

# 2023 FEEDLOT SUMMIT BRAZIL

ANNUAL MEETING OF BEEF CATTLE PRODUCERS  
REUNIÃO ANUAL DOS PRODUTORES DE GADO DE CORTE



CONSULTORIA AVANÇADA EM PECUÁRIA



# Ponto ótimo de abate *vs.* Dias de lucro:

## Quais fatores influenciam a tomada de decisão?

**Danilo Domingues Millen**

Zootecnista, Ph.D., Professor Associado III

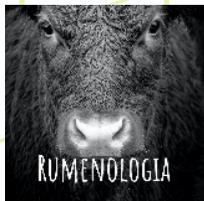
Departamento de Zootecnia

FCAV/UNESP, campus de Jaboticabal

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📷 [@danilomillen](https://www.instagram.com/danilomillen)

📷 [@rumenologia](https://www.instagram.com/rumenologia)



**NUTRIÇÃO DE PRECISÃO**  
NA PECUÁRIA DE CORTE





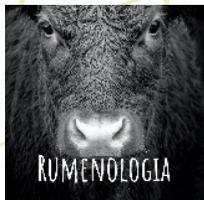


# Data set

	Média	Mínimo	Máximo
Peso vivo inicial, kg	363,10	268,00	464,00
Peso vivo final, kg	540,53	476,00	631,00
Dias de cocho	107	65	156
Ganho de peso diário, kg	1,67	1,32	2,18
Ganho de peso diário de carcaça, kg	1,15	0,88	1,39

**Bovinos NELORE inteiros  
terminados entre  
2020 a 2023**

**310 baias  
N = 84 por baia  
26.000 animais**

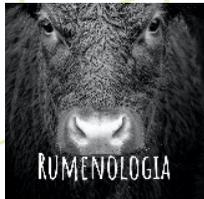


# Data set

		Média	Mínimo	Máximo
Peso vivo inicial, kg	<b>376,1 kg</b>	363,10	268,00	464,00
Peso vivo final, kg	<b>555,8 kg</b>	540,53	476,00	631,00
Dias de cocho	<b>107 dias</b>	107	65	156
Ganho de peso diário, kg	Silvestre et al. (2021)	1,67	1,32	2,18
Ganho de peso diário de carcaça, kg		1,15	0,88	1,39

**Bovinos NELORE inteiros terminados entre 2020 a 2023**

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Ponto ótimo de abate vs. Dias de lucro:  
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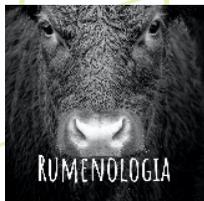
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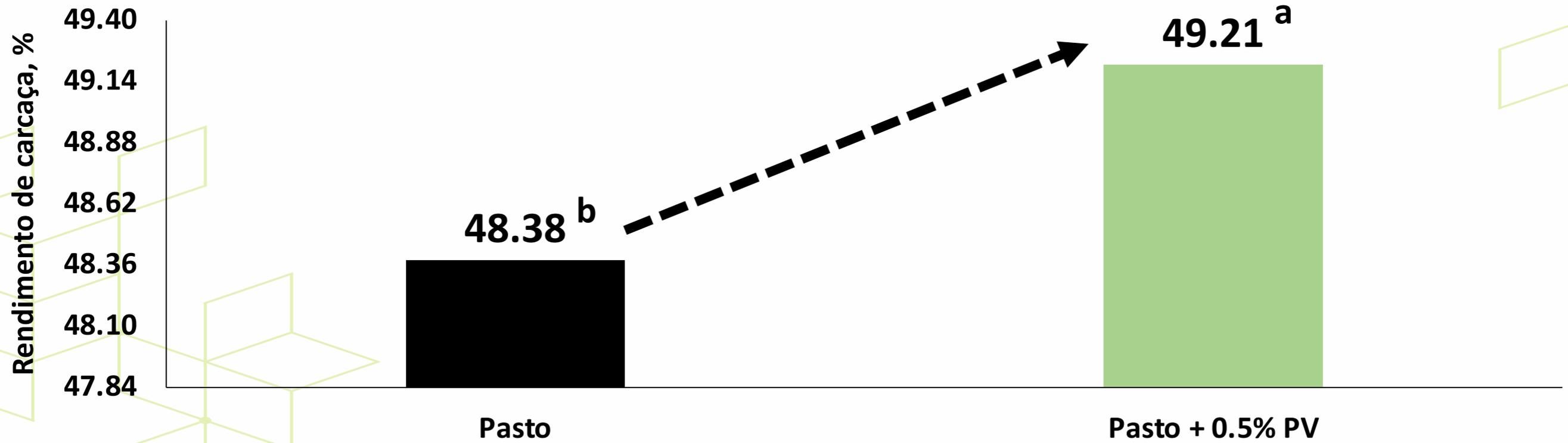
*Como foi calculado o Ganho de peso diário de carcaça?*

**Bovinos NELORE inteiros terminados entre 2020 a 2023**

**310 baias  
N = 84 por baia  
26.000 animais**

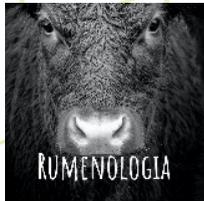


# Peso de carcaça inicial

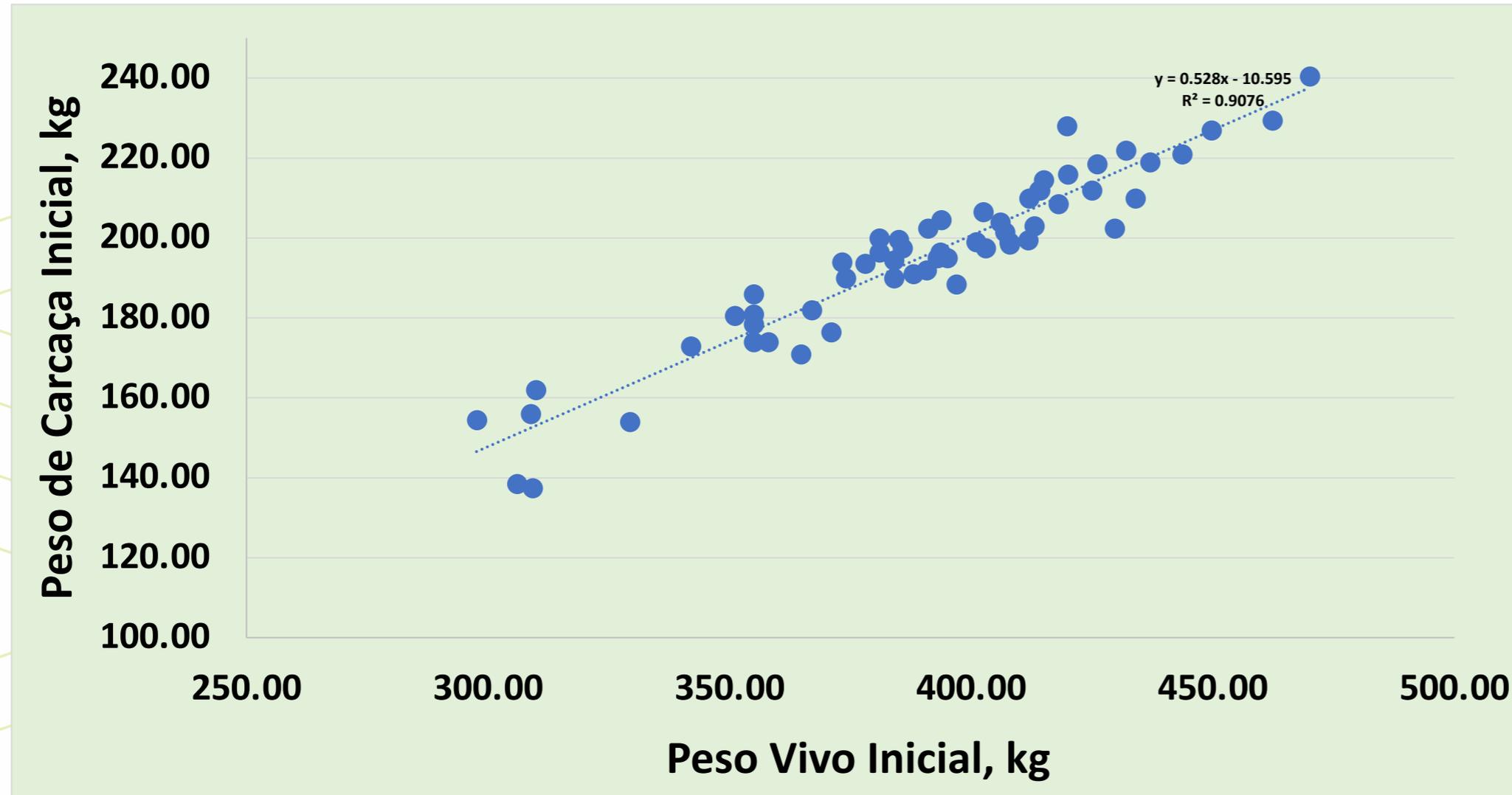


**Bovinos NELORE**  
Inteiros  
386 kg

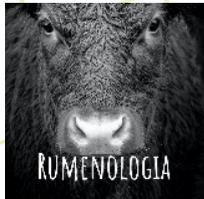
Pereira et al. (2020)



