

## ELECTROLYTE REPLENISHING PROPERTY OF GREEN COCONUT MAKES THE LIFE EVERGREEN

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### ABSTRACT

Green coconuts are valued for their hydrating water, while red coconuts are prized for their thicker, more substantial meat. Ultimately, the choice between red and green coconuts depends on individual preferences and the specific purpose for which they're being used. Coconut meat is the edible white flesh lining the inside of the coconut endocarp. It's also called the kernel or copra which can be used to create coconut oil, coconut cream, coconut milk, and dried coconut. Coconut meat is the white flesh inside a coconut. Coconuts are the large seeds of coconut palms (*Cocos nucifera*), which grow in tropical climates. Their brown, fibrous husks conceal the meat inside. Both the meat and water from green coconuts are relished for their distinct nutty flavour and nutrients. Green coconut water is available in packaged bottles and tetra packs. Some brands sell coconut water with tiny pieces of coconut meat. This combination is quite hydrating and satiating. Drinking fresh coconut water from green coconut is a far more refreshing experience than having packaged ones. While choosing green coconuts for their water, it is always better to choose an immature fruit because it gives you more water (about 300 to 350 mL per coconut). If you want to enjoy the tender, creamy coconut meat, buy a slightly mature green coconut. It will give you a little less water but plenty of coconut meat. You can enjoy this meat as it is or use it to make shakes, smoothies, or desserts. Green coconuts are easier to open than tough brown ones. You can use a knife or coconut opener to dig a hole to drink coconut water. After having the water, you can cut the coconut open and scoop out the meat.

**KEYWORDS:** Green coconut, Ripe coconut, Coconut meat, Electrolyte replenisher.

### INTRODUCTION

Green coconuts, also called young coconuts, are harvested before they develop their tough, fibrous brown shell. Thus, both brown and green coconuts are harvested from the same coconut palm (*Cocos nucifera*) tree. Coconut palm is one of the most important crops in tropical regions. Apart from their cooling taste, green coconuts are rich in nutrients. They are helpful in weight management, are good for digestive health, have

antioxidants and their flesh also contains healthy fatty acids that aid brain function. Coconut water is rich in electrolytes, such as potassium and sodium, which can help replenish lost fluids and electrolytes due to dehydration. However, it's important to note that coconut water may not be as effective as ORS in cases of severe dehydration or when diarrhoea and fluid loss are substantial.



Figure-1: Green coconut.

**Constituents:** Green coconuts are young and not completely ripened, while brown ones are fully mature. Green coconuts have far less meat than mature ones. Instead, they're prized for their refreshing and healthy water. Regarding the proximate composition, the following average values were obtained: 65% water, 1.0% fat, 2.4% protein, 0.36% ash and 31.2% carbohydrate. The caloric value was 111 kcal/100 g. The fruit of the coconut yields milk, oil, water, flour and solids, making it an extremely versatile fruit for cooking and baking. Coconut is gluten-free, high in iron, potassium and vitamin C, and has no cholesterol. Providing 79 kilojoules (19 kilocalories) of food energy in a 100-millilitre (3 1/2-US-fluid-ounce) amount, coconut water is 95% water and 4% carbohydrates, with

protein and total fat content under 1% each. Green Coconut has much water and is rich in proteins, minerals, vitamins, calcium, phosphorus, iron, iodine, chlorine, sulphur, potassium, magnesium, carbohydrates and vitamins B1, B2 as well as B5. The water also helps the hydration of the body. Apart from their cooling taste, green coconuts are rich in nutrients. Green coconuts are valued for their hydrating water, while red coconuts are prized for their thicker, more substantial meat. Ultimately, the choice between red and green coconuts depends on individual preferences and the specific purpose for which they're being used. The water from green coconuts, often referred to as "green coconut water" or "young coconut water," is prized for its refreshing and thirst-quenching properties.



