9.Coconut nut sample analysis

1. Objective

To establish a standardized procedure for sampling and analyzing raw coconuts to determine Nut Weight, Shell Weight, Pairing Waste Weight, and Kernel Weight, and to calculate their respective percentages.

2. Scope

This SOP is applicable to all batches of raw coconuts received at Holista for coconut milk production.

3. Definitions

- Deshelling: Removing the shell from Nuts
-Pairing Waste: The brown outer skin layer removed from the kernel after deshelling.
- Kernel: The white, edible part of the coconut.

5. Materials and Equipment Required

- Digital weighing scale (Accuracy ±1 g)
- Gloves and hairnets (PPE)
- knife

6. Procedure

6.1 Sampling

Determine the number of nuts in the batch. Calculate sample size using the formula:
Sample Size (n) = $\sqrt{N} + 1$, where N is the total number of nuts in the batch.
Round n to the nearest whole number.
Randomly select the required number of nuts (n) from the batch.

6.2 Weight Measurement Process

For each of the selected coconuts:
1. Weigh Whole Nut: Record as Nut Weight (NW).
2. Deshelling: Weigh and record as Shell Weight (SW).
3. Pairing: Weigh and record as Pairing Waste Weight (PW).
4. Weigh Kernel: Record as Kernel Weight (KW).

6.3 Calculation

For each coconut:
- Total Measured = SW + PW + KW
- Shell % = (SW / NW) × 100
- Pairing % = (PW / NW) × 100
- Kernel % = (KW / NW) × 100

7. Acceptance Criteria

Shell %: 28–32%
Pairing %: 5–9%
Kernel %: Min 35%
If values are out of range, notify QC Head and investigate the source of deviation (e.g., maturity, nut quality).