



NATURE'S COOLEST THIRST QUENCHER

Deliciously rich in vitamins and minerals





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INTRODUCTION

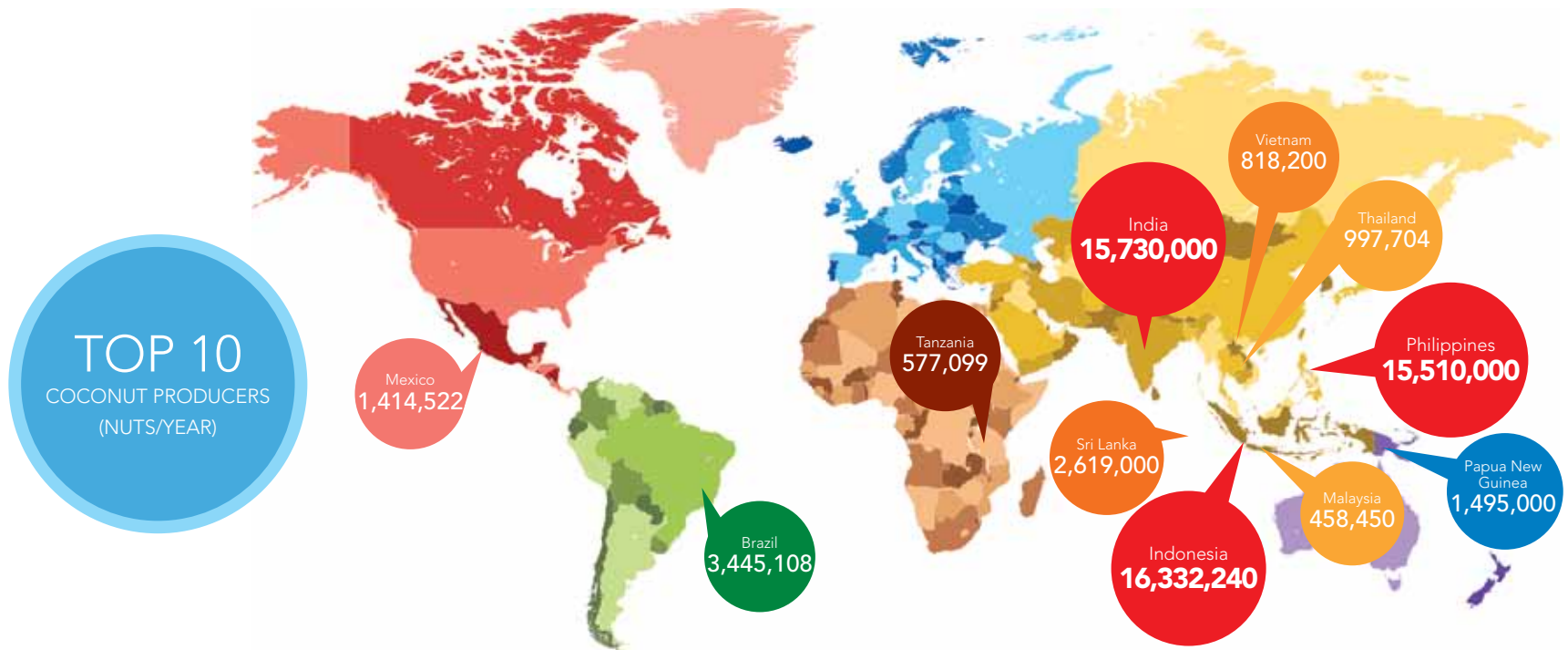
White, sandy beaches dotted with swaying coconut trees set against a dipping sun... That is a scene that many are familiar with.

But nestled in the swaying fronds are coconuts – a nut in reality, and not a fruit as widely believed – that contain what many have referred to as “miracle water”. So dubbed for its numerous uses, from simple rehydration to even intravenous drips (more of that later!), coconut water is more than a staple food to the numerous people living in tropical countries.

It is a life saver!