# Peso de carcaça inicial

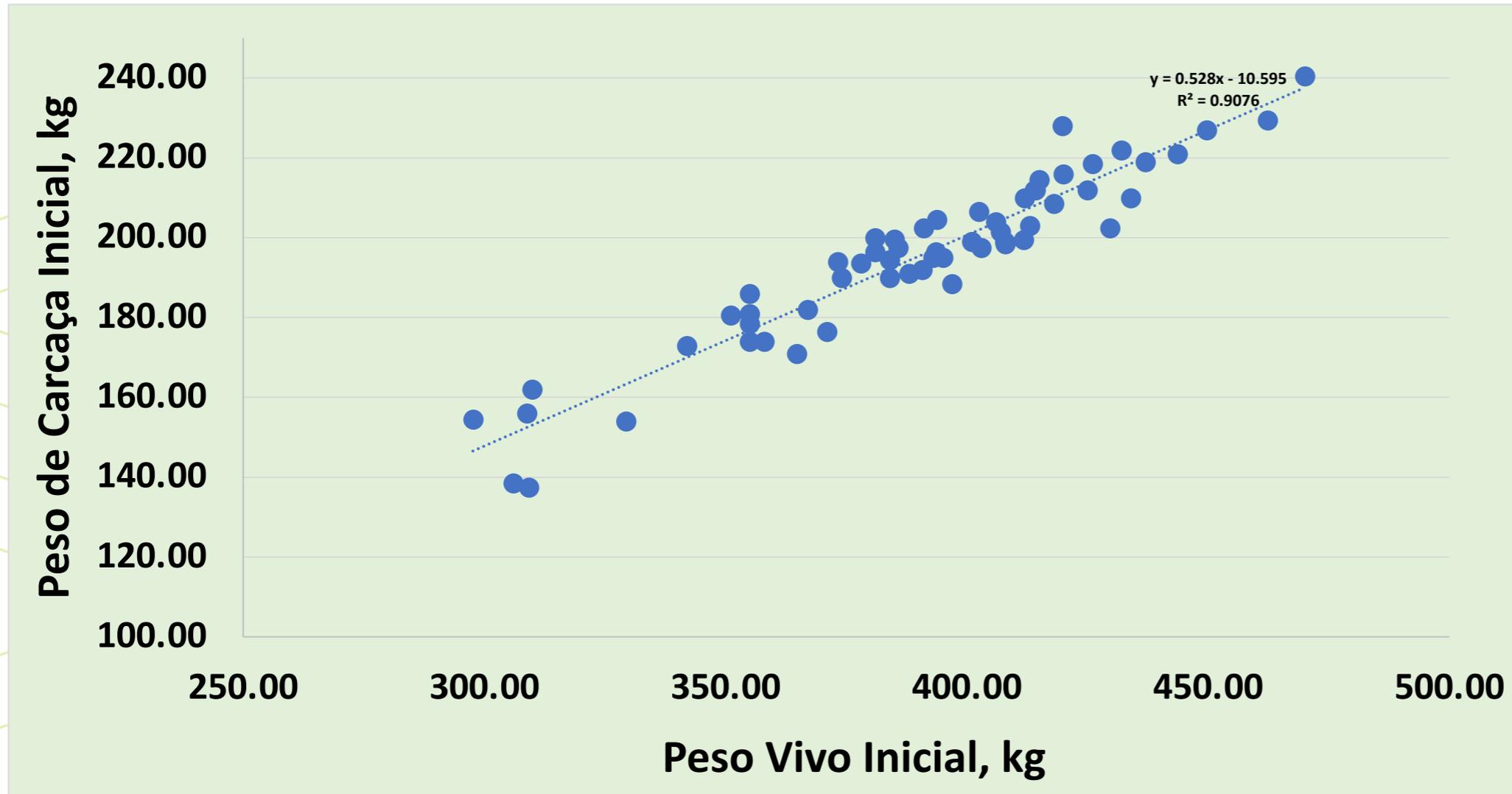


**Relação:**  
**Peso Vivo Inicial**  
**vs.**  
**Peso de Carcaça Inicial**

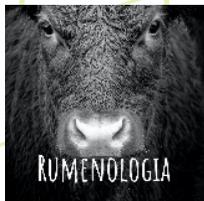


# Peso de carcaça inicial

*E quanto ao peso de carcaça final?*

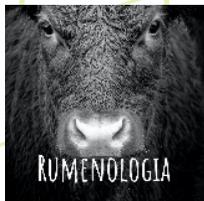


**Relação:**  
**Peso Vivo Inicial**  
**vs.**  
**Peso de Carcaça Inicial**

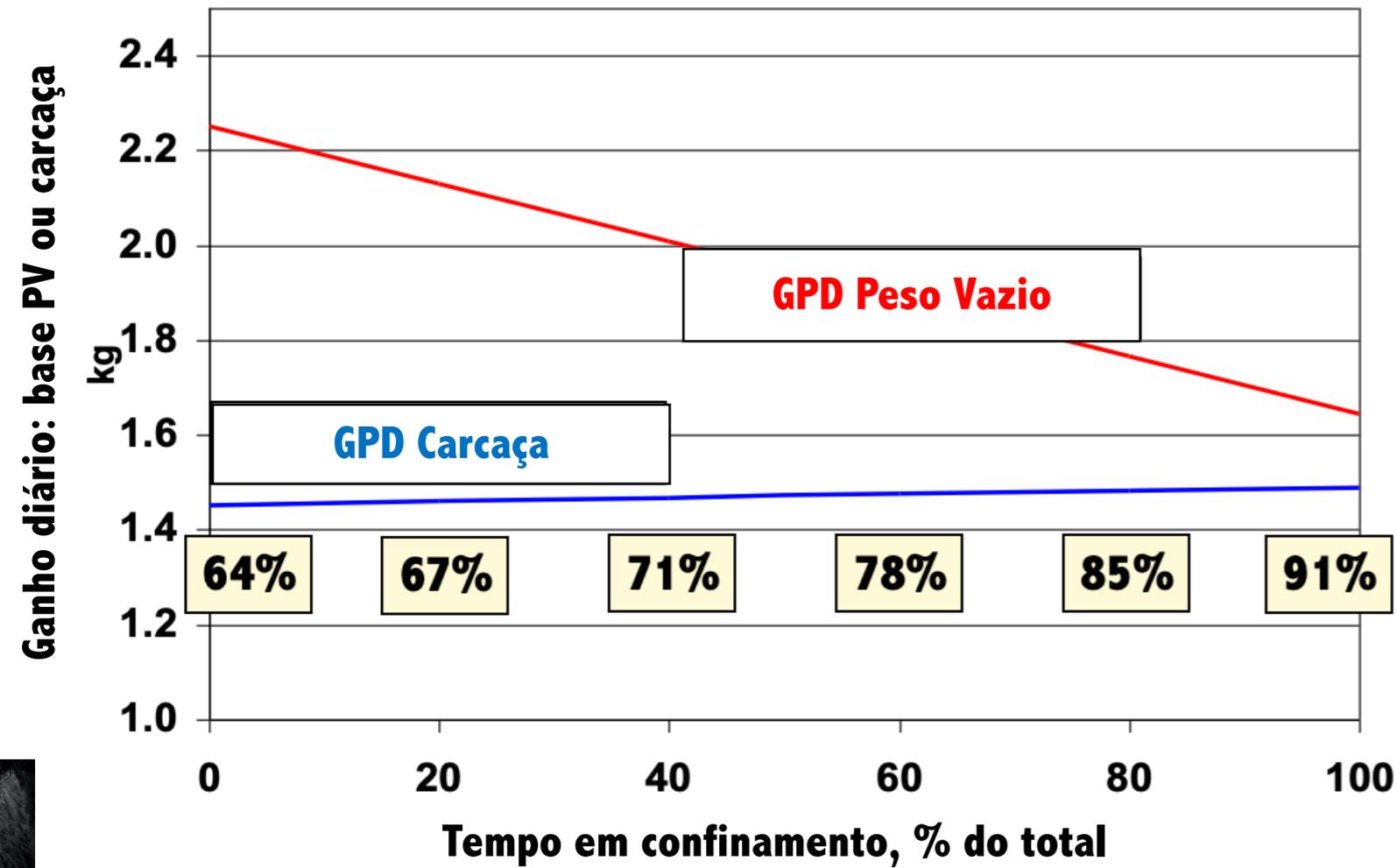


# Ganho de peso diário de carcaça

[Peso de carcaça final – Peso de carcaça inicial]  
Dias de cocho



# Ganho de peso diário de carcaça

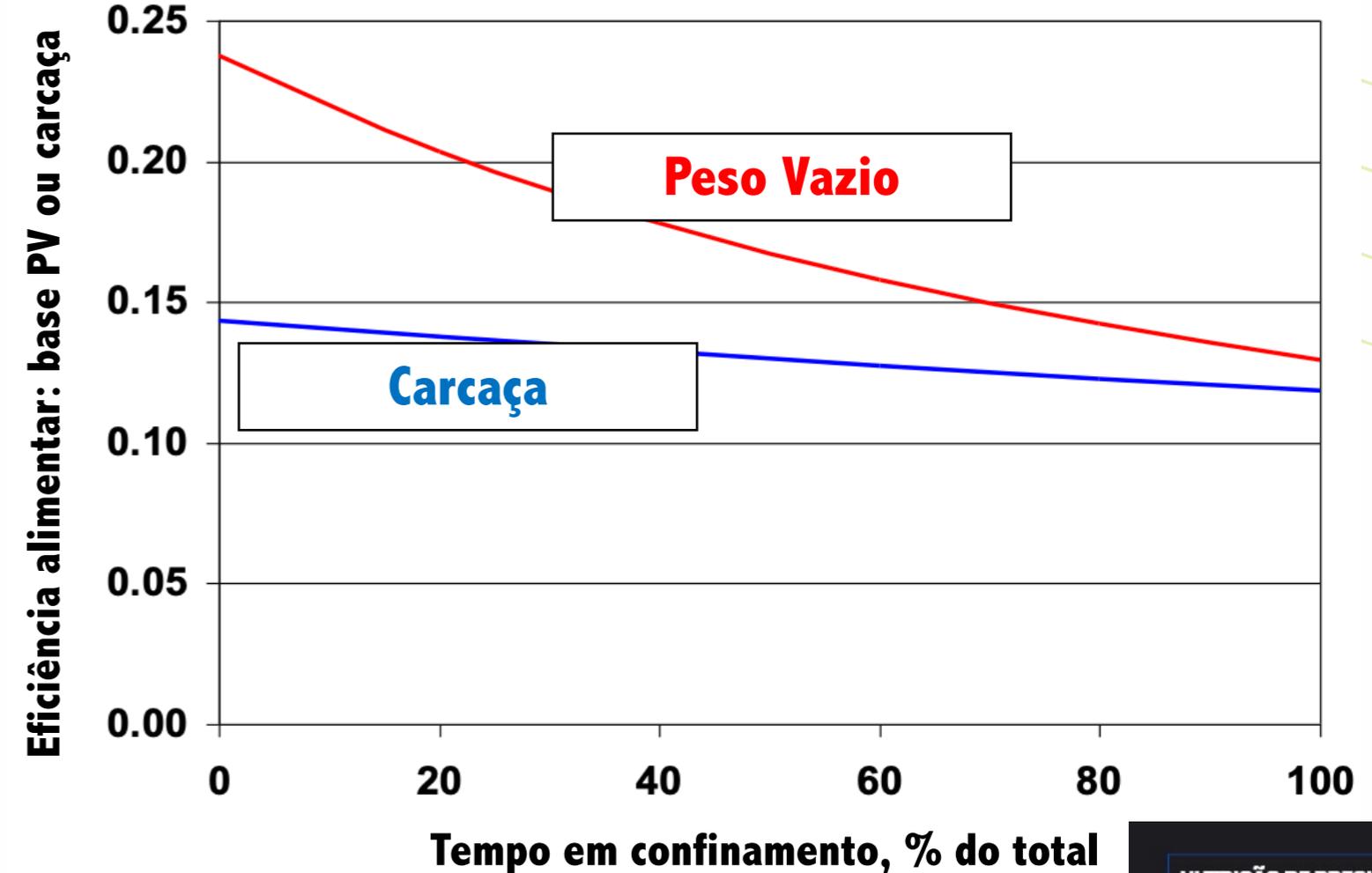
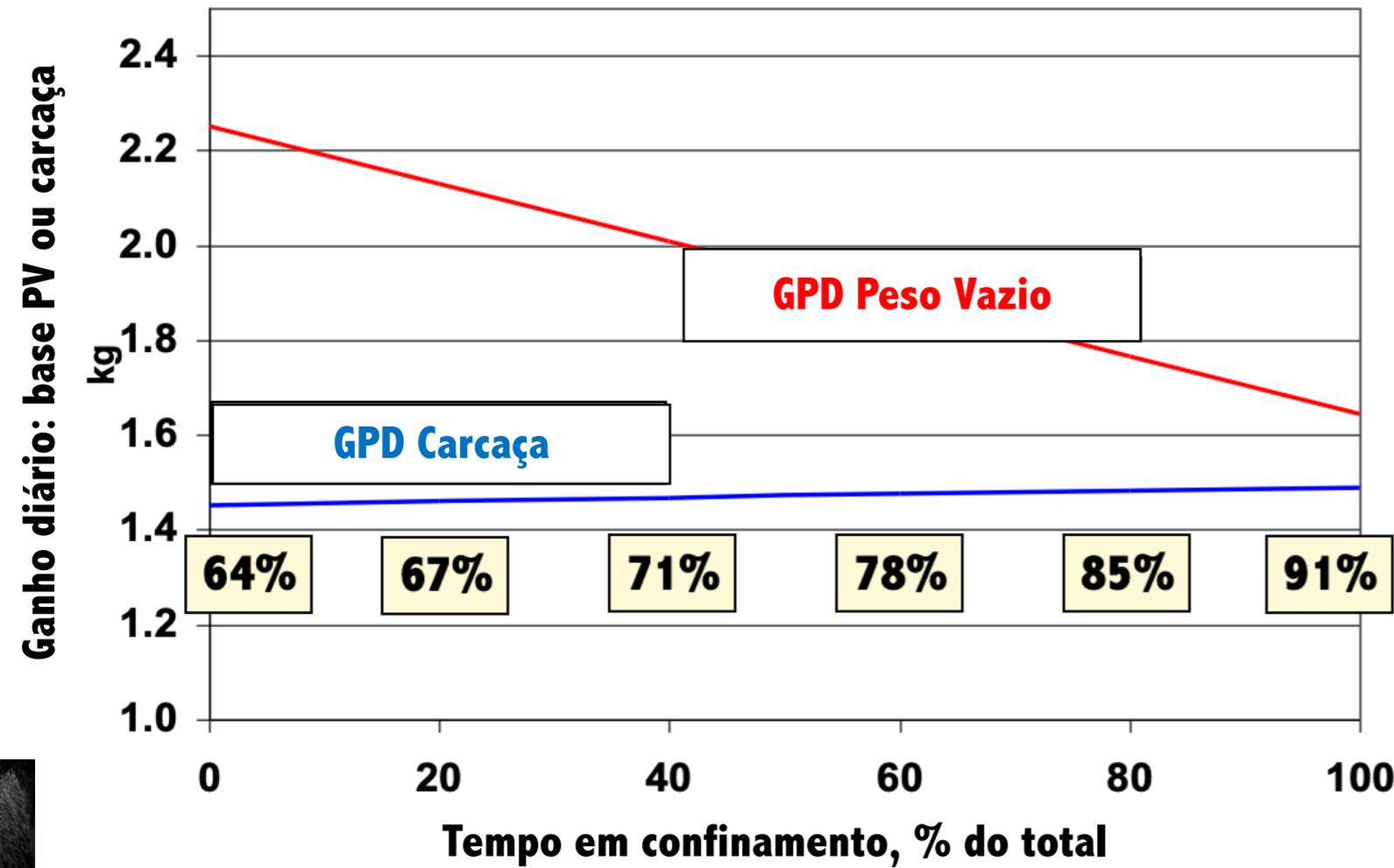


