

Anexo I

Grupo I

Foi ajustada a regressão linear múltipla do peso vivo (variável **Peso**, em kg) sobre as restantes variáveis observadas (idade (em dias), altura (variável **Alt**, em cm), perímetro torácico (variável **PT**, em cm) e do perímetro da canela (variável **PCAN**, em cm). Eis os resultados obtidos com o ajustamento deste modelo:

```
proc reg data=cavalos plots=diagnostics;  
model Peso = Idade Alt PT PCAN /clb covb xpx R CLI CLM R P ;  
output out=diagnostics r=r student=int_r rstudent=ext_r h=leverage cookd=cooksd  
p=predicted;  
RUN;  
proc print data=diagnostics;  
run;
```

The SAS System

The REG Procedure

Model: MODEL1

Dependent Variable: Peso

Number of Observations Read 112

Number of Observations Used 112

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	110204	27551	139.28	<.0001
Error	107	21166	197.81262		
Corrected Total	111	131370			

Root MSE 14.06459 R-Square 0.8389
Dependent Mean 292.23214 Adj R-Sq 0.8329
Coeff Var 4.81281

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t	95% Confidence Limits	
Intercept	1	-692.44790	57.13462	-12.12	<.0001	-805.71063	-579.18517
Idade	1	0.25725	0.08327	3.09	0.0026	0.09219	0.42231
Alt	1	1.71954	0.54714	3.14	0.0022	?	?
PT	1	3.54450	0.29763	11.91	<.0001	2.95449	4.13451
PCAN	1	5.83285	2.74955	2.12	0.0362	0.38218	11.28352

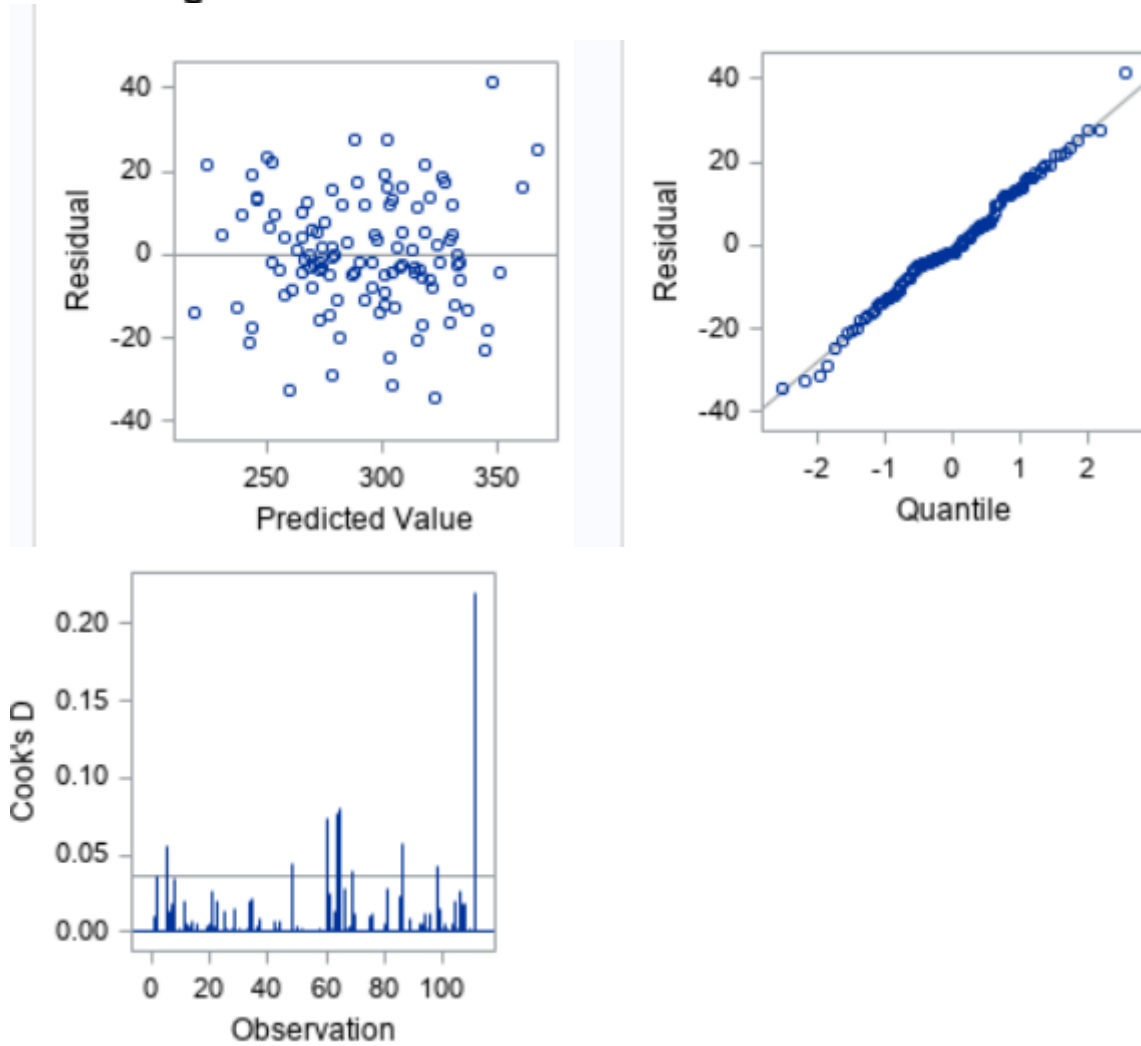
Matriz de (co-) variâncias estimadas dos estimadores dos parâmetros do modelo:

