Coconut Water: Processing, Shipping, and Packaging Technologies
But First...

The Coconut – “The Whole Nut”
Growth and Cultivation of Coconuts

- **Botanical Name:** *Cocos nucifera*
- *Coconut palm* is a tall, slender and uniformly thick stem
- It has a massive crown with large numbers of leaves, bearing bunches of nuts in their axils
- The fruit is known as a fibrous drupe and it takes one year for the fruit to mature
- The coconut palm blooms 13 times a year yielding on an average 60 nuts per year
- Coconuts require high humidity, regular rainfall, and warm temperatures to thrive
Dissecting The Coconut: What is it made of?
Coconut cream is the emulsion extracted from mature endosperm (kernel) of the coconut fruit with or without any addition of coconut water/water.

- Coconut cream has a smooth and creamy mouthfeel.
- It can enhance the aroma and taste of numerous dishes.
Coconut water is the translucent, free flowing liquid obtained from the inside of a coconut.

It is the pure liquid similar to water. It is naturally filtered for nine months through the dense fibers of the coconut.

Coconut water is naturally sterile, has five essential electrolytes, no fat, no cholesterol, and no added preservatives.

It is excellent for replacing lost electrolytes from exercise and illness.
PROCESSING
# Process Flow: SS Coconut Water

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### Process Flow: Coconut Water Concentrate

1. Temporary Storage of the SS coconut water
2. Centrifuge
3. Filtration
4. Heating
5. (a) Evaporation (First effect)
6. (b) Evaporation (Second effect) Stage 1
7. (c) Evaporation (First effect) Stage 2
8. (d) Evaporation (Second effect) Stage 2
9. Cooling
10. Blending Tank for Brix Standardization
11. Screening
12. Pasteurization
13. Cold storage
Coconut Water – Processing

* Water vs. Cream

* Processing Methods
Coconut Water – Processing

* Low Acid / High pH

* Low Brix
SHIPPING & PACKAGING
Coconut Water – Shipping/Packaging

- * Aseptic vs. Frozen
- * Drum CWC vs. Drum NFC
- * Viscosity – Unique Issues
Coconut water can be safely labeled as:
100% fruit juice

- According to the Codex Alimentarius Commission 2004, coconut water can be included as a fruit juice.

- The brix for single strength coconut water is set at 5 by Codex regulations.

- The preparation of coconut water that requires reconstitution of concentrated juices must be in accordance with the minimum Brix level established in the Annex.

- The FDA mandates that coconut be considered a tree nut for labeling purposes.
THANK YOU!

QUESTIONS?
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