



Research Paper

Comparisons of Açáizeiro (*Euterpe oleracea* Mart.) production costs

Accepted 7th September, 2020

ABSTRACT

The Açáizeiro (*Euterpe oleracea* Mart.) is native to the Brazilian Amazon, highlighting an important plant resource for producing food for local communities and as a raw material. The progress of the açá market both national and international can be used due to the growing demand being higher than the supply, increasing the pressure on prices, with an increasing interest in fruit production, both by the riverside populations and by the processing industries, being necessary to analyze the production costs of the açáizeiro culture. Production costs can be measured perfectly and objectively. The objective of this study was to evaluate the production costs of four producing regions of açá in the years 2017 and 2018 in the states of Amazonas and Pará, in the northeast of Brazil. The data collection for this study was carried out from descriptive research with statistical data provided by the National Supply Company in the agricultural years of 2017 and 2018, in the culture of the açáizeiro. In the four Brazilian municipalities, the region of Belém-PA presented the best production cost per kilogram as a function of average productivity in 2017 and 2018. The cost of production per hectare and the average productivity of açá in the region of Belém-PA were higher and are interrelated with each other.

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Key-words: Northeastern Brazil, açá, palm heart, Pará

INTRODUCTION

The açáizeiro (*Euterpe oleracea* Mart.) is native to the Brazilian Amazon, highlighting an important plant resource for producing food for local communities, in addition to being the main source of raw material for the palm heart agro industry in Brazil (RAIOL et al., 2017). Açá is the main food for a large portion of riverside and low-income families in urban centers, who consume it daily with dry flour, tapioca, beef jerky, fish or shrimp (Souza and Lemos, 2004; Santana and Gomes, 2005; Santana and Costa, 2008; Nogueira et al., 2013). The production of açá, which was almost the only extractivism since the 1990s, started to be used, also, of native production açáizais and implanted cultures, located in regions with more frequent rains (Embrapa, 2015; Raiol et al., 2017). The progress of the açá market, both local, national and international, can be used due to the growing demand, being higher than the supply, increasing the pressure on prices, mainly with the increase of exports (Nogueira et al., 2013).

According to Barreto et al. (2012), the açá market, with the expansion of fruit consumption to other regions of the country and abroad, there was a growing interest in fruit

production, both by the riverside populations and by the processing industries, being necessary to analyze the production costs of the açáizeiro culture. The production costs are composed of direct and indirect costs, which can be perfectly measured and in an objective way, being directly linked to the cost function calculated with precision such as labor, packaging/utensils, administrative expenses, external transport, etc. (Leone, 2000; Martins, 2010). Given the above, the objective of this study was to evaluate the production costs of four producing regions of açáizeiro (*Euterpe oleracea* Mart.) in the years 2017 and 2018 in the states of Amazonas and Pará, in the northeast of Brazil.

MATERIALS AND METHODS

The data collection for this study was carried out from descriptive research with statistical data provided by the Agricultural Information Portal of the Agricultural Observatory of the National Supply Company (CONAB, 2018). The statistical data were analyzed in the agricultural

Table 1: Production costs (US\$/ha) of açazeiro in four productive regions in Amazonas and Pará in 2017.

ITEMS	Codajás-AM	Ponta de Pedras-PA	Belém-PA	Igarapé-Miri-PA
ADMINISTRATOR	1.79	5.38	7.18	7.18
PACKAGING / UTENSILS	5.75		23.56	
LABOR	306.45	402.21	622.47	478.83
FINANCING INTEREST	2.35	3.55	5.09	3.83
CESSR	11.89	39.15	79.34	65.25
ADMINISTRATIVE COSTS	9.42	12.23	19.60	14.58
EXTERNAL TRANSPORT	11.49	68.95		
TOTAL	349.15	531.48	757.23	569.66

years of 2017 and 2018, in the culture of açazeiro (*Euterpe oleracea* Mart.) In four Brazilian municipalities namely: Codajás - Amazonas (AM), located at latitude: 3° 50 '14' 'South and longitude: 62° 3' 27 " West, Ponta de Pedras - Pará (PA), located at 1° 23 '26 " South and longitude: 48° 52 '13' 'West, Belém-PA located at latitude: 1° 27' 18 " South and longitude: 48° 30 '9' 'West and Igarapé-Miri-PA, located at latitude: 1° 58 '37' 'South and longitude: 48° 57' 34 " West. In the production costs, the costs of the following items were considered: administrator, packaging/utensils, labour, financing interest, CESSR - special contribution to rural social security, administrative expenses and external transport. In the municipalities analyzed, production costs will be described per hectare (US\$/ha) and per kilogram (US\$/kg) in two years: 2017 and 2018, as a reference for the months of July 2017 and August 2018, respectively. The statistical data collected were provided in Brazilian reais (R \$), but in this study, the currency used was US dollars (US \$), obtained by converting the exchange rate: US\$ 1 = R\$ 5.22 (IPEA, 2020).