McDonald et al. (2007)

Ponto ótimo de abate vs. Dias de lucro:  
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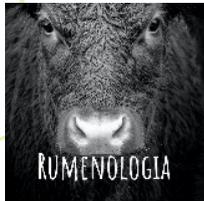


# Ganho de peso diário de carcaça



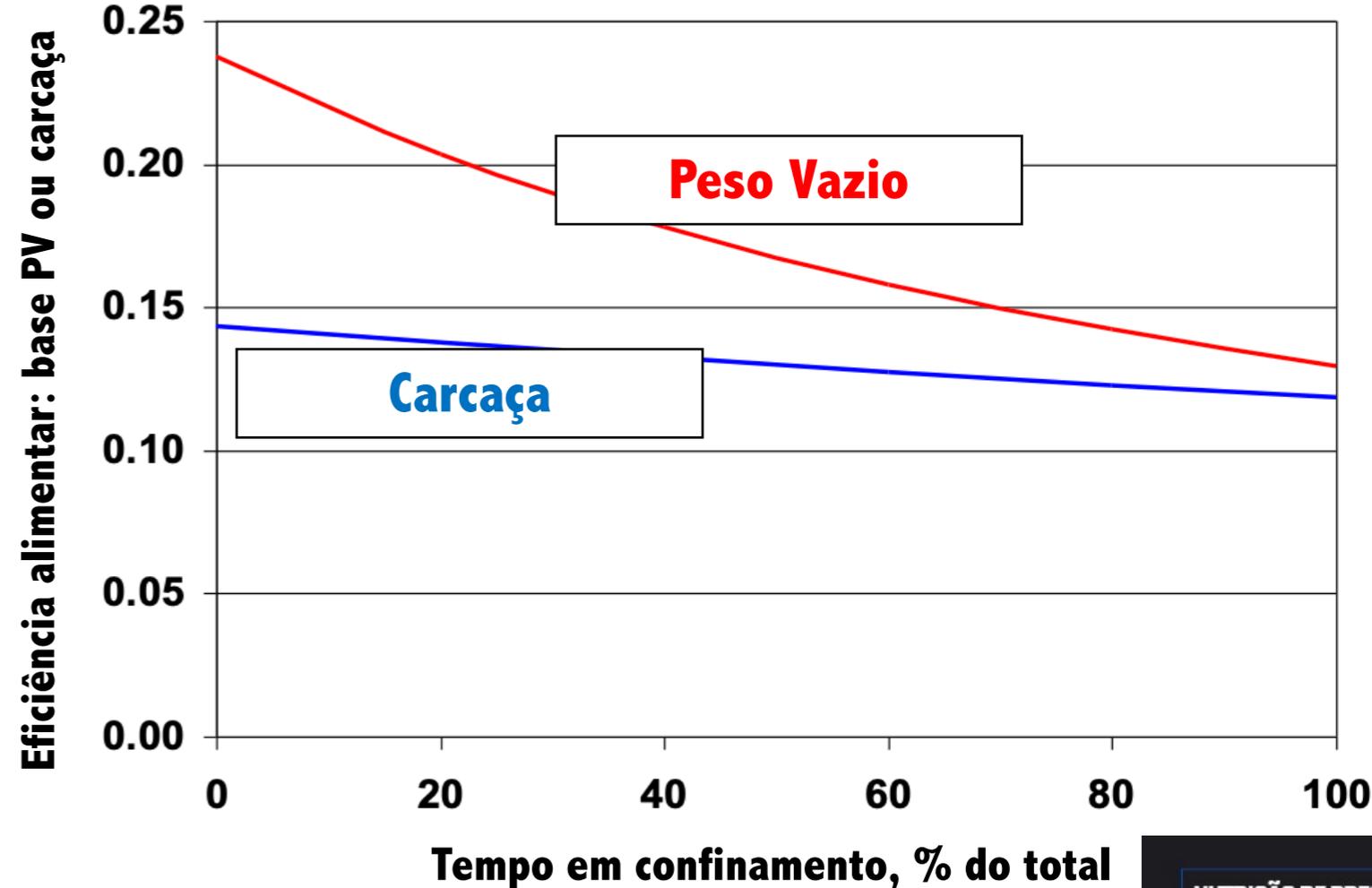
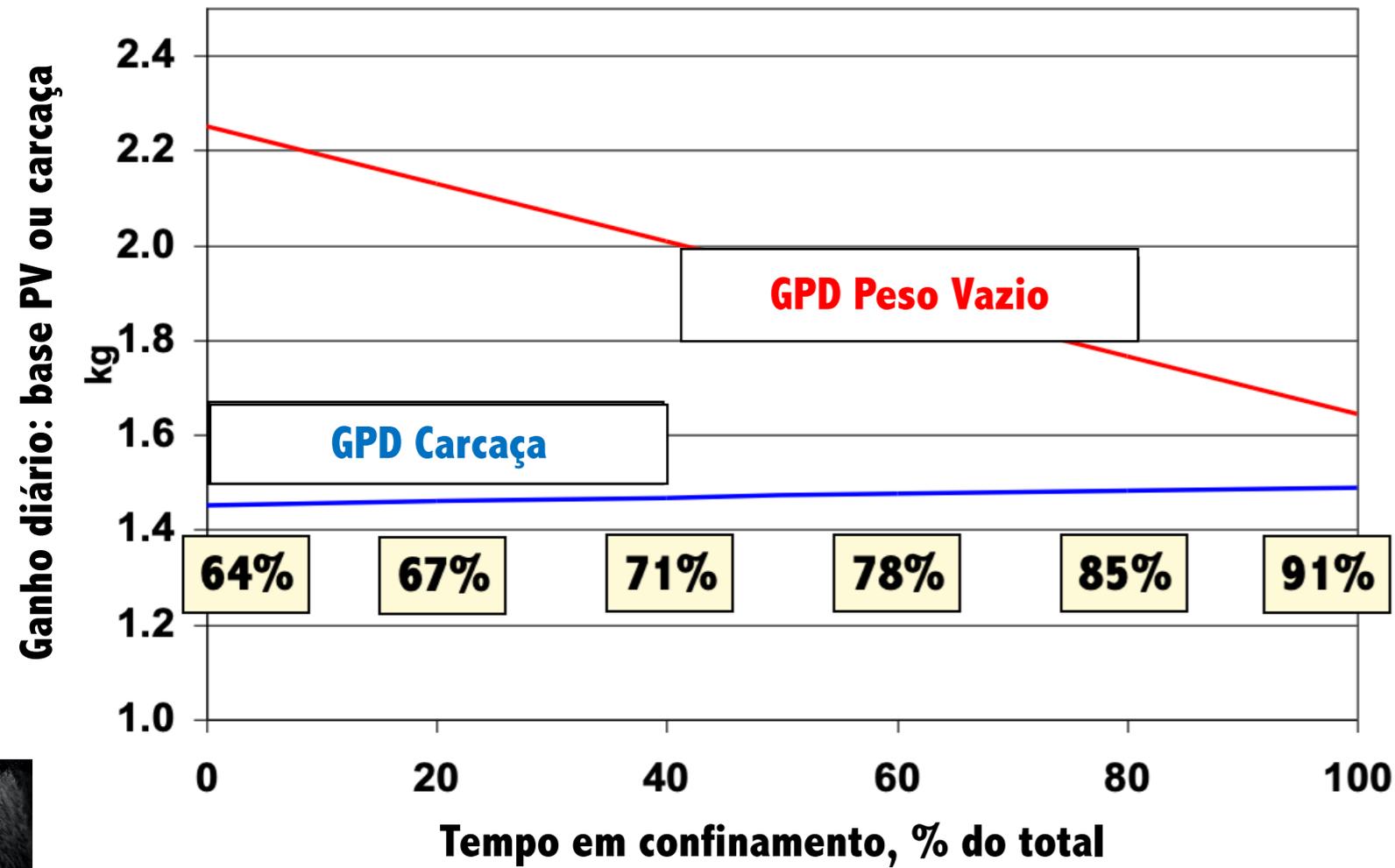
McDonald et al. (2007)

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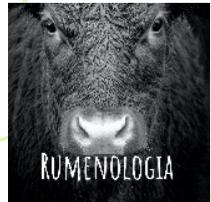


