

Supplemental Methods

Revolutionizing the dairy economy: Monte Carlo simulation and market share insights for profitable production

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Table S1: Total costs for the first two years of the project lifecycle

Year	2024	2025
Initial investment		
Description	Predicted value	
Legal Expenses	BRL 5,500.00	
Land Acquisition (Industrial area)	BRL 340,000.00	
Construction of the building (100m² area)	BRL 180,000.00	
Brand	BRL 10,000.00	
Administrative (computers, printers, scanners, various materials, tables, chairs, cabinets, etc.)	BRL 30,000.00	
Vehicles	BRL 250,000.00	
Purchase of equipment	BRL 212,635.00	
Total	BRL 1,028,135.00	
Fixed expenses:		
Description	Predicted value	Predicted value
Accounting	BRL 16,800.00	BRL 16,800.00
Employees	BRL 742,817.20	BRL 742,817.20
Facilities (cleaning, safety and maintenance)	BRL 35,000.00	BRL 35,000.00
Subtotal	BRL 794,617.20	BRL 794,617.20

Variable Expenses:				
Description	Predicted value		Predicted value	
Maintenance	BRL 42,527.00		BRL 42,527.00	
Depreciation	BRL 42,901.60		BRL 42,901.60	
Fuel	BRL 26,024.40		BRL 26,024.40	
Toll	BRL -		BRL -	
Electricity	BRL 60,000.00		BRL 60,000.00	
Water	BRL 8,000.00		BRL 8,000.00	
Seller Commission	BRL 28,854.73	BRL 9,703.05	BRL 30,328.79	BRL 10,198.74
Tax (Total rate 13.3%):	BRL 375,111.44	BRL 126,139.69	BRL 394,274.28	BRL 132,583.63
Subtotal	BRL 719,261.90		BRL 746,838.44	
Production costs	Parmesan	Mozzarella	Parmesan	Mozzarella
CMV calculation (kg produced)	60%	40%	60%	40%
Description	Parmesan	Mozzarella	Parmesan	Mozzarella
Milk	BRL 33.36	BRL 25.02	BRL 33.36	BRL 25.02
Yeast/chemical products	BRL 2.07	BRL 2.88	BRL 2.07	BRL 2.88
Packaging	BRL 0.50	BRL 0.50	BRL 0.50	BRL 0.50
Subtotal	BRL 35.93	BRL 28.40		
Quantity Produced/Year	BRL 33,268.91	BRL 22,179.27	BRL 34,968.48	BRL 23,312.32
Sales value/kg	Parmesan	Mozzarella	Parmesan	Mozzarella
Margin	110%	34%	110%	34%
Commercialization Value	BRL 86.73	BRL 43.75	BRL 86.73	BRL 43.75
Result	Parmesan	Mozzarella	Parmesan	Mozzarella
Expected Revenue	BRL 2,885,472.59	BRL 970,305.30	BRL 3,032,879.09	BRL 1,019,874.06
Raw Material Cost	BRL 1,195,410.07	BRL 629,974.34	BRL 1,256,478.48	BRL 662,157.04
Total gross profit	BRL 1,690,062.52	BRL 340,330.96	BRL 1,776,400.61	BRL 357,717.02
Administrative costs	BRL 794,617.20	BRL 794,617.20		
Operating costs	BRL 719,261.90	BRL 746,838.44		
Operating result	BRL 516,514.37	BRL 592,661.99		
Taxes (15% IRPJ +9% CSLL)	BRL 123,963.45	BRL 142,238.88		
Net Operating Result	BRL 392,550.92	BRL 450,423.11		