Table 1 - Descriptive statistics of the data set used to develop models to predict $DMI_{pasture}$ by beef cattle under tropical conditions

Item	Mean	Median	Minimum	Maximum	SD
BW, Kg	294.50	281.8	80.0	590.0	99.3
$BW^{0,75}$, kk	70.41	68.67	26.75	119.71	18.2
ADG, kg/d	0.40	0.40	-0.22	1.11	0.24
Intake					
DMI_{total} - kg/d	5.70	5.42	1.67	12.03	2.04
$DMI_{pasture}$ - kg/d	4.99	4.70	1.35	11.52	1.90
$CPI_{supplement}$ - kg/d	0.21	0.19	0.00	1.19	0.17
$DMI_{supplement}$ - kg/d	0.70	0.62	0.00	3.66	0.59
$DMI_{supplement}$ - % BW	0.25	0.23	0.00	1.41	0.13
Pasture (%)					
CP	8.15	8.10	4.23	12.66	2.15
NDF	64.65	65.00	59.54	73.37	3.37

Table 2. Descriptive statistics of the data set used to evaluate models to predict $DMI_{pasture}$ by beef cattle under tropical conditions

Item	Mean	Median	Minimum	Maximum	SD
BW, Kg	268.1	255.40	125.00	448.5	70.46
$BW^{0,75}$, kk	65.83	63.89	37,55	97.46	12.93
ADG, kg/d	0.53	0.52	0.09	0.97	0.20
Intake					
DMI_{total} - kg/d	5.95	5.75	3.02	9,91	1.74
$DMI_{pasture}$ - kg/d	4.91	5.01	1.44	9.27	1.70
$CPI_{supplement}$ - kg/d	0.22	0.20	0.00	0.75	0.18
$DMI_{supplement}$ - kg/d	0.88	0.82	0.00	4.08	0.82
$DMI_{supplement}$ - % BW	0.32	0.30	0.00	1.55	0.27
Pasture (%)					
CP	8.14	7.9	4.3	13.3	2.26
NDF	64.57	65.20	52.13	84.30	8.87

Tabela 3. Pearson's correlation coefficients for the relationships between the explanatory variables in the data set used to develop the models

Item[1]	$BW^{0,75}$	ADG	DMI_{total}	$DMI_{pasture}$	$CPI_{supplement}$	$DMI_{supplement}$	$DMIBWs_{upplement}$	$CP_{pasture}$	$NDF_{pasture}$
BW - kg	0.990	-0.125	0.752	0.747	0.161	0.201	-0.137	-0.346	0.327
$BW^{0,75}$ - kg		-0.131	0.756	0.749	0.168	0.207	-0.135	-0.345	0.327
ADG - kg/d			0.086	0.036	0.177	0.181	0.220	0.378	-0.187
DMI_{total} - kg/d				0.957	0.364	0.383	0.109	-0.075	0.171
$DMI_{pasture}$ - kg/d					0.100	0.099	-0.162	-0.050	0.167
$CPI_{supplement}$ - kg/d						0.932	0.849	-0.039	0.032
$DMI_{supplement}$ - kg/d							0.895	-0.098	0.053
$DMIBW_{supplement}$ - %								0.005	-0.064
$CP_{pasture}$ - % DM									-0.6631

Tabela 4 - Models for predicting $DMI_{pasture}$ (kg/d) by beef cattle under tropical conditions

Models	Equations
Azevedo et al. (2016)	$DMI = -1.912+(0.900 \times DMI_{supplement}) + (0.094 \times BW^{0,75}) + (1.070 \times ADG) – (1.395 \times ADG^2)$
Minson e McDonald (1987)	$DMI = (1.185 + (0.00454 \times BW) – (0.0000026 \times BW^2) + (0.315 \times ADG))^2$
Models proposed	
Model I	$DMI_{pasture} = 0.055 + (0.069 \times BW^{0,75}) + (0.304 \times ADG)$
Model II	$DMI_{pasture} = 0.387 + (0.065 \times BW^{0,75}) + (0.399 \times ADG) - (1.164 \times DMIBW_{supplement}) + (1.199 \times CPI_{supplement})$
Model III	$DMI_{pasture} = -1.510 + (0.067 \times BW^{0,75}) + (2.997 \times ADG) - (1.110 \times DMIBW_{supplement}) + (1.143 \times CPI_{supplement}) + (0.231 \times CP_{pasture}) - (0.341 \times ADG \times CP_{pasture})$

Table 5. Summary of statistical measures to assess adequacy of models using regression between observed (Y) and model-predicted (X) $DMI_{pasture}$ by beef cattle under tropical conditions

Itens	Model				
	Proposed			Azevedo et al. (2016)	Minson and McDonald (1987)
	Model I	Model II	Model III		
Observed $DMI_{pasture}$ (Y), kg/d	4.81	4.81	4.81	4.81	4.81
Predicted $DMI_{pasture}$ (X), kg/d	4.71	4.73	4.71	5.10	5.60
Mean bias (Y – X), kg/d	0.10	0.08	0.10	-0.29	-0.79
Intercept	-0.8965	-1.4215	-0.9563	2.351	-0.7629
P-Value (H_0, $\beta_0 = 0$)	0.2172	0.0460	0.1407	<.0001	0.3176
Slope	1.2111	1.3181	1.2255	0.482	0.9945
P-Value (H_0, $\beta_1 = 1$)	0.1638	0.0326	0.0962	<.0001	0.9676
(r^2)	0.45	0.51	0.52	0.27	0.41
MSEP, kg × kg	1.37	1.28	1.23	2.68	2.06
Root MSEP, kg/d	1.17	1.13	1.11	1.64	1.43
Partition of MSEP, %					
Error due to mean bias	0.68	0.53	0.88	3.08	29.74
Error due to slope not equal to 1	2.48	5.76	3.54	29.70	0.0
Random error	96.73	93.71	95.59	67.22	70.25
CCC^2 (0 to 1)	0.58	0.60	0.63	0.52	0.50
ρ^3 (0 to 1)	0.6815	0.7190	0.7241	0.53	0.6510
Cb^4 (0 to 1)	0.8523	0.8390	0.8733	0.9800	0.7800