# Ganho de peso diário de carcaça

*Podemos esperar a mesma resposta no Brasil?*

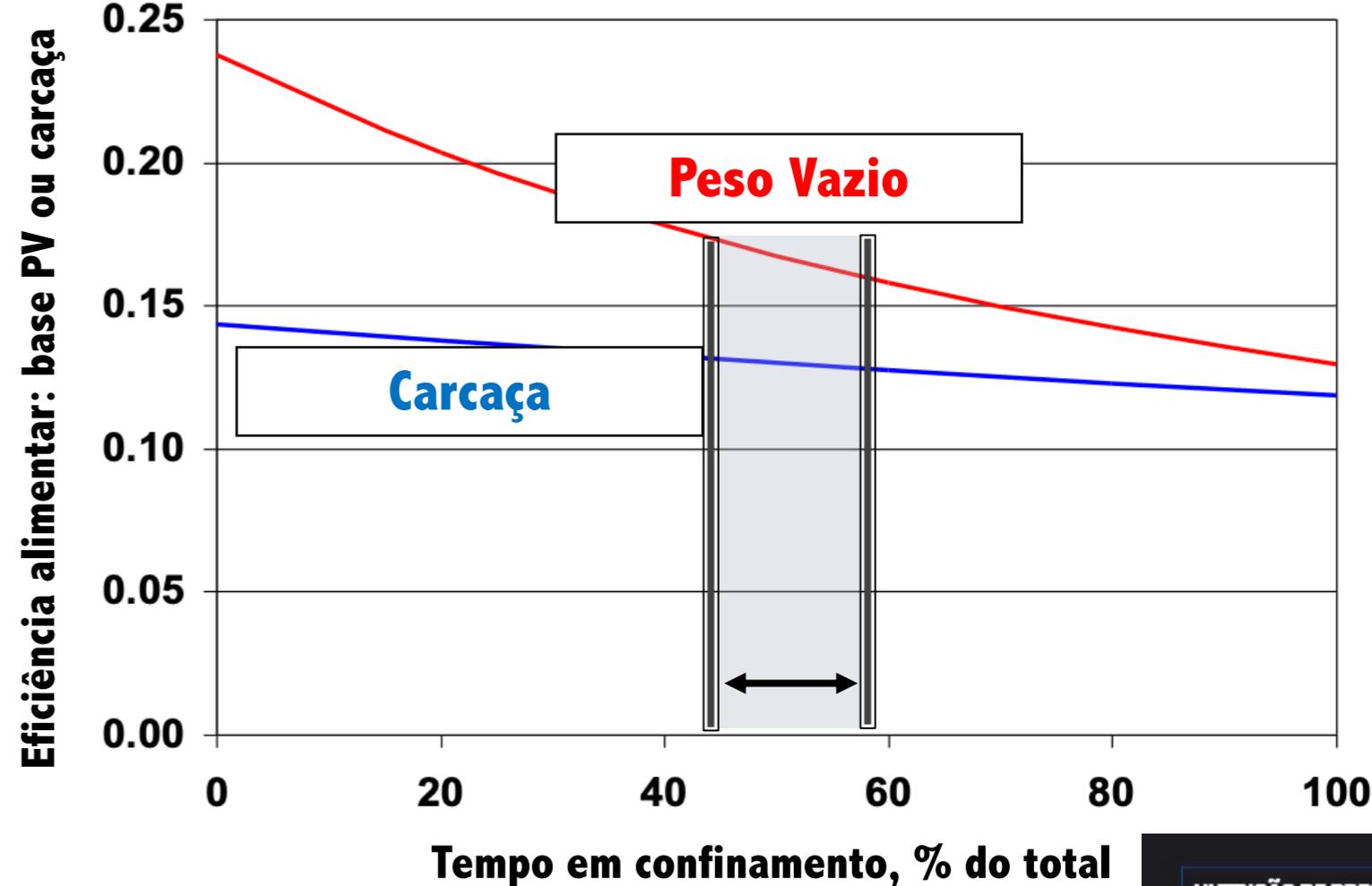
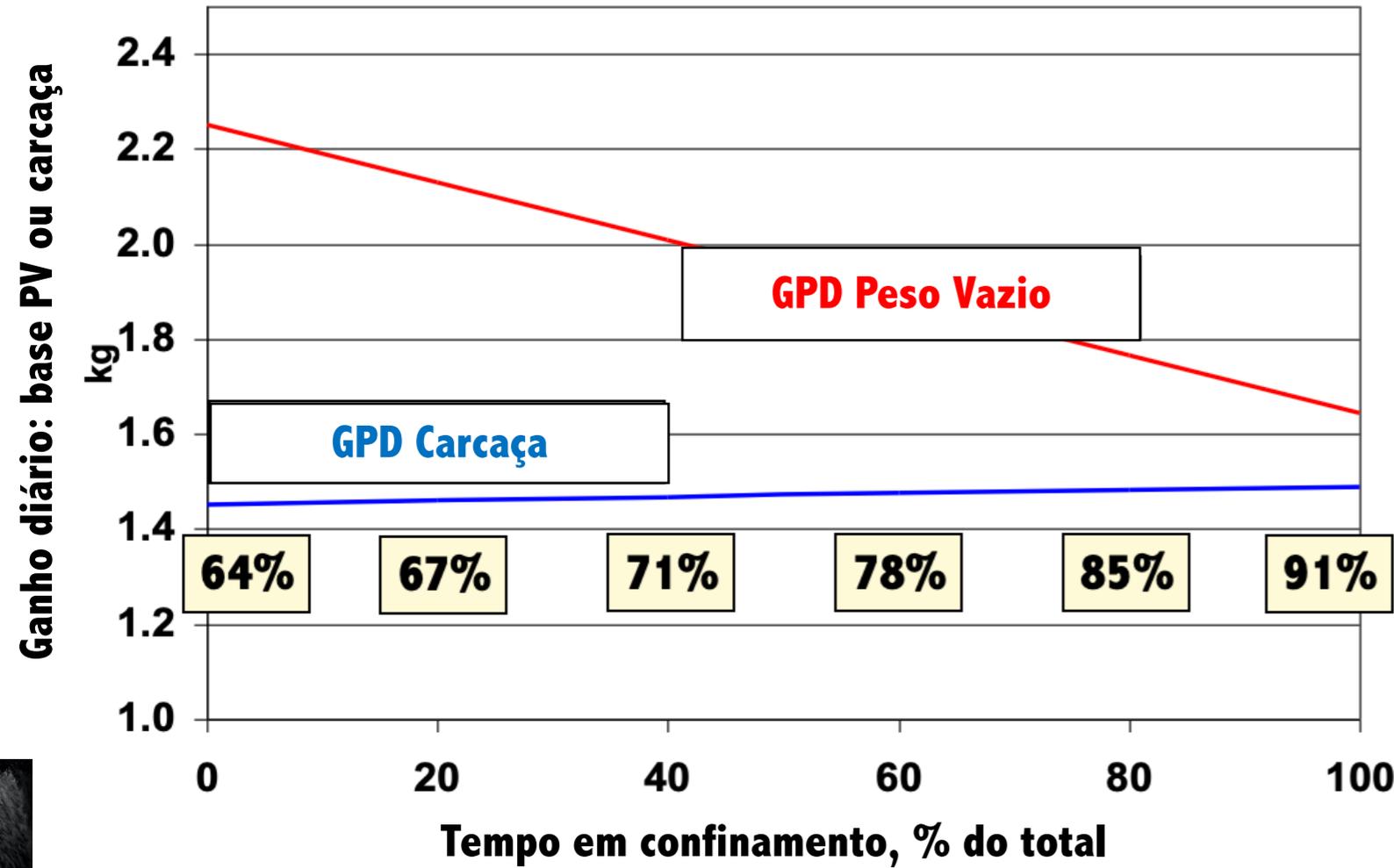


McDonald et al. (2007)

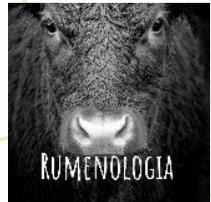


# Ganho de peso diário de carcaça

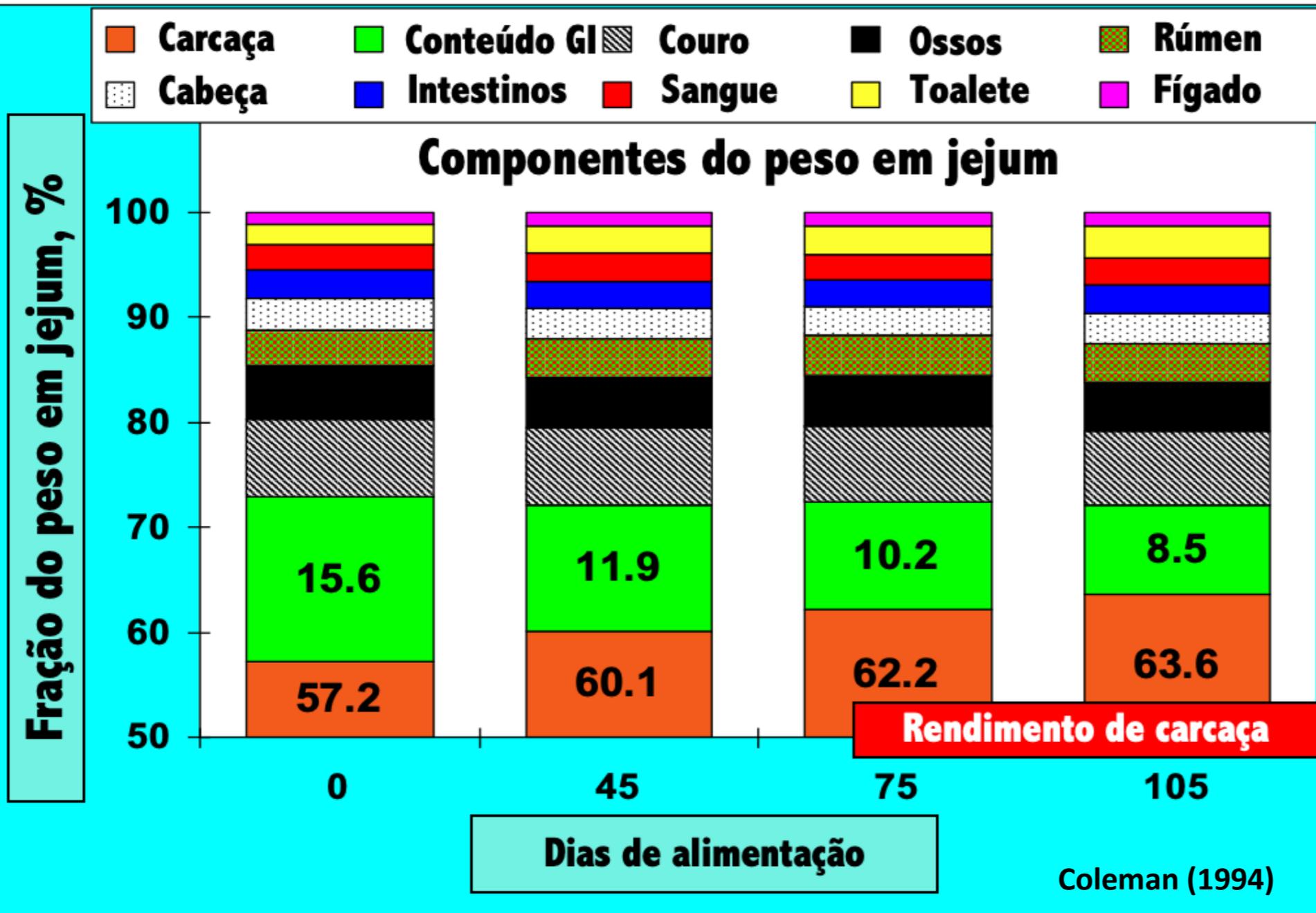
*Podemos esperar a mesma resposta no Brasil?*