BRIEF HISTORY

The coconut – fruit of the coconut palm (*cocos nucifera*) – has been around for hundreds of years. Its origins has been claimed by many, from South Asia to South America but regardless of this, the coconut has certainly spread across much of the tropics, probably aided in many instances by sea-faring peoples. The nut itself is light and buoyant and this presumably helped it traverse significant distances by ocean currents – it has been reported that coconuts have been collected from the sea as far as Norway.



DID YOU KNOW?

In certain parts of India, the coconut tree is referred to as “kalpa vriksha”, which loosely translates as “the tree that grants all wishes (provides all the necessities of life)”.

Historically, the coconut has been – and still is to many – a source of food, fuel, currency exchange, trade and even medicinal aid. And because of its continual production – each bunch of coconuts can contain between 5-12 nuts – it is readily available all year round.

Today, the main coconut producers* in the world are Indonesia, the Philippines and India.

*Source: Asian & Pacific Coconut Community & Statistical Year Book 2010

THE MANY USES OF THE COCONUT

Break open a coconut and you will find a simple structured nut. But each part of the nut can be fashioned into a useful object or source of nourishment; from cooking utensils (shell) and stuffing for pillows or mattresses (from the husk) to food (white flesh inside the wall of the shell) and medicinal (water) purposes, the humble nut has even been used as currency for trade purposes in the Nicobar Islands in the Indian Ocean, as recent as the early part of the 20th century.

FLESH

- Food
- Coconut milk
- Animal feed
- Virgin coconut oil

WATER

- Health-giving liquid

HUSK (OR COIR)

- Ropes and yarns
- Car seat covers
- Soundproofing
- Mulch for plant growing
- Heat insulation
- Brushes, bristles
- Mattresses, rugs, carpets...

SHELL

- Activated carbon filters



FOOD FOR THOUGHT

Coconut water is not the same as coconut milk. If you shake a green coconut, you will hear liquid sloshing about within. That is coconut water, which develops naturally inside and can be consumed straight away.



NATURE'S ENERGY DRINK

What do Madonna, Courteney Cox, Mischa Barton, Gisele Bundchen and Sienna Miller have in common? Aside from being famous as a singer or actress, they have been seen sipping this nutrient-packed drink. Aside from the celebrity factor, coconut water has been gaining notice over the years as a dependable source of beverage for many people. It is even considered an excellent tonic for the elderly and sick.

In its native lands, the coconut tree has been called "the tree of life" for its many uses, from root to lustrous fronds, while the coconut water has been referred to as "miracle water" for its numerous health-giving benefits.



The green coconuts can contain up to 500ml of coconut water. And its creamy white, jelly-like meat is delicious! Just scoop out with a spoon and enjoy.

WHAT'S IN COCONUT WATER?

Many of the health benefits attributed to coconut water can be traced to its mineral content. Analytical studies have shown that coconut water contains nutrients such as glucose, amino acids and electrolytes such as potassium, calcium and magnesium.

RICH IN ESSENTIAL ELECTROLYTES

All of these minerals are in the form of electrolytes so they are easily absorbed by the human body. Analytical studies have shown that coconut water contains nutrients such as glucose, amino acids and electrolytes such as potassium, calcium and magnesium.

Electrolytes are minerals in your blood and other body fluids that carry an electric charge. They have an effect on the amount of water in your body, your blood pH, and muscle function.

Common electrolytes include:

- Bicarbonate
- Calcium
- Chloride
- Magnesium
- Phosphorous
- Potassium
- Sodium

Potassium is one of the most important electrolytes there is and its functions in the body include regulation of fluids and mineral balance in cells, maintaining of blood pressure and transmission of nerve impulses as well as muscle functions. As it is able to help draw water into cells and into the blood, the body is thus able to rehydrate quickly. Hence, drinking water can hydrate you, but it does not have that speed of hydration [of coconut water] because it doesn't have the electrolytes in it. Electrolytes can also prevent muscles from going into cramps and spasms. Think of it as "nature's sports drink", but without all the caffeine and sugar in it.



DID YOU KNOW?

It has been suggested that coconut water, extracted from a nut that has no cracks or damage, is sterile. And because of this coconut water has been used as blood plasma substitute. Coconut water intravenous (IV) therapy has been in use for more than 60 years, as far back as World War II. There are reports dated up to 1976, which documented similar usage when coconut water was effectively used in emergency situations as a temporary alternative where standard medical supplies were not readily available.



