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PHYSICAL AND CHEMICAL COMPOSITION AND *in situ* DEGRADABILITY OF MACAUBA PALM CAKE AND LEAVES

COMPOSIÇÃO FÍSICO-QUÍMICA E DEGRADABILIDADE IN SITU DA TORTA E FOLHA DA MACAUBA

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Macauba palm coconuts are rich in essential nutrients for animal feed formulation and after oil extraction, a large amount of residual biomass is produced, which must be used rationally to environmental preservation. This study aimed to determine the nutritional value of macauba palm (*Acrocomia aculeata*), cake and leaves, for its physical and chemical composition, dry matter (DM) *in vitro* digestibility (IVD) and *in situ* degradability. The test of *in situ* degradability was done using three rumen fistulated cattle. Analytical determinations were performed in the laboratory of Animal Nutrition of Instituto de Zootecnia, Nova Odessa-SP, Brazil. Six replicates were used for each analytical determination and were calculated the standard error. Macauba cake chemically assessed, Table 1, showed a low protein content (CP 4.5%) and high content of acid detergent fibre (ADF 39.7%) and average levels of neutral detergent fibre (NDF 52.5%). ADF and NDF were the macauba palm cake majority fractions compared NDF and ADF (respectively) of cocoa cake (37.6 and 45.5%), sunflower cake (28.2 and 38.4%), corn meal (11.3 and 20.2%) and peanut cake (15.4 and 21.0). Macauba palm leaves had a good protein content (12.0%) and fiber content comparable to tropical grass of good nutritional value. They can be used with no restriction on ruminants' diets. The macauba palm cake high levels of lignin (16.5%) justify the low dry matter IVD percentage (48%), while the leaves had 58%.of IVD. Macauba leaves total digestible nutrients (TDN 59.0%) is similar to TDN usually observed for forages. Macauba cake can be considered (TDN = 64.0%) similar to energetic food, due to the fat content (6.4%), however the high content of lignin (16.5%) can limit its consumption. Macauba palm cake showed high ruminal degradability of DM and CP (fraction *a* = 51.3 and 59.9, respectively), while macauba palm leaves hah low solubility of DM and CP (fraction a = 3.18 and 5.28, respectively). Thus, the higher CP macauba leaves associated with its lower ruminal degradability and lower effective degradation of fraction CP is a beneficial characteristic because associated with lower ruminal degradability could increase absorption in the duodenum of amino acids and peptides that were not incorporated by rumen microorganisms. Macauba cake is potentially useful in animal feed, the association of macauba palm cake and leaves can attend the requirements of some animals' categories. Additional studies with animals should be conducted to better understand these results.

Table 1. Physical and chemical composition *in vitro* digestibility (IVD) and parameters of *in situ* degradability a, b, c, potencial degradability (PD), and effective degradability 2% (Ed) of macauba palm cake and leaves

	CP	FAT	ADF	NDF	Lignin	IVD	TDN	Ca	P
	%MS							g / kg	
Cake	4.5	6.4	39.7	52.6	16.5	48.0	64.0	1.3	1.4
Leave	12.0	3.6	36.0	63.6	10.4	55.0	59.0	7.7	1.6

	Parameters of *in situ* Degradability									
	a		*b*		*c*		PD		Ed 2%	
	DM	CP	DM	CP	DM	CP	DM	CP	DM	CP
Cake	51.3	59.9	15.3	19.0	0.05	0.08	66.5	79.0	62.1	75.2
	(0.34)*	(0.41)	(0.19)	(0.35)	(0.005)	(0.006)	(0.20)	(0.24)	(0.15)	(0.26)
Leave	18.3	28.5	39.8	49.7	0.06	0.06	58.1	78.1	47.8	65.4
	(0.15)*	(0.95)	(0.16)	(0.26)	(0.0001)	(0.001)	(0.20)	(0.21)	(0.07)	(0.25)

*Standard error.

Keywords: *Acrocomia aculeate,* coproducts, *in vitro* digestibility.