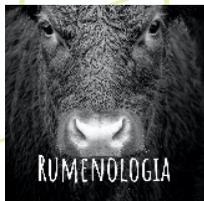
McDonald et al. (2007)



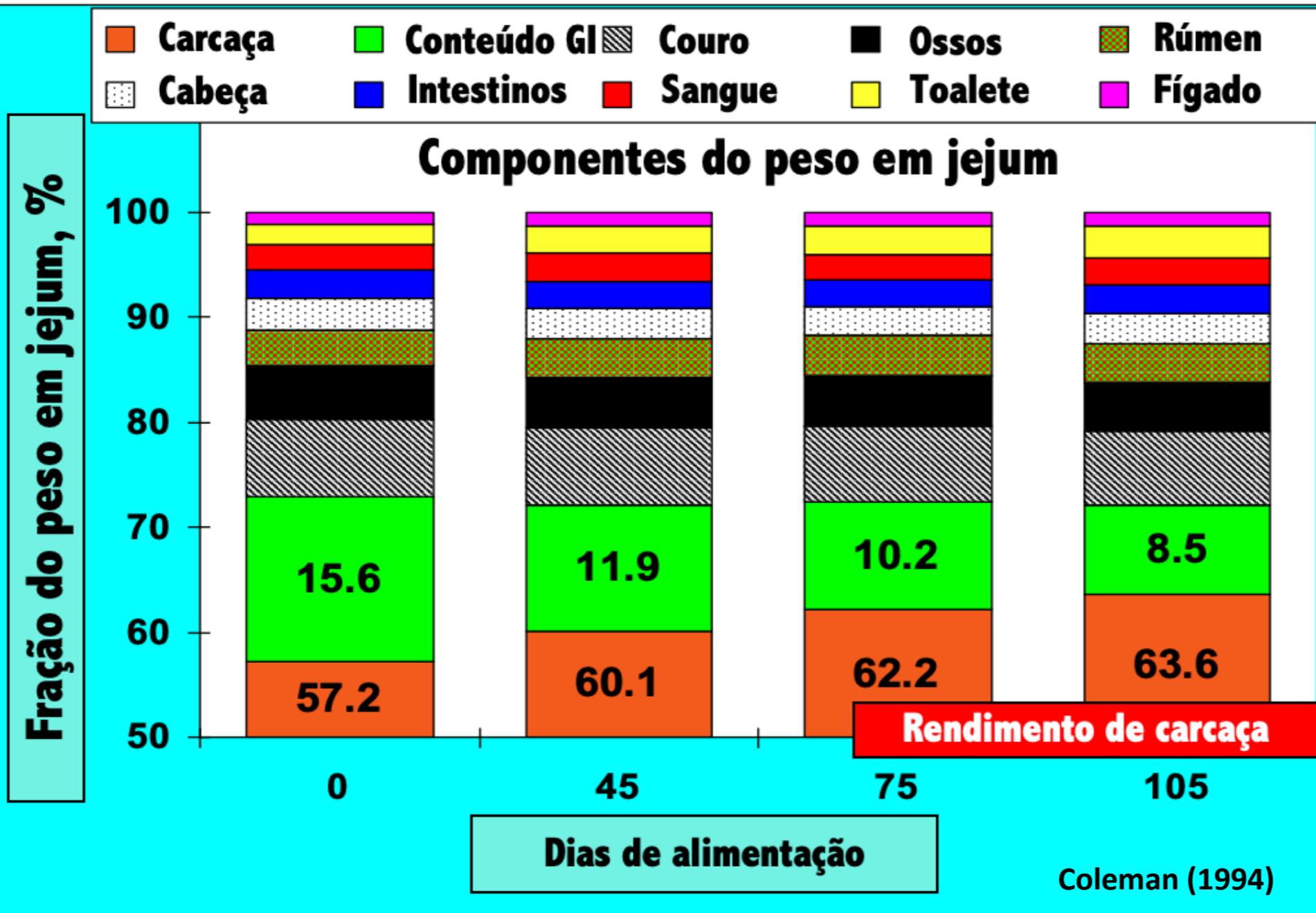
# Ganho de peso diário de carcaça



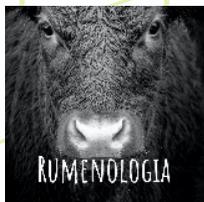
*Para onde vai a diferença do GPD peso vazio vs. GPD carcaça?*



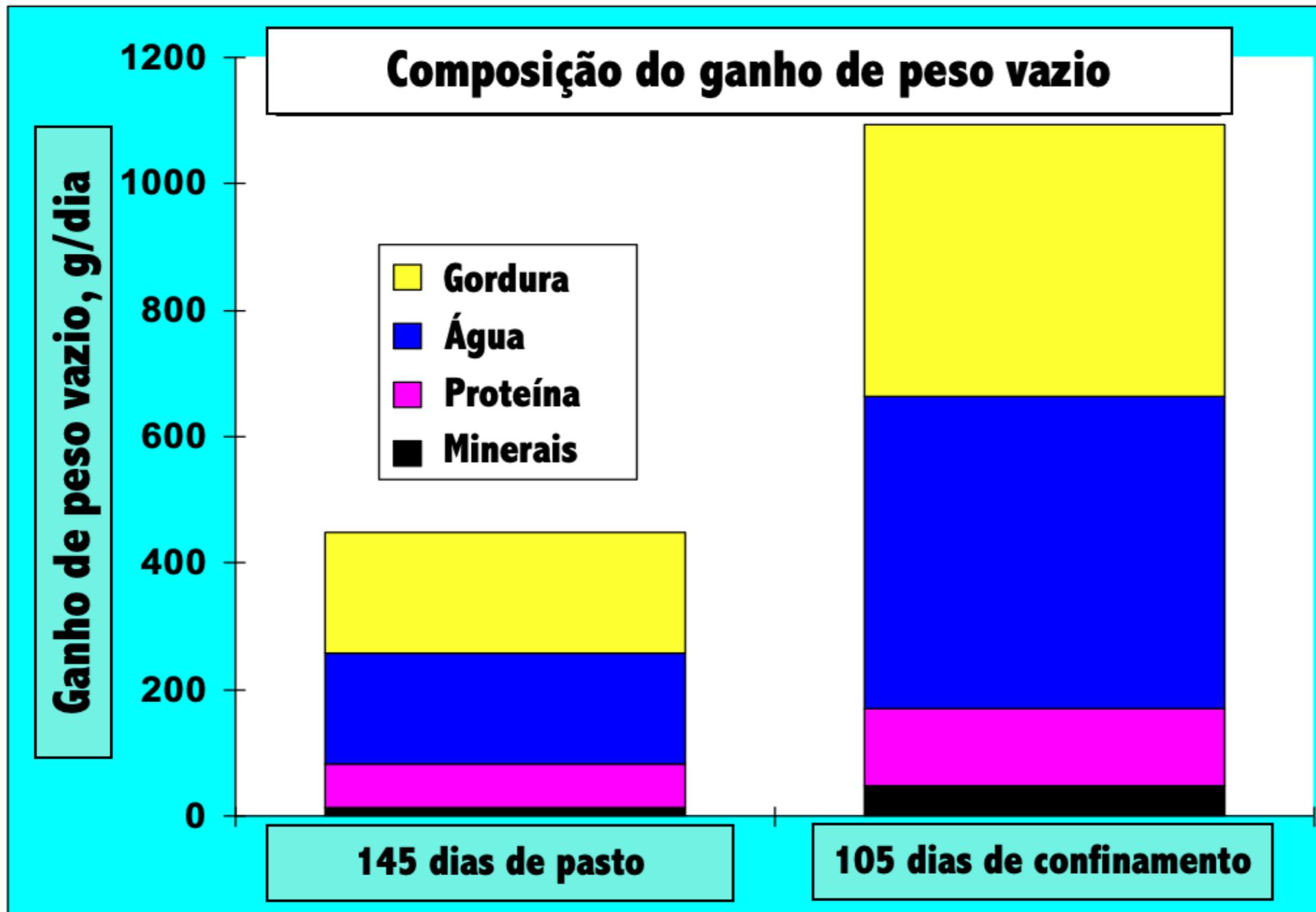
# Ganho de peso diário de carcaça



*Para onde vai a diferença do GPD peso vazio vs. GPD carcaça?*

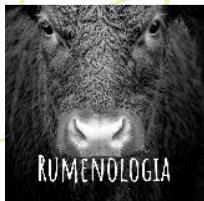


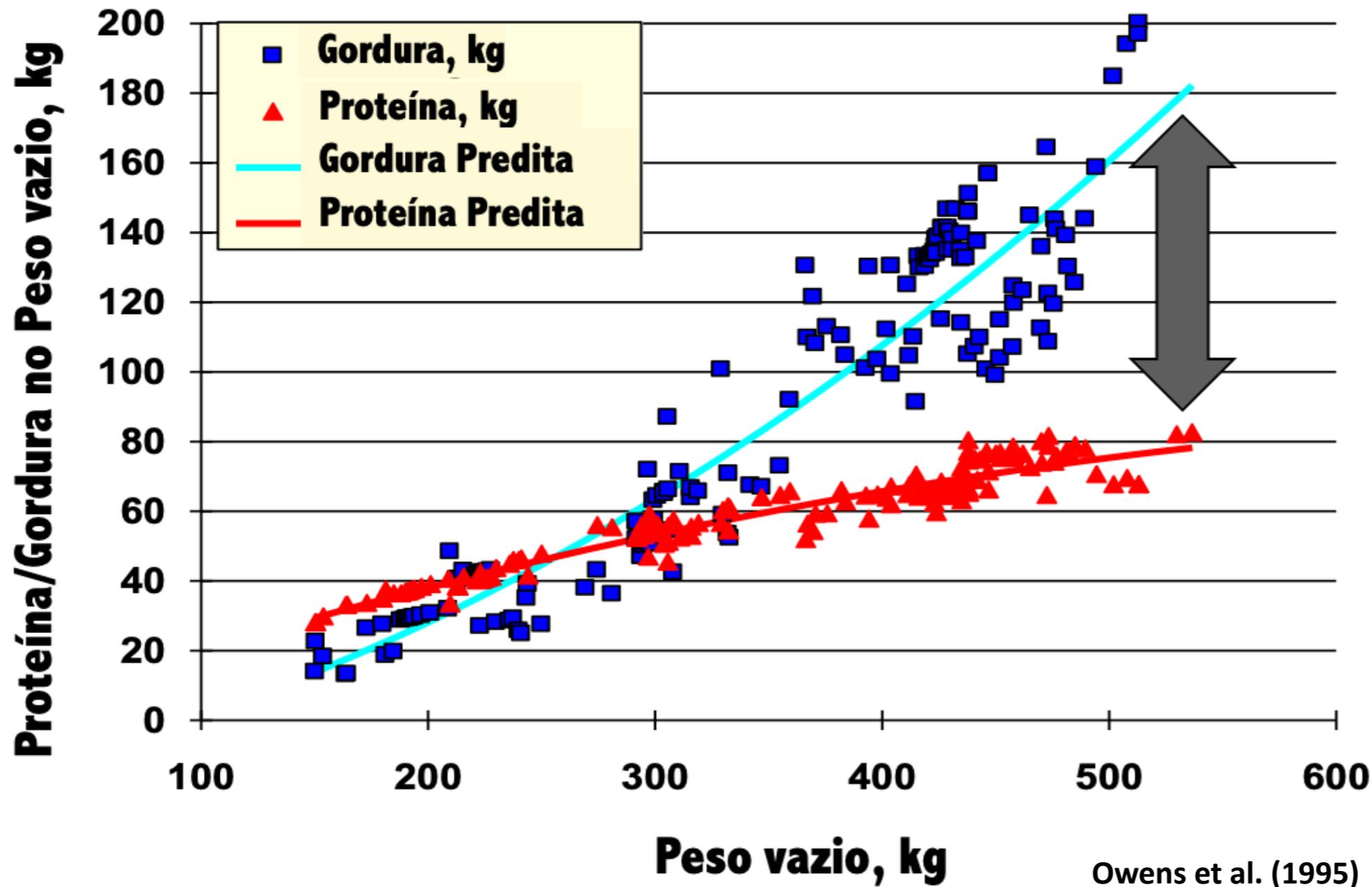
# Ganho de peso diário de carcaça



*Qual tecido mais colabora com o aumento do rendimento de carcaça?*

Coleman (1994)