Nutrient composition of 100ml fresh coconut water

Calories	22 kcal
Carbohydrates	5.6 g
Potassium	198 mg
Sodium	1 mg
Calcium	14 mg
Phosphorus	12 mg

Source: Food Composition Guide Singapore

LOW CALORIES AND NO ADDITIVES

The fat content of coconut water is so low, it is essentially fat-free. Coconut water is also additive-free since its one and only ingredient is just coconut water.

CHOLESTEROL-FREE

As it contains no fat or trans fat, coconut water also contains zero cholesterol.

ONLY NATURAL SWEETNESS

Coconut water is relatively low in sugar compared to other fruit juices yet it has a mildly sweet and pleasant taste, making it an excellent alternative thirst quencher.

CONTAINS VITAMINS AND MINERALS

Coconut water is a source of vitamin C and B-complex vitamins such as riboflavin, niacin, thiamin, pyridoxine and folates. Vitamins help you maintain healthy cellular function, boost your immunity and promote your metabolism.

ESSENTIAL AMINO ACIDS

It contains essential amino acids that make up the building blocks of protein that is necessary for the growth and repair of your muscles, bones, hair, skin and eyes, as well as digestion and the creation of antibodies.



Potassium is a mineral that plays a vital role in your body, especially in functions such as muscle growth, nerve transmission and brain operation. They also help balance the amount of water in your body and the acidity of your blood.

Pyridoxine (vitamin B6) aids in the balancing of sodium and potassium in blood, the production of red blood cells, may help balance hormonal changes in women and strengthens the immune system.

Folate (vitamin B9) is required for bodily functions, cell division and growth, especially in infancy and pregnancy, and for the production of red blood cells.

THE HEALTH BENEFITS

Coconut water has been dubbed the “fluid of life” and the Hawaiians call it “dew from the heavens”. These are rather apt descriptions of coconut water given the immense benefits it carries within it. Since coconut water is all natural, fat-free, and low in sugars and calories while being rich in essential electrolytes and vitamins, it is safe for almost anyone to drink.

Besides being highly nutritious, green coconuts also have medicinal qualities for heart, liver and kidney disorders. Research shows that coconuts are a great blood purifier as the coconut water is identical to human blood plasma. Plasma makes up 55% of human blood and drinking coconut water has been likened to an instant blood transfusion.

Coconut water is believed to be useful in preventing and relieving many health problems including dehydration, constipation, digestive problems, fatigue, heatstroke, boils, diarrhoea, kidney stones, urinary tract infections and even sterility.

REHYDRATION

Coconut water has been dubbed “Nature’s Isotonic” for its unique ability to rehydrate the body because of its nutritional content; fluids and electrolytes are absorbed quicker and more efficiently into the body than other beverages.

COOLS THE BODY

Considered a natural stress-buster in Ayurvedic therapy, a holistic system of medicine in India, coconut water is also widely used in various ways such as removing “heat” from the body, thus effectively treating pimples, prickly heat, boils, sun burns and even hot flashes in menopausal women.

A NATURAL DIURETIC

As a diuretic, coconut water increases urine flow, which helps flush out waste products from the body.

BEAUTY IS MORE THAN SKIN DEEP

Coconut water is rich in cytokinins, which is a group of hormones that regulate growth, development and ageing. Research has suggested that consuming a rich source of cytokinins may produce an anti-ageing effect on the body, which in turn could lead to a lower risk of

developing degenerative and age-related diseases. There are studies that have demonstrated that coconut water could be useful in prevention and treatment of Alzheimer’s disease* in post-menopausal women.

DIGESTIVE HEALTH BOOSTER

As a digestive soother, coconut water is also combined with spices like cinnamon, cardamom, ginger, cloves, garlic cumin, coriander and turmeric to promote better metabolism.

KEEPS THE LIVER HEALTHY

A detox helps rid your body of toxic substances – many foods and beverages in our modern diet are loaded with preservatives, additives and artificial ingredients – that can create cell damage, which in turn can lead to a range of diseases. And since coconut water aids in keeping the body hydrated, your body is able to replace and retain fluids while gently removing toxins for your body. What you get is clearer skin and a stronger immune system.