Covariance of Estimates

Variable	Intercept	Idade	Alt	PT	PCAN
Intercept	3264.3652598	-1.941480186	-21.04038738	0.3569044665	21.54152578
Idade	-1.941480186	0.0069330923	-0.000015377	-0.001065901	-0.02209012
Alt	-21.04038738	-0.000015377	?	-0.05526418	-0.731793936
PT	0.3569044665	-0.001065901	-0.05526418	0.0885811151	-0.305713909
PCAN	21.54152578	-0.02209012	-0.731793936	-0.305713909	7.5600466881

Gráficos de diagnóstico dos resíduos

Fit Diagnostics



The SAS System

Obs	Raca	Idade	Peso	Alt	PT	PCAN	predicted	r	int_r	cooksd	leverage	ext_r
1	A	337	224	138.00	142.0	17.50	236.935	?	-0.94381	0.00946	0.05042	-0.94333
2	A	373	228	140.00	144.5	17.85	260.538	-32.5382	-2.35046	0.03560	0.03122	-2.40229
3	A	351	268	142.50	147.0	17.90	268.330	-0.3304	-0.02374	0.00000	0.02085	-0.02363
4	A	378	288	143.25	148.0	18.80	285.360	2.6401	0.19221	0.00036	0.04625	0.19134
5	A	337	246	139.00	140.0	16.25	224.275	21.7252	1.62371	0.05534	0.09499	1.63639
6	A	364	259	140.00	143.0	16.60	245.615	13.3849	0.98360	0.01320	0.06386	0.98345

...

Anexo II

Grupo II

Resultados do modelo de análise de variância ajustado

```
proc glm data=cavalos PLOTS(UNPACK)=DIAGNOSTICS;  
Class Raca;  
  model Peso = Raca/solution;  
  lsmeans Raca;  
  output out=residuals_data r=residual p=predicted;  
run;
```

The SAS System

The GLM Procedure

Dependent Variable: Peso

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model (Raça)	1	29640.0357	?	?	<.0001
Error	?	101729.9286	924.8175		
Corrected Total	111	131369.9643			

Parameter	Estimate	Standard Error	t Value	Pr > t
Intercept	308.5000000 B	4.06381579	75.91	<.0001
Raca A	-32.5357143 B	5.74710341	-5.66	<.0001
Raca B	0.0000000 B	.	.	.

Note: The X'X matrix has been found to be singular, and a generalized inverse was used to solve the normal equations. Terms whose estimates are followed by the letter 'B' are not uniquely estimable.

The SAS System

The GLM Procedure
Least Squares Means

Raca **Peso** **LSMEAN**

A	275.964286
B	308.500000