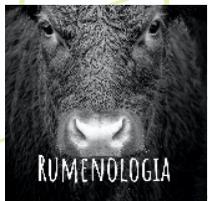


Owens et al. (1995)

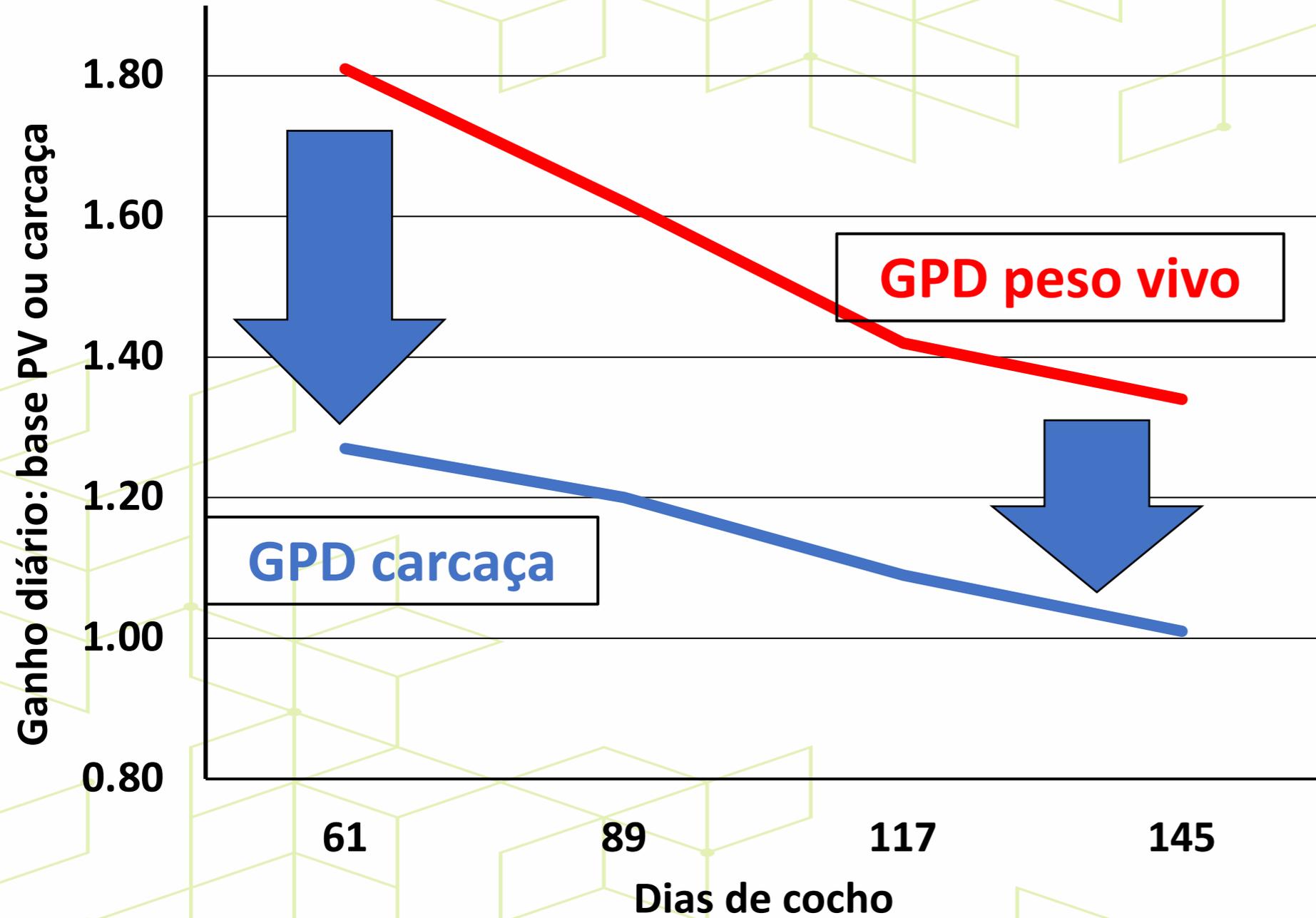
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*Qual tecido mais colabora com o aumento do rendimento de carcaça?*

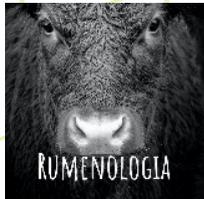
**= GORDURA =**



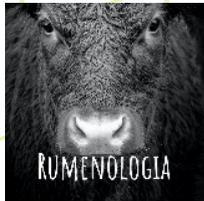
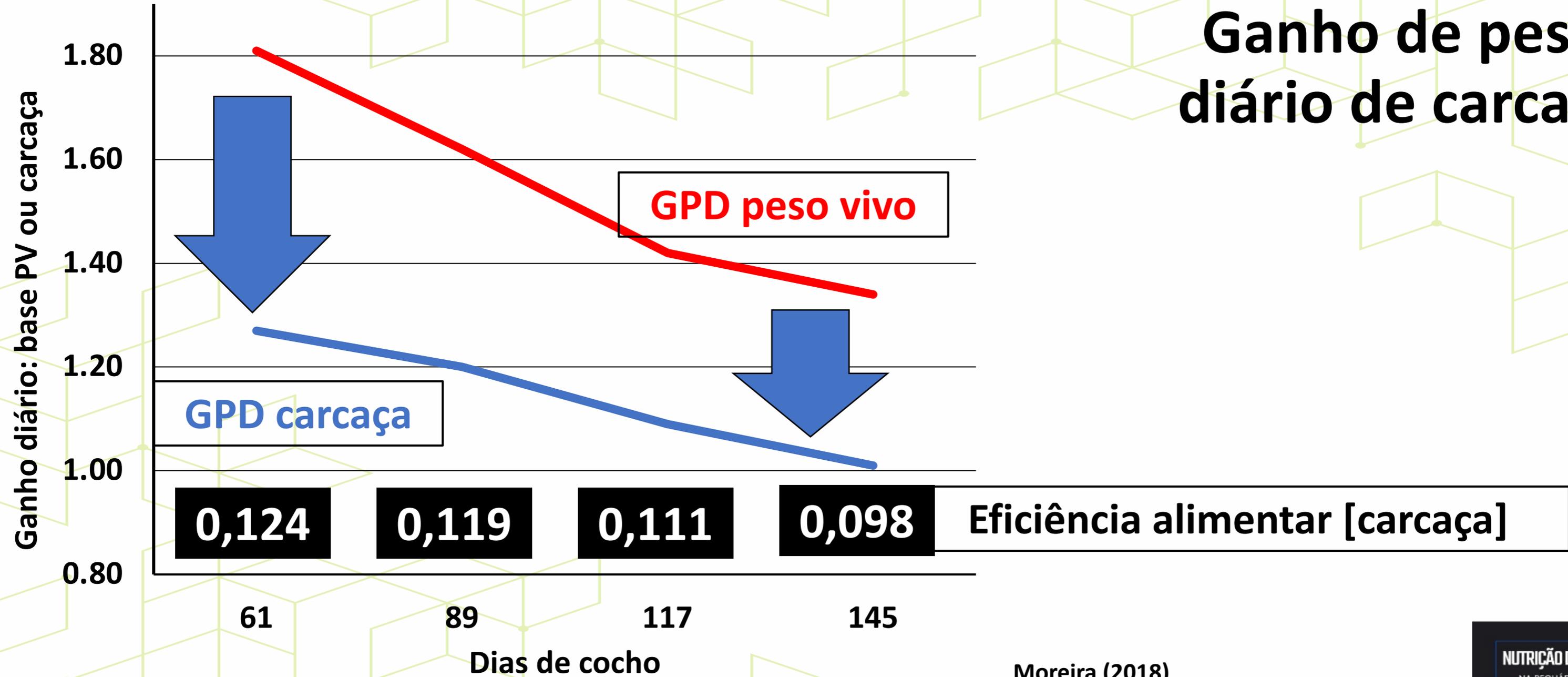
# Ganho de peso diário de carcaça



Moreira (2018)



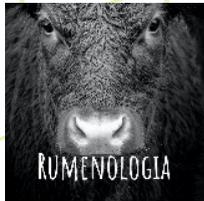
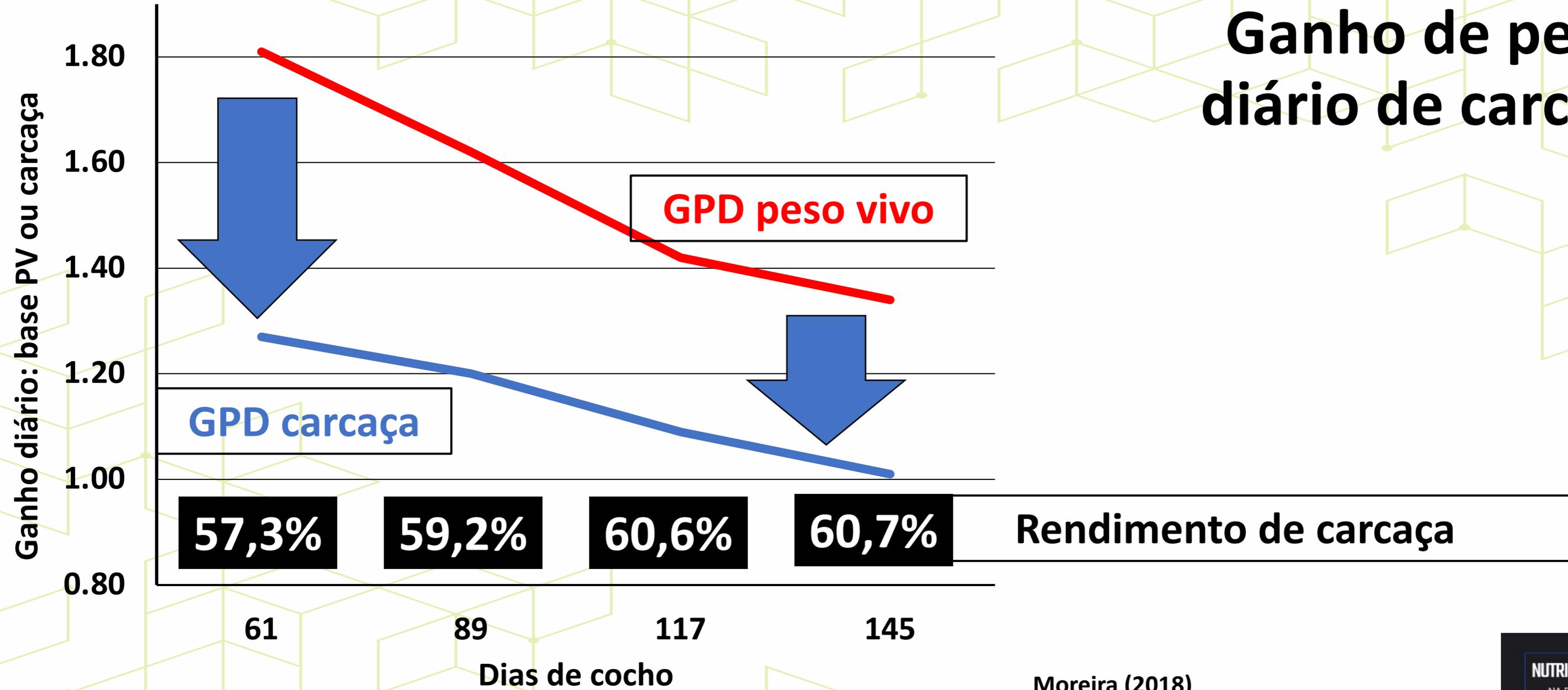
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Moreira (2018)