**Figure-2: Green and Ripe coconut.**

One of the significant advantages of green coconuts is the abundance of water they contain. Both the meat and water from green coconuts are relished for their distinct nutty flavour and nutrients. Green coconuts are young coconuts that haven't fully ripened and turned brown. Their sweet water and very tender meat are nutritious treats. They're great for preventing dehydration and contain nutrients and compounds that may offer antioxidant benefits, helping reduce your risk of

metabolic syndrome and heart disease. Green coconut water is the best, they are not matured coconut and have more water content and the coconut inside can be eaten easily as it won't be hard and tastes amazing. Green coconuts are a natural source of electrolytes, making them a perfect hydrating option. Enjoy its sweet, mild flavour as a delightful beverage or use the tender flesh in smoothies, desserts, and savoury dishes.

**Table 1: Coconut water ingredients.**

Nutrients	Coconut water (100 mL)	Coconut meat (raw, 100 grams)
Energy	18 kcal	354 kcal
Total carbohydrates	4.4 grams	15 grams
Protein	0 mg	3.3 grams
Fats	0 mg	33 grams
Fibre	0.4 grams	9 grams
Calcium	8 mg	14 mg
Iron	0 mg	0 mg
Magnesium	6 mg	32 mg
Phosphorus	8 mg	113 mg
Potassium	184 mg	356 mg
Sodium	22 mg	20 mg
Vitamin C	2.5 mg	3.3 mg
Cholesterol	0 mg	0 mg

Quench your thirst and savour the taste of the tropics with our fresh tender coconuts. Some people describe the taste of the water from an unripe coconut as slightly

bitter or astringent. On the other hand, the flesh and water of a ripe brown coconut are sweeter and more flavourful, with a nutty, creamy taste. The water is also

more plentiful and tends to have a milder, refreshing flavour. If you want to enjoy the tender, creamy coconut meat, buy a slightly mature green coconut. It will give you a little less water but plenty of coconut meat. You can enjoy this meat as it is or use it to make shakes, smoothies, or desserts. Green coconuts are easier to open than tough brown ones. Coconut water is a healthy beverage. It is low in calories, fat-free, and rich in electrolytes, vitamins, and minerals, making it a nutritious and hydrating choice for overall well-being. When you crack open a fresh young coconut and pour out its contents, the water will look transparent at first. But over time, it will gradually start to turn pink. This process occurs because coconut contains the enzyme

polyphenol oxidase (PPO). Polyphenol oxidase (PPO; also polyphenol oxidase, chloroplastic), an enzyme involved in fruit browning, is a tetramer that contains four atoms of copper per molecule. PPO may accept monophenols and/or o-diphenols as substrates. The enzyme works by catalysing the o-hydroxylation of monophenol molecules in which the benzene ring contains a single hydroxyl substituent to o-diphenols (phenol molecules containing two hydroxyl substituents at the 1, 2 positions, with no carbon between). It can also further catalyse the oxidation of o-diphenols to produce o-quinones. PPO catalyses the rapid polymerization of o-quinones to produce black, brown or red pigments (polyphenols) that cause fruit browning.



**Figure-3: Coconut water [ripe & green].**

The amino acid tyrosine contains a single phenolic ring that may be oxidised by the action of PPOs to form o-quinone. Hence, PPOs may also be referred to as tyrosinases. All plant PPOs consist of a core domain, a C-terminal domain, and an N-terminal transit peptide. The core domain and the C-terminal domain together build the latent enzyme, sometimes also called proenzyme. Coconut water is a delicious, electrolyte-filled, natural beverage that may benefit your heart, moderate your blood sugar, help improve kidney health, and keep you refreshed and hydrated after a workout. Don't drink coconut water as a way to increase salt levels if you have cystic fibrosis. High levels of potassium in the blood: Coconut water contains high levels of potassium. Don't drink coconut water if you have high levels of potassium in the blood. Kidney problems: Coconut water contains high levels of potassium. Yes, coconut water can only go bad if it isn't stored properly or past its expiration date. King coconuts are a good source of potassium, an essential mineral that helps regulate blood pressure, muscle contractions, and fluid balance in the body. Antioxidants: They are believed to have higher antioxidant levels compared to green

coconuts due to their vibrant orange colour. King coconut (*Cocos nucifera var aurantiaca*) is a variety of coconut, native to Sri Lanka, where it is known as Thāmbili, also found in India and Indonesia.