TUMMY COMFORTER

Used to treat those suffering from digestive problems, it has been proven effective in treating diarrhoea as it effectively and swiftly replaces lost fluids.

BOOSTS HEART HEALTH

It is shown to have cholesterol-lowering effects as well reducing the chances of blood clot formation in the blood vessels; its beneficial effects could be due to the presence of nutrients such as the minerals and vitamins mentioned before as well as free amino acid L-arginine that is known to be heart protective.





GET ME SOME COCONUT WATER!

If you are lucky enough, you can get fresh coconut straight from the trees. But if you live outside of the tropics, whole green coconuts can be hard to find. Asian markets often sell shrink-wrapped version with their husks removed and by punching a hole through, will allow you to drain out the water.

Within the last few years, the antioxidants and electrolytic properties have brought attention to several beverage producers and coconut water is now widely distributed in packaged form to supermarkets, health food stores and some grocery stores.

THE MAIN MARKETS FOR COCONUT WATER

Brazil is by far the largest market* for packaged coconut water and Kero Coco is the country's leading brand. Over in the United States, coconut water brands such as Vita Coco, O.N.E. and Zico lead the market while in Europe, coconut water is making steady inroads as more people become aware of the health benefits of this nutrient-packed beverage.

In building brand awareness, many of the larger brand owners are tapping on the vast networks provided by social media, such as Facebook, and online sites like Amazon, to reach their consumers and to get their message across – that coconut water is more than just a beverage.

It is a lifestyle choice of the new generation.

**Source: Euromonitor International*



Photos courtesy of Vita Coco & O.N.E.



FOOD FOR THOUGHT

No age limits

Even babies benefit! For thousands of years, mothers in tropical regions like South East Asia, India, and South America have been drinking coconut water to promote good health, especially during and after pregnancy.

Dehydration during pregnancy can cause various complications, including headache, cramps, edema and even contractions that can cause pre-term labour. Hence, the electrolyte-rich coconut water is perfect for keeping the body hydrated and supplied with essential vitamins and minerals.

And for breast-feeding mothers, it is heartening to know that young coconut water also contains lauric acid, which is similar to that found in breast milk. Its anti-fungal, antibacterial and antiviral properties help keep diseases at bay in mother and baby.

RECIPES



CRANBERRY & COCONUT FLUSH

To maintain good urinary health

1 cup coconut water
1 cup cranberry juice
Blend well and served immediately.

HANGOVER CURE

For a shot of electrolytes to help your body rehydrate quickly and safely

Serves 2

2 cups coconut water
Green tea (tea bags will do)
In a saucepan, bring coconut water to a boil. Take it off the heat and steep the green tea in it for 3-4 minutes. Enjoy while it's hot.

GREEN HELPER

To balance an "over acidic" body

6 carrots
6 stalks of celery
1 cucumber
1 large red apple
2 cups coconut water, chilled
Handful of ice cubes
Run the first four ingredients through a juicer. Mix well with coconut water. Add ice cubes and serve immediately.



STRAWBERRIES & PINEAPPLE SMOOTHIE

Jump start your day with a nutritious, low-fat smoothie that's also packed with antioxidants and other immune-boosting properties

Serves 2

2 cups strawberries, halved
1 cup pineapple chunks
Some coconut meat, cubed
1 cup coconut water
2 cups crushed ice
1 teaspoon honey (adjust to taste)

Combine all ingredients in blender and process until smooth. Divide smoothie between 2 glasses and serve.

You can substitute other fruits in this smoothie. For a thicker smoothie, freeze the fruits in a single layer till frozen, before blending.



- Replace liquid used in cooking rice or other grains
- Use as a braising liquid for pork or beef
- Substitute water used to make soups and sauces
- As an ingredient in salad dressings
- In cocktails (coconut water replenishes as the alcohol dehydrates you)

COCONUT JELLY

A second helping without the guilt

Substitute the liquid used to make your favourite jelly recipe with coconut water. Pour into individual moulds. Chill till required. To serve, drizzle over freshly squeezed coconut milk and melted palm sugar (or gula Melaka). Garnish with toasted grated coconut.