# Ganho de peso diário de carcaça

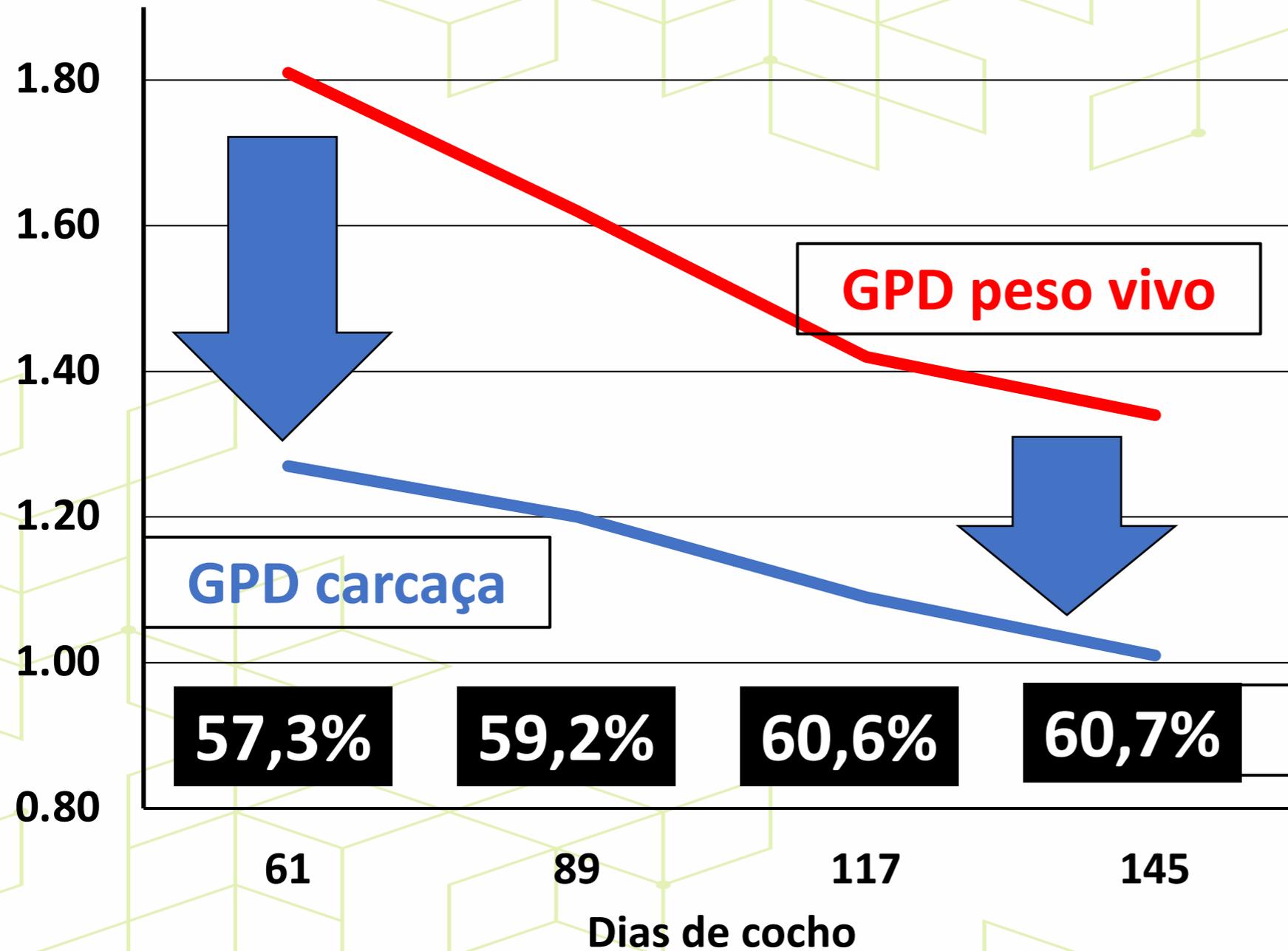


Moreira (2018)

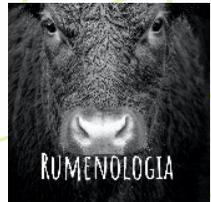


# Ganho de peso diário de carcaça

Ganho diário: base PV ou carcaça



*Primeiro fator que influencia a tomada de decisão:*

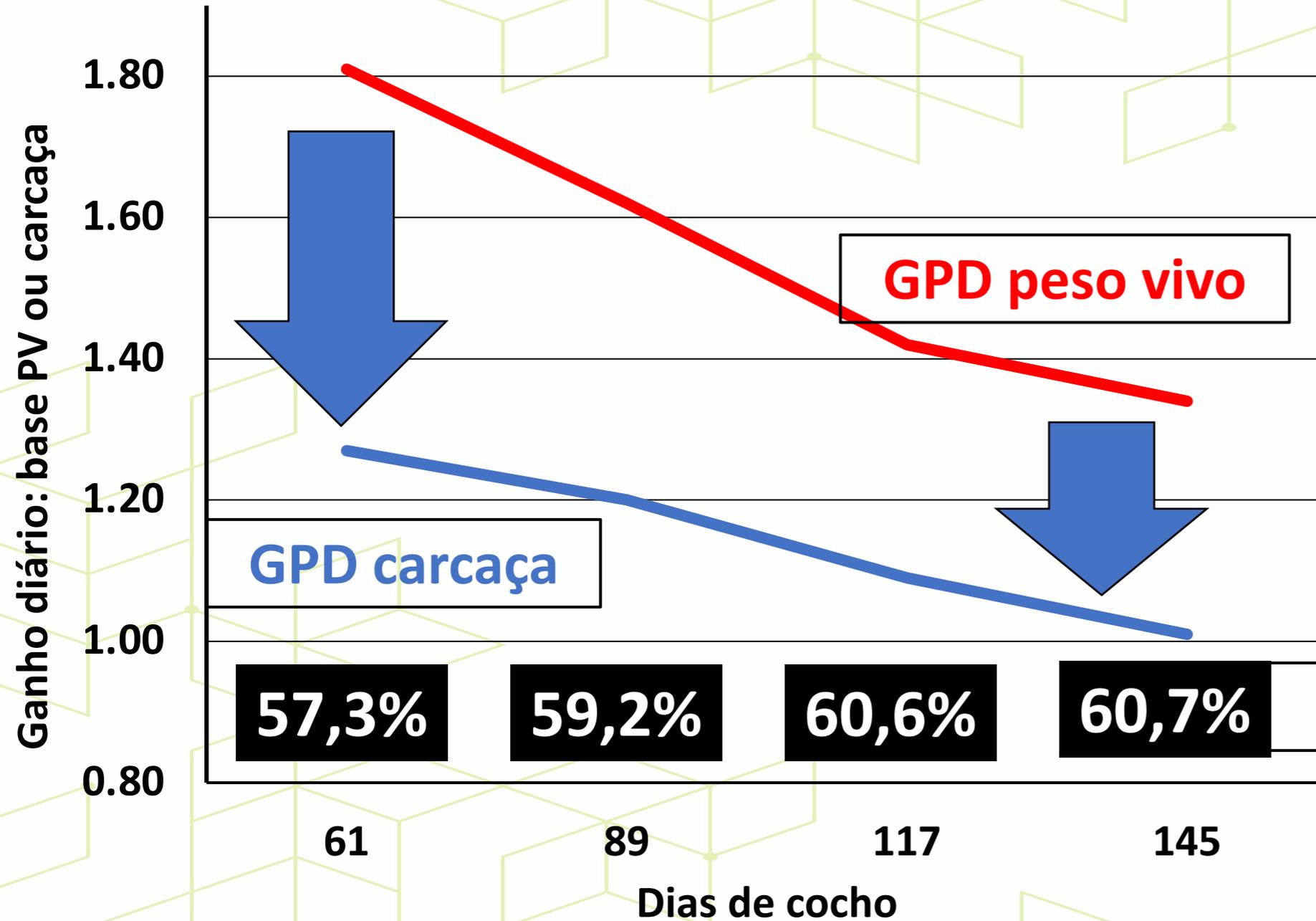


Rendimento de carcaça

Moreira (2018)