#### **12 health benefits of coconut water**

- Hydrating and refreshing
- Helps regulate blood pressure due to its potassium content
- A perfect workout drink due to its well-balanced electrolyte content
- Good for the heart
- Provides vitamin C that helps with immunity, healthy bones, and teeth
- Helps regulate appetite
- Boosts metabolism
- Helps with post-exercise muscle cramps and diarrhea associated with dehydration
- Provides antioxidants that may help with chronic diseases, such as high blood pressure, diabetes, and heart diseases
- May prevent kidney stones

- May help manage blood sugar levels
- Fewer calories (40 to 60 kcal) per serving compared to many sweetened beverages (130 to 200 kcal per serving)



Figure-4: Evergreen coconut garden.

#### 7 health benefits of coconut meat

- Rich in medium chain triglycerides that help improve metabolism and generate energy
- The high fibre content helps improve gut and cardiovascular health
- Helps improve blood cholesterol levels
- Helps suppress appetite and lose weight (ensure that you keep total calorie consumption in check)
- Provides minerals, such as potassium, iron, phosphorus, and magnesium, which help with various bodily functions
- Helps improve brain function
- Boosts immunity

Both the meat and water from green coconuts are relished for their distinct nutty flavour and nutrients. Green coconut water is available in packaged bottles and

tetra packs. Some brands sell coconut water with tiny pieces of coconut meat. This combination is quite hydrating and satiating. Drinking fresh coconut water from green coconut is a far more refreshing experience than having packaged ones. While choosing green coconuts for their water, it is always better to choose an immature fruit because it gives you more water (about 300 to 350 mL per coconut). You can roughly check whether the coconut water yield will be high in two ways:

- One way is choosing a heavier coconut, and another is shaking the coconut while holding it in both hands.
- The immature green coconut is full of water, so when you shake it, you will not hear the splashing sound.



Figure-5: Ripe coconut with three hole, green coconut in kalash and tree.

If you want to enjoy the tender, creamy coconut meat, buy a slightly mature green coconut. It will give you a little less water but plenty of coconut meat. You can enjoy this meat as it is or use it to make shakes, smoothies, or desserts.

Green coconuts are easier to open than tough brown ones. You can use a knife or coconut opener to dig a hole to drink coconut water. After having the water, you can cut the coconut open and scoop out the meat.

**Mythology, theosophy and spiritual concept:** Coconut has three eyes and is symbolically represents Lord Shiva & some consider eyes as Shiva, Brahma & Vishnu. It represents Trinity-Brahma, Vishnu & Mahesh. The coconut is placed on a pot before puja is done. This is done as some consider the three marks on coconut as **the marks of Brahma, Vishnu and Mahesh**. The three 'eyes' of the coconut represent **the three eyes of the great god Shiva**. The palms are also frequently mentioned in the early Tamil literature dating from between the 1st century AD to the 4th century AD. Coconuts feature in the Hindu epic stories-, the

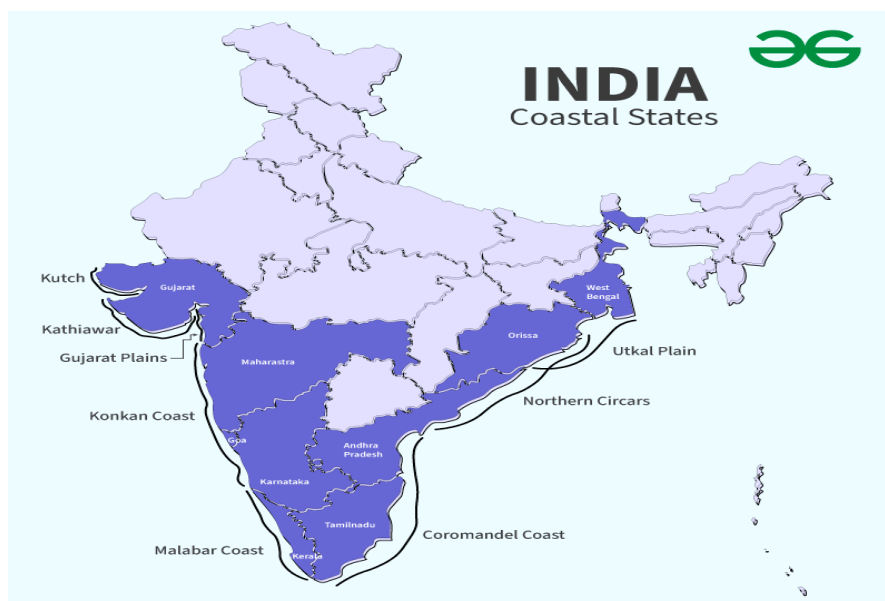
Ramayana, the Mahabharata and the Puranas. The three eyes of their greatest god, Lord Shiva, are thought to be represented by the coconut among Hindus. The coconut also symbolizes a noble and proud heart, with its tough shell on the outside and sweet, delicate fruit on the inside. The three marks on the coconut are regarded as the three eyes of the lord Shiva. Some people also consider the three marks as Brahma, Vishnu and Maheshwara. Allegedly, the black shell of coconut represents Lord Karthikeya, white coconut inside signifies Gauri and inside water indicates Ganga.