RESULTS AND DISCUSSION

The production cost table is described by Marion (2006) as the set of expenses that must be borne to obtain revenue based on the products. The breakdown of production costs (US \$ / ha) of açazeiro in Codajás-AM, Ponta de Pedras-PA, Belém-PA and Igarapé-Miri-PA in 2017 were described in Table 1. In the region of Codajás-AM, the lowest cost of production was observed in all the itemized items, which totaled a cost of US\$ 349.15. On the other hand, in Belém-PA, the highest production cost was observed in all the itemized items, which totaled a cost of US\$ 757.23, with the

item administrator being similar to the region of Igarapé-Miri-PA. The breakdown of production costs (US\$/ha) of açazeiro in Codajás-AM, Ponta de Pedras-PA, Belém-PA and Igarapé-Miri-PA in 2018 were described in Table 2. In the region of Codajás-AM, the lowest cost of production was observed in all items itemized, except CESSR, which totaled a cost of US\$ 426.69, with an increase of US\$ 77.54 concerning the previous harvest. On the other hand, in Belém-PA, the highest production cost was observed in all the itemized items, which totaled a cost of US\$ 778.04, with an increase of US\$ 20.81 concerning the previous harvest, with the item administrator being similar to the Igarapé-Miri-PA region.

The average productivity (kg ha⁻¹) and production cost per unit of sale (US\$/kg) of açai in Codajás-AM, Ponta de Pedras-PA, Belém-PA and Igarapé-Miri-PA in 2018 were described in Table 3. The Belém-PA region had average productivity of 3,360 kg ha⁻¹, being the highest among the regions observed. Although the region has the highest production cost, in the same sense, the region has shown the highest productivity. Barbosa et al. (2020), when carrying out economic analysis in Capanema-PA, 148 km from Belém-PA, the authors observed significant profitability in the açazeiro culture, being a significant source of income for the producer under the current conditions. The Codajás-AM region had the lowest average productivity, with a value of 1,500 kg ha⁻¹. Barreto et al. (2012), when analyzing the economic feasibility of implementing the commercial planting of 1 ha of açai in Amazonas, recommended that it be inadvisable, due to the return on investment, but still reinforced that the income for the producer is very significant. The cost of production per kilogram in the years 2017 and 2018 was higher in Ponta de Pedra-PA, with US\$ 0.32 and US\$ 0.31

Table 2: Production costs (US\$/ha) of açaizeiro in four productive regions in Amazonas and Pará in 2018.

ITEMS	Codajás-AM	Ponta de Pedras-PA	Belém-PA	Igarapé-Miri-PA
ADMINISTRATOR	1.83	5.48	7.31	7.31
PACKAGING / UTENSILS	7.18		34.09	
LABOR	383.06	425.20	684.72	574.59
FINANCING INTEREST	1.02	4.39	7.16	5.56
CESSR	10.34	6.90	22.97	11.50
ADMINISTRATIVE COSTS	11.76	12.92	21.78	17.46
EXTERNAL TRANSPORT	11.49	68.95		
TOTAL	426.69	523.85	778.04	616.42

Table 3: Average productivity (kg ha⁻¹) and production cost per marketing unit (US\$/kg) of açaizeiro in four productive regions in Amazonas and Pará in 2017 and 2018.

	Average Productivity (kg ha ⁻¹)	Cost (US\$/kg)	
		2017	2018
Codajás-AM	1,500	0.23	0.28
Ponta de Pedras-PA	1,680	0.32	0.31
Belém-PA	3,360	0.23	0.23
Igarapé-Miri-PA	2,800	0.20	0.22

respectively, and the lowest was Igarapé-Miri-PA, with US\$ 0.20 and 0.22 respectively.

CONCLUSIONS

The Belém-PA region had the best production cost per kilogram due to average productivity in 2017 and 2018. The cost of production per hectare and the average productivity of açaí in the region of Belém-PA were higher and are interrelated.

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