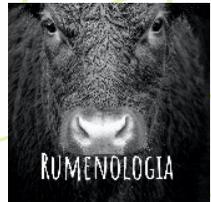
# Ganho de peso diário de carcaça



*Primeiro fator que influencia a tomada de decisão:*

**Commodity ou Premium?**

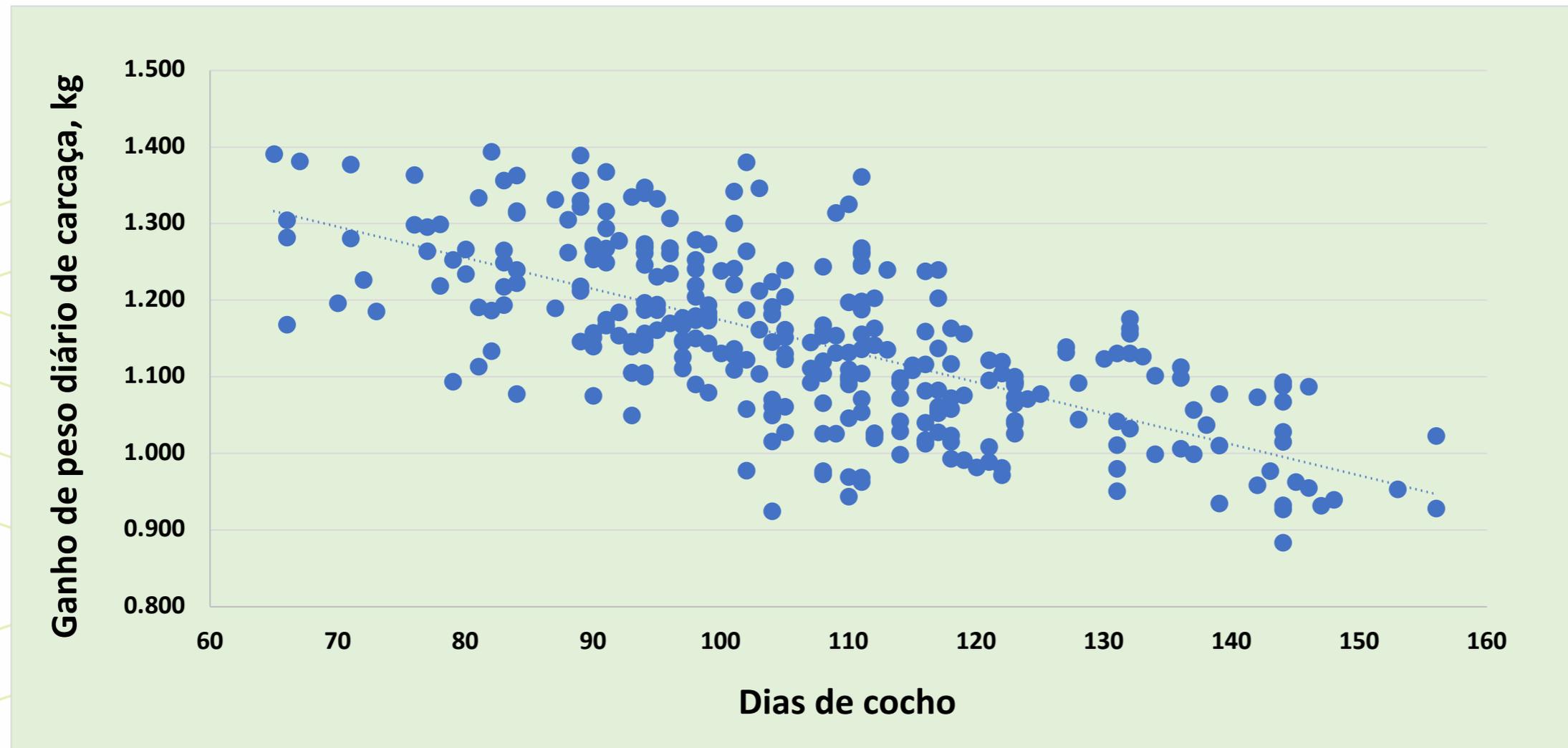
**Rendimento de carcaça**



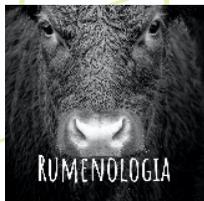
Moreira (2018)



# Ganho de peso diário de carcaça

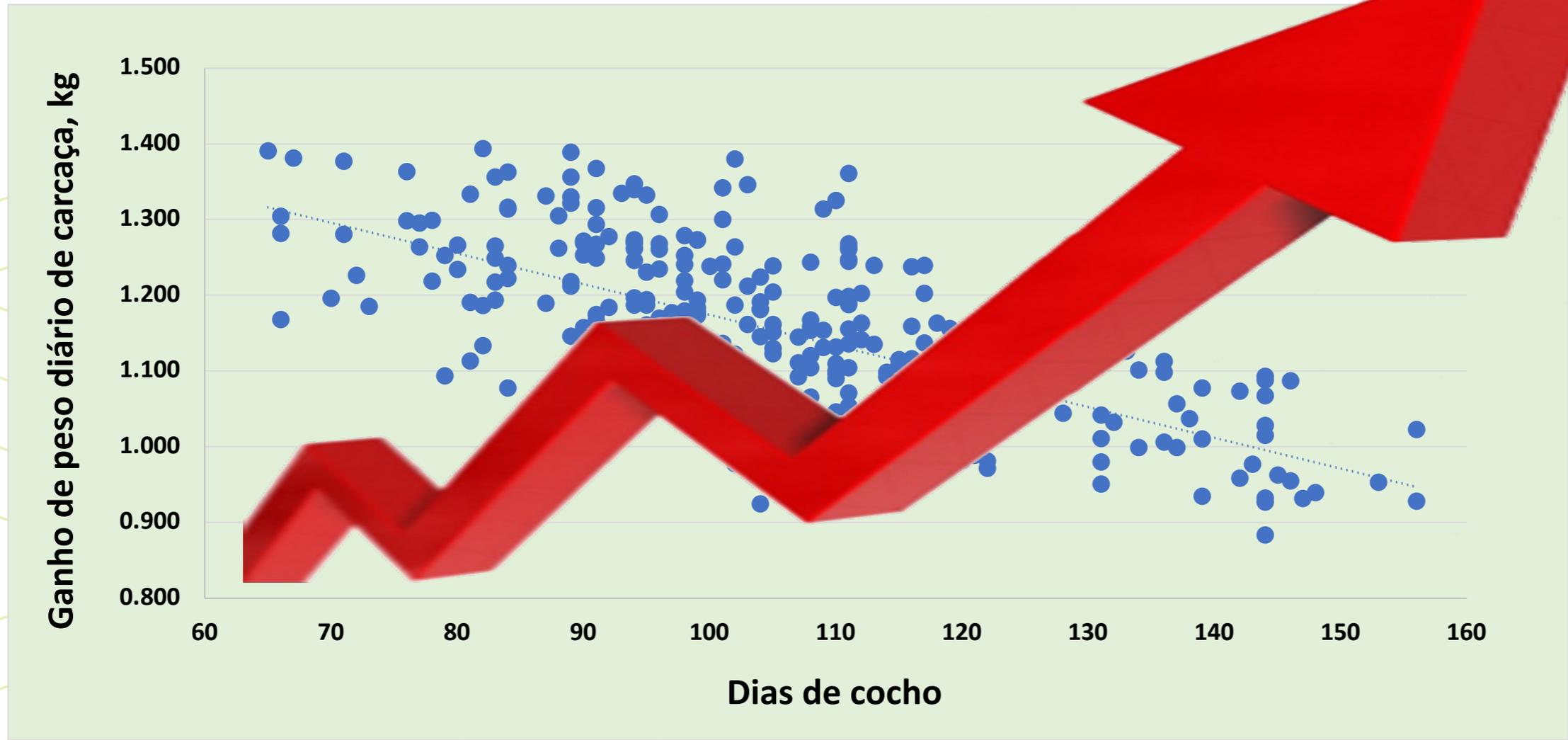


**Relação:**  
**Ganho de peso diário de carcaça vs. Dias de cocho**

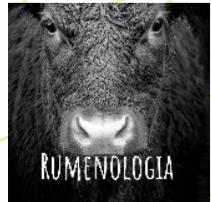


# Ganho de peso diário de carcaça

**Custo alimentar total**

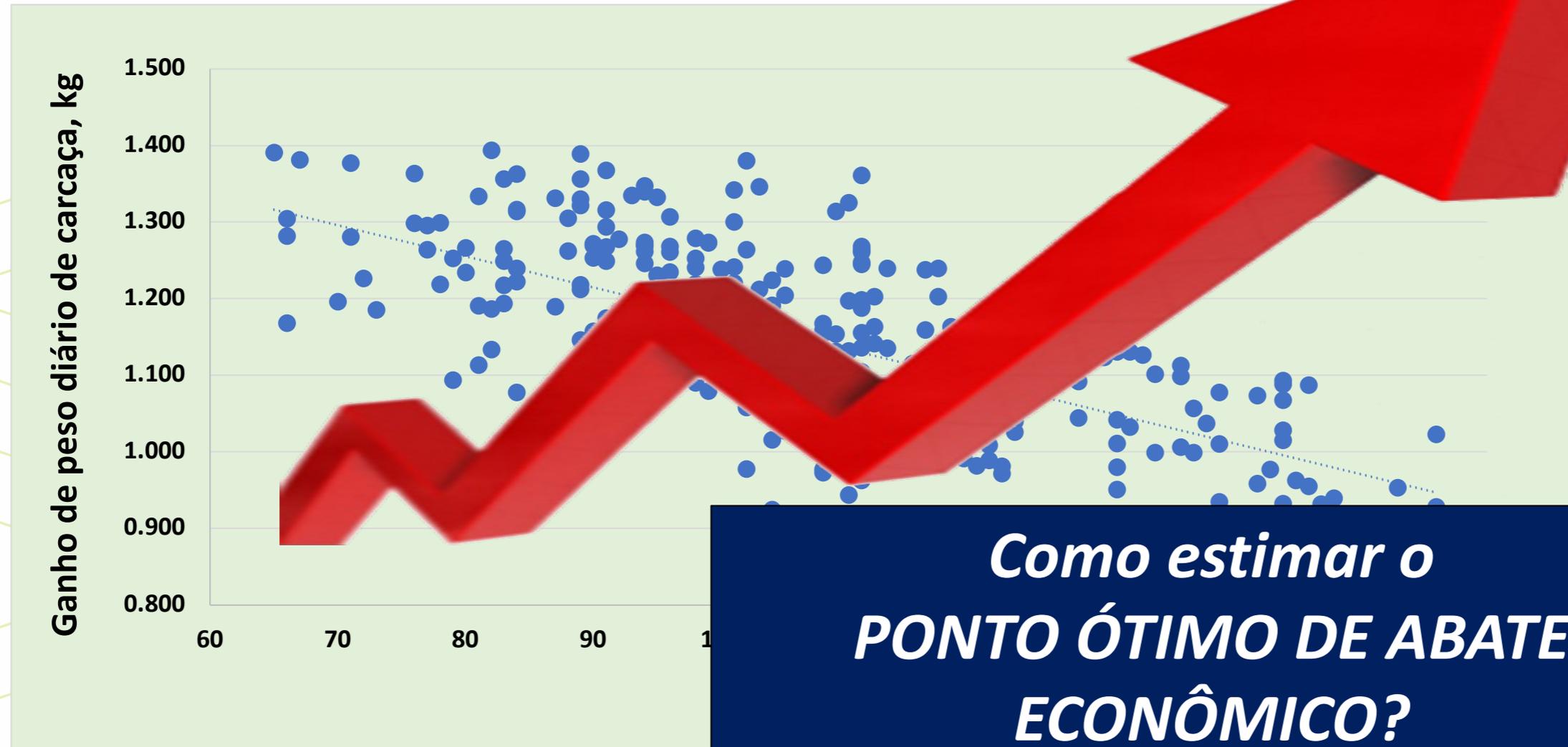


**Relação:**  
**Ganho de peso diário de carcaça vs. Dias de cocho**

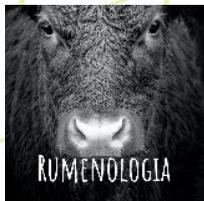


# Ganho de peso diário de carcaça

Custo alimentar total



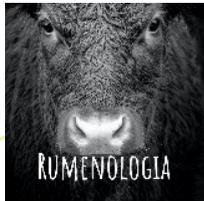
Relação:  
Ganho de peso diário de carcaça vs. Dias de cocho



# Ponto ótimo de abate vs. Dias de lucro



*Uso de banco de dados, os quais foram coletados de muitas baias, por vários anos, para criar um modelo de predição de ponto ótimo de abate específico para **CADA CONFINAMENTO.***



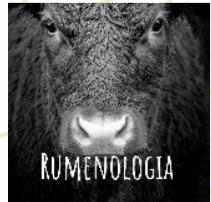