**Figure-6: Trinayan symbolises three eyes of coconut.**

The states of Kerala, Karnataka, and Tamil Nadu practise large-scale intensive farming of coconut. Andhra Pradesh, Maharashtra, Orissa, West Bengal, Gujarat,

Assam, Pondicherry, and Goa; and the island territories of Lakshadweep, and Andaman and Nicobar are other areas of coconut production.





**Figure 7: Indian coastal region where coconut plantation is done.**

## CONCLUSION

Coconut water (also coconut juice) is the clear liquid inside young coconuts (fruits of the coconut palm). In early development, it serves as a suspension for the endosperm of the coconut during the nuclear phase of development. As growth continues, the endosperm matures into its cellular phase and deposits into the rind of the coconut pulp. The liquid inside young coconuts is sometimes preferred to the liquid of a ripened coconut. Coconuts grow in tropical climates on trees scientifically known as *Cocos nucifera*, and are botanically considered a fruit. Coconut water is the liquid found in the center of a young, green coconut. It helps nourish the fruit. As the coconut matures, which takes around 10–12 months, some of the liquid remains while the rest ripens into the solid white flesh known as coconut meat. Coconut water typically comes from young coconuts about 6–7 months of age, though it's also found in mature fruit. An average green coconut provides about 1/2–1 cup of coconut water.

Coconut water contains 94% water and very little fat. It should not be confused with coconut milk, which is made by adding water to grated coconut meat. Coconut milk contains about 50% water and is quite high in fat. One cup (240 ml) contains 60 calories, as well as:

Carbs: 15 grams

Sugar: 8 grams

Calcium: 4% of the daily value (DV)

Magnesium: 4% of the DV

Phosphorus: 2% of the DV

Potassium: 15% of the DV

Coconut water contains antioxidants that have shown to be beneficial in research and coconut water may improve blood sugar control. Drinking enough fluids is important for kidney stone prevention. Although plain water is a good choice, two small studies suggest that coconut water might be even better. Kidney stones are created when calcium, oxalate, and other compounds combine to form crystals in your urine. These crystals can then form tiny stones. Coconut water may be good for heart health. Coconut water may be the perfect beverage for restoring hydration and replenishing electrolytes lost during

exercise. Electrolytes are minerals that play several important roles in your body, including maintaining proper fluid balance. Coconut water is effective at replenishing fluids and electrolytes after exercise. It's comparable to other sports beverages. Natural coconut water is slightly sweet with a subtle, nutty flavor. It's also fairly low in calories and carbs. It's freshest directly out of the fruit, but if you aren't able to fill your fridge with fresh coconuts, there are many brands of coconut water on the shelves today. Coconut water can be consumed directly from green coconuts or bought in bottles. Avoid brands with added sugar, sweeteners, or flavours. Some people drink coconut water for its electrolytes. Those are charged minerals that help you stay hydrated. The body loses water and electrolytes from sweating during exercise or hard work and from illnesses such as diarrhoea. Electrolytes in coconut water include potassium, sodium and manganese.

## REFERENCE

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