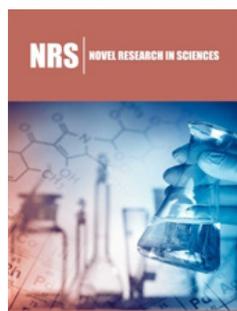


# Nutritional Value of Camu-Camu (*Myrciaria dubia*), Harvesting and Marketing

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## Mini Review

Camu-Camu (*Myrciaria dubia* (HBK) Mc Vaugh) is a fruit native to the Amazon region and is considered the largest natural source of vitamin C in the world. It is also a promising source of many phenolic compounds, including flavonoids and anthocyanins. Given the increasing rates of chronic non-communicable diseases such as dyslipidemia, obesity, and diabetes worldwide, freeze-dried Camu-Camu can be used for its functional properties, which can reduce the incidence of these diseases. Thus, the aim of this study was to produce freeze-dried Camu-Camu pulp and present it as an alternative functional food due to its high production and use potential, adding value to this particular fruit, which is little sought after by the food industry. Freeze-dried Camu-Camu pulp is a homogeneous pink powder with great antioxidant capacity, 52,000 $\mu\text{mol TE/g}$ , six times greater than freeze-dried açai powder. It is also very rich in vitamin C (20.31g/100g), potassium (796.99mg/100g), carbohydrates (47.00g/100g), dietary fiber (19.23g/100g), lots of amino acids, other vitamins, and anthocyanins (0.739mg/g). The Camu-Camu freeze-drying process is an alternative way of preserving the fruit, preserving its macronutrient and vitamin C contents. Camu-Camu is also an excellent source of other bioactive compounds, such as minerals and other phenolic compounds.

For fruits cultivated on terra firme in the Amazon, the ideal ripening stage for harvest, as it presents an adequate balance of constituents of nutritional, organoleptic, and technological interest, was 104 to 113 days after anthesis. Due to the lack of synchrony in the fructification of Camu-Camu, fruit coloring is suggested as the most viable way of predicting the harvest point, that is, when the fruit is red in color. The harvesting of Camu-Camu is done manually, taking the utmost care not to damage the fruit. The harvest usually starts from September, extending until March/April of the following year, with two harvests per week. The fruits are ready to be harvested when in the semi-ripe stage, that is, they are red in color with a green part. At this stage, the fruits contain a higher concentration of vitamin C, in addition to being the most convenient stage for industrial use, as they present consistency, making it easier to pack and transport them over long distances. Once harvested, the fruits are placed in plastic boxes or crates 11cm highx50cm wide and 70cm long, to avoid crushing losses, and should be placed in the shade. To increase the shelf life of the fruit and improve its appearance, some precautions must be taken during harvest. Thus, spoiled fruit, insect bites or greens should be avoided. Therefore, all care must be taken during the harvest so that fruits with good fruit appearance and pulp color are obtained, ensuring good marketing prices (Figure 1).



**Figure 1:** Camu-Camu fruits.

Camu-Camu can be sold in the form of fresh fruit or frozen pulp depending on the conditions existing on the property. Despite seeming to be a way to facilitate commercialization, the sale of fresh fruit directly on the property discourages the producer due to the low price offered by the pulp factories. The existence of a small processing plant improves the quality of the product by harvesting in the best period of fruit maturation and with rapid processing and storage. The ideal would be to add value to production, transforming it into other products such as jams, ice cream or powder concentrated in natural vitamin C. Camu-Camu is a natural source of vitamin C that can range from 800 to 6,100mg/100g of pulp [1]. This vitamin C (ascorbic acid) is different from other fruits already known in the world because it has excellent stability, in the storage process and/or in already processed products, such as ice cream, jelly, nectar and others. Unlike acerola, Camu-Camu fruit reaches maximum ascorbic acid when the fruit is ripe or when it turns red to red purple. This red color is anthocyanin, which is a powerful antioxidant, which eliminates free radicals and prevents cancer. The Camu-Camu fruit showed spectacular antioxidant capacity compared to other fruits that have antioxidants [2], surpassing all of them, such as: açai (*Euterpe oleraceae*), blueberry

(*Vaccinium myrtillus*), apple (*Malus domestica*) and orange (*Citrus sinensis L*) and, was highest among other foods studied so far. Recent studies show a great stability of the ascorbic acid of the Camu-Camu fruit, differentiating it from all other acidic fruits, even after undergoing relatively high temperature of pasteurization and other preparation processes of new products based on fruit pulp. The fruits must be transported to the processing plant and processed within three days. Once harvested, they undergo a cleaning process (leaves and branches), washing, pulping, bleaching, pasteurization and freezing in a freezer or freezing chamber. Camu-Camu, until now, is a little-known fruit that has a high potential to be explored as a functional food in the Amazon region, but also in large markets such as Europe and the United States. Research needs to be done to better understand the constituents of fruits and their antioxidant function.

## References

1. Yuyama K, Aguiar JPL, Yuyama LKO (2002) Camu-Camu: a fantastic fruit as a source of vitamin C. *Acta Amaz* 32(1): 169-174.
2. Aguiar JPL, Souza FCA (2021) Camu-Camu (*Myrciaria dubia*) from the Amazon. *International Journal of Advanced Engineering Research and Science* 8(7).

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