WATERMELON & COCONUT WATER COOLER

Your answer to a hot and humid day

Serves 4-6

4 cups fresh watermelon chunks, seedless or seeds removed
1 cup coconut water
Juice from 1 fresh lime
2 tablespoons honey

Blend watermelon, coconut water, lime juice and honey until smooth. Discard foam before serving.

Adjust the amount of sugar according to the sweetness of the watermelon.

CHICKEN & BARLEY SOUP

A nourishing and soul-warming soup that is a meal in itself

Serves 4-6

1 chicken, cut into large pieces
8 cups coconut water
2 large carrots, chopped
2 stalks leek, chopped
½ cup pearl barley
1 onion, chopped
Powdered chicken stock, to taste
Sea salt flakes and freshly ground pepper, to taste
Chopped parsley for garnish

Fill a large pot with coconut water and add the chicken pieces. Cook on low heat until chicken is tender. Remove chicken from broth and set aside until cool enough to handle. Cool broth and skim off fat. Remove meat from bones; discard bones and shred meat. Set aside. Add the vegetables and barley to the broth and bring to a boil. Reduce heat; cover and simmer for 1 hour or until vegetables and barley are tender. Add shredded chicken to broth during the last 10 minutes of cooking. Season to taste. Serve hot with chopped parsley.





COCONUT KNOWLEDGE CENTRE

Collaborative efforts for one common goal: aided by Tetra Pak's expertise in processing and packaging know-how, the Coconut Knowledge Centre is another step towards helping its various partners and customers ensure the stability of the quality of coconut water.

CONVENIENCE IN A CARTON

Let's take a quick tour of how coconut water is processed and packaged before it hits the supermarket shelves.

SEPARATOR

It passes through a separator to remove the fat from the liquid to avoid rancidity from occurring.



CHILLING AND BLENDING

After it is chilled, other ingredients can be added during the blending stage.



ASEPTIC STORAGE AND FILLING

The heat treated coconut water is transferred to aseptic storage before it is packed.



INLINE FILTRATION AND UHT

The coconut water is heat treated at 140 °C for few seconds.



PRESERVING NATURE'S GIFT

Once the coconut is opened, its water begins to lose its nutrients as well as its flavour. It is due to the naturally occurring enzymes – peroxidase and polyphenol oxidase – found in coconut water, which when they come into contact with oxygen begin reactions that cause the nutritional and flavour losses.

Tetra Pak has the technology to process and pack coconut water in aseptic packages to preserve the qualities of this natural beverage's delicate aroma, taste and nutritional values.



BACKGROUND ON TETRA PAK



Tetra Pak is the world's leading company for food processing and packaging solutions. Working closely with our customers and suppliers, we provide safe, innovative and environmentally sound products that each day meet the needs of hundreds of millions of people around the world.

ENVIRONMENTALLY RESPONSIBLE

Our solutions are specifically designed to be as economical with resources as possible; thus, our commitment to running our business in an environmentally sound and sustainable way.

STRONG R&D, BETTER SOLUTIONS

Our investments in technology and new products are in response to our customers' needs for faster, better and cheaper developments to reduce their operational costs and to increase performance in order to remain competitive.

INNOVATION DRIVES PROGRESS

At Tetra Pak, innovation is the result of the total process of developing an idea into a product or a new way of working which adds value to the business.

RESPONSIBLE INDUSTRY LEADERSHIP

We set goals for continuous improvement in our development, sourcing, manufacturing and transportation activities.

Our motto,
**PROTECTS
WHAT'S GOOD,**
reflects our
vision to make
food safe and
available,
everywhere.

SOURCE:

- 1) *Dr. Bruce Fife, ND. Coconut water for health and healing*
- 2) *Asian & Pacific Coconut Community & Statistical Year Book 2010 Food Composition Guide Singapore*
- 3) *Radenahmad N, Saleh F, Sawangjaroen K, Vongvatcharanon U, Subhadhirasakul P, Rundorn W, Withyachumnarkul B, Connor JF., Br J Nutr. 2011 Mar;105 (5):736-46*
- 4) *Euromonitor International*

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