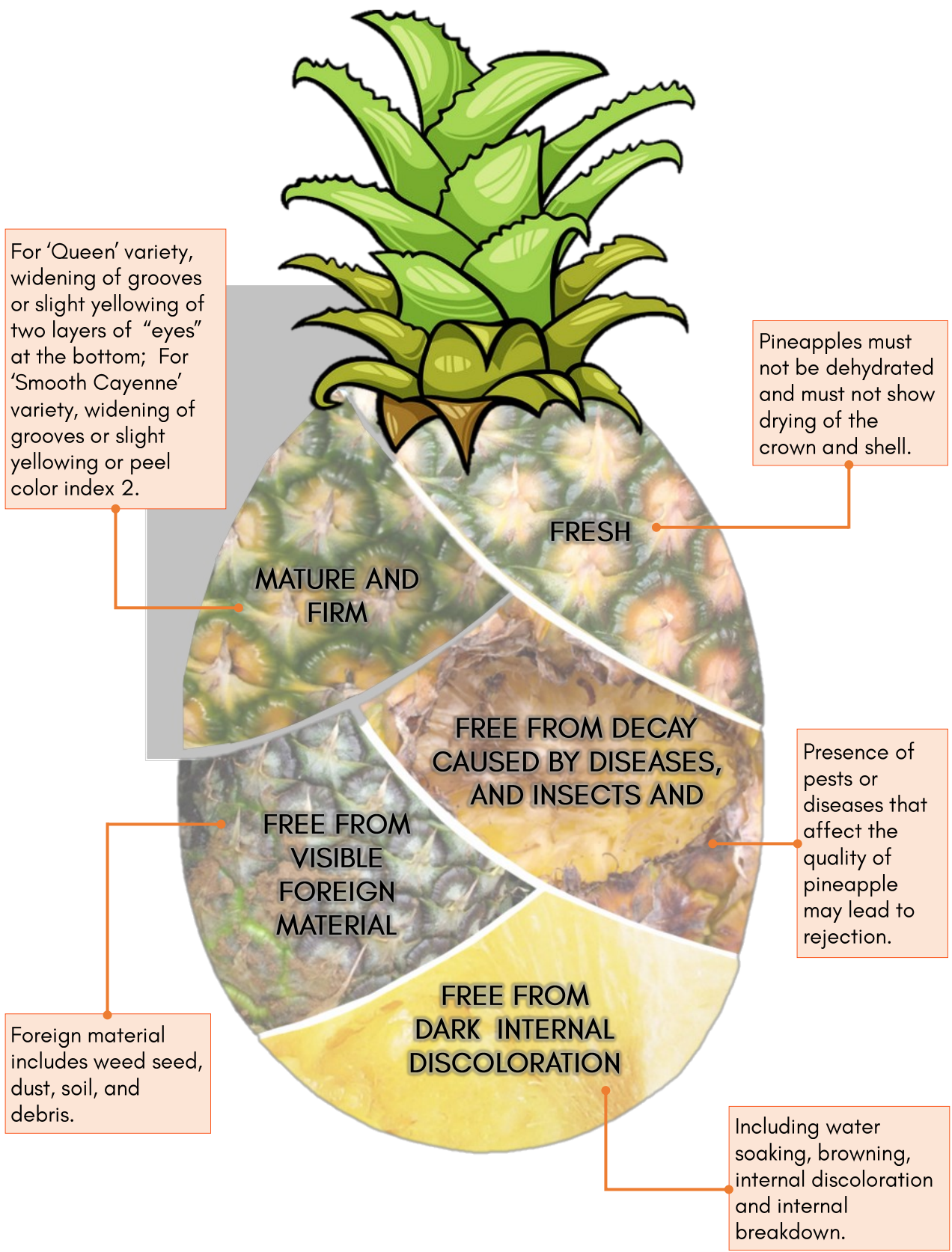
The following are the damages due to mishandling during harvesting, packing and transporting of pineapples:

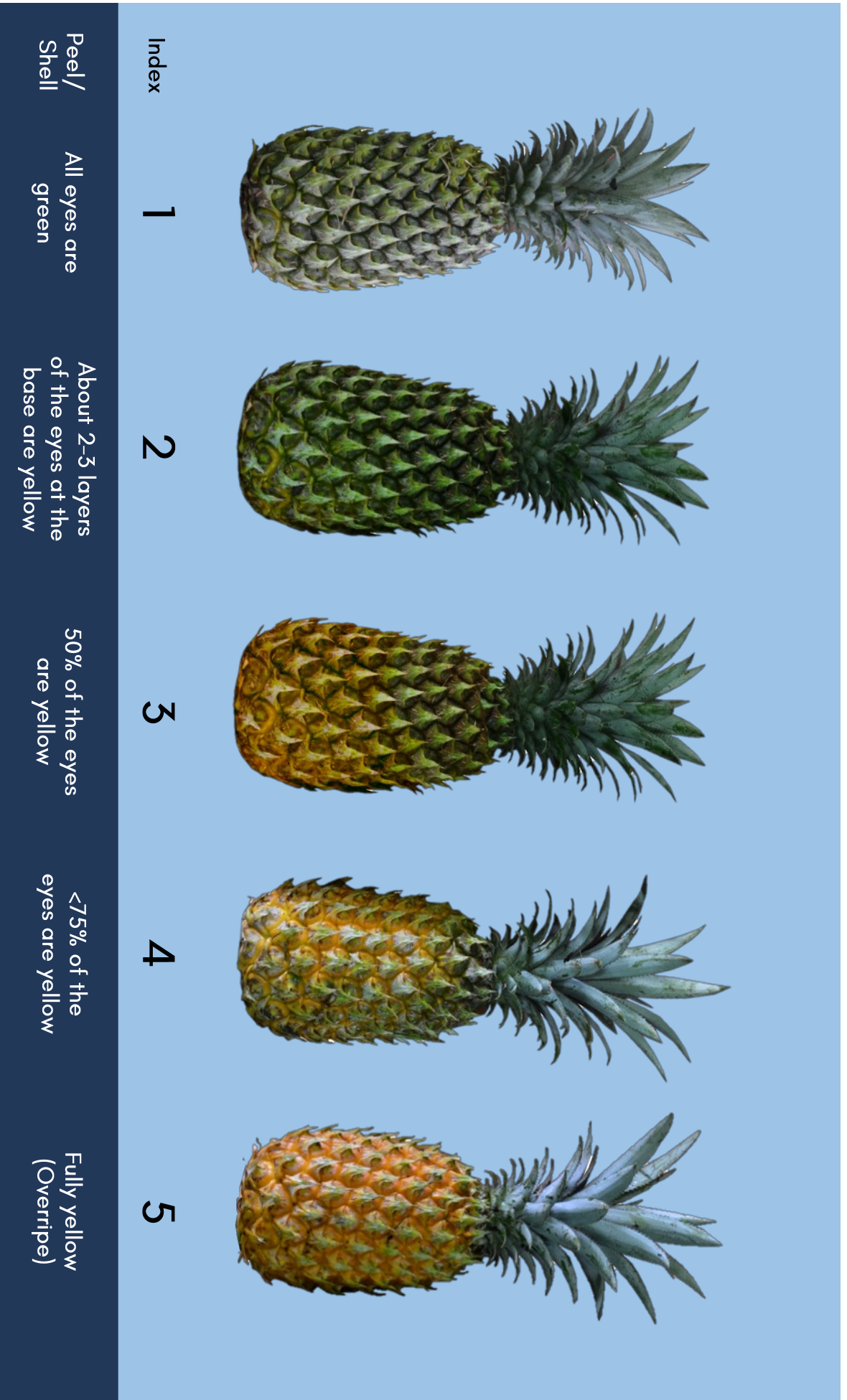


The following are some of the diseases of pineapple:









Index

1

Peel/
Shell All eyes are green

2

About 2-3 layers of the eyes at the base are yellow

3







50% of the eyes are yellow

4

<75% of the eyes are yellow

5

Fully yellow (Overripe)

| | | | | | | |
|---|---|---|---|---|---|---------------------------|
|  |  |  |  |  |  | |
| Index | 1 | 2 | 3 | 4 | 5 | 6 |
| Peel/Shell | Completely green | Some eyes showing color | 25% of the fruit showing color | <25% - 50% of the fruit | <50% - 75% of the fruit | <75% of the fruit showing |

Fresh pineapple shall be graded according to its general appearance, quality and condition.



Table 2. Characteristics of pineapple per classification

| Criteria | Extra Class | Class I | Class II |
|-----------------|--|---|---|
| Quality | Superior and of similar varietal characteristics | Good and of similar varietal characteristics | Meet minimum requirements and of similar varietal characteristics |
| Fruits | Well-formed, well-developed eyes; practically free from decay, sunscald, injury caused by disease, insects, animals, mechanical or other means | Well-formed, well-developed eyes; reasonably free from decay, sunscald, injury caused by disease, insects, animals, mechanical or other means | Fairly well-formed, fairly well-developed eyes; reasonably free from decay, sunscald, injury caused by disease, insects, animals, mechanical or other means |
| Butts | Trimmed, well-cured and free from damage caused by cracks | Trimmed, fairly well-cured and have not been badly cracked | - |
| Crown | Characteristic color, single, straight, well attached to the fruit and free from crown slips, knobs and discoloration. | Characteristic color, single, reasonably straight, well attached to the fruit and shall not have more than 5 crown slips | Characteristic color, well attached to the fruit, not completely curved and consist of not more than 2 fairly well developed stems and shall have any number of crown slips |
| Length of crown | Shall not be more than 1 times the length of the fruit | Shall not be more than twice the length of the fruit | - |

Table 3. Size classification of pineapple (whole fruit with crown) according to its weight

| Size | Weight (gram)/Variety | |
|-----------------|-----------------------|------------------|
| | 'Queen' or 'Formosa' | 'Smooth Cayenne' |
| Extra Large | >1000 | - |
| Large | 850 - 1000 | >2000 |
| Medium | 700 - 850 | 1500 - 2000 |
| Small | 550 - 700 | <1500 |
| SS (Butterball) | <550 | - |

Note: In some local markets, Large, Medium and Small are termed as Primera, Segunda, and Tercera, respectively.

Pineapples shall be packed in suitable containers that may protect the fruits from any external or internal damage.

Suitable Harvest Container



Clean Plastic Crate



Source: UPLB-PHTRC

'Bukag' or Woven Bamboo Basket

Suitable Packaging Box for Local and Export Market



Source: Wordpress.com

For Pineapples With Crown



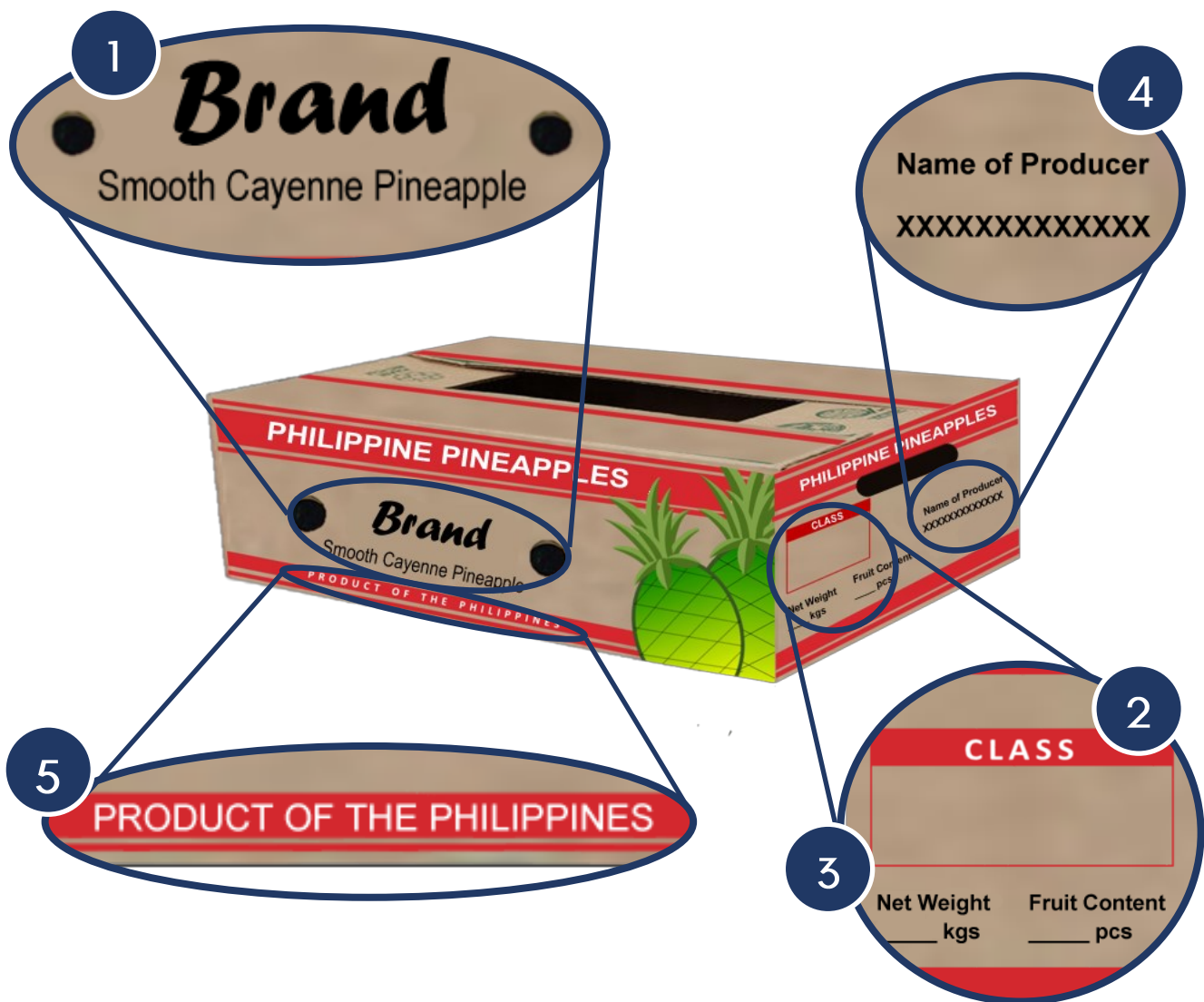
Source: UNECE

For Crownless Pineapples

Each container shall be legibly labeled on the same side with the following information:

1. Name of the product, the variety and/or commercial type
2. Grade and size and/or number of pieces
3. Net weight in kilograms
4. Name of producers and exporters
5. The words "Product of the Philippines"

Example of Labelled Box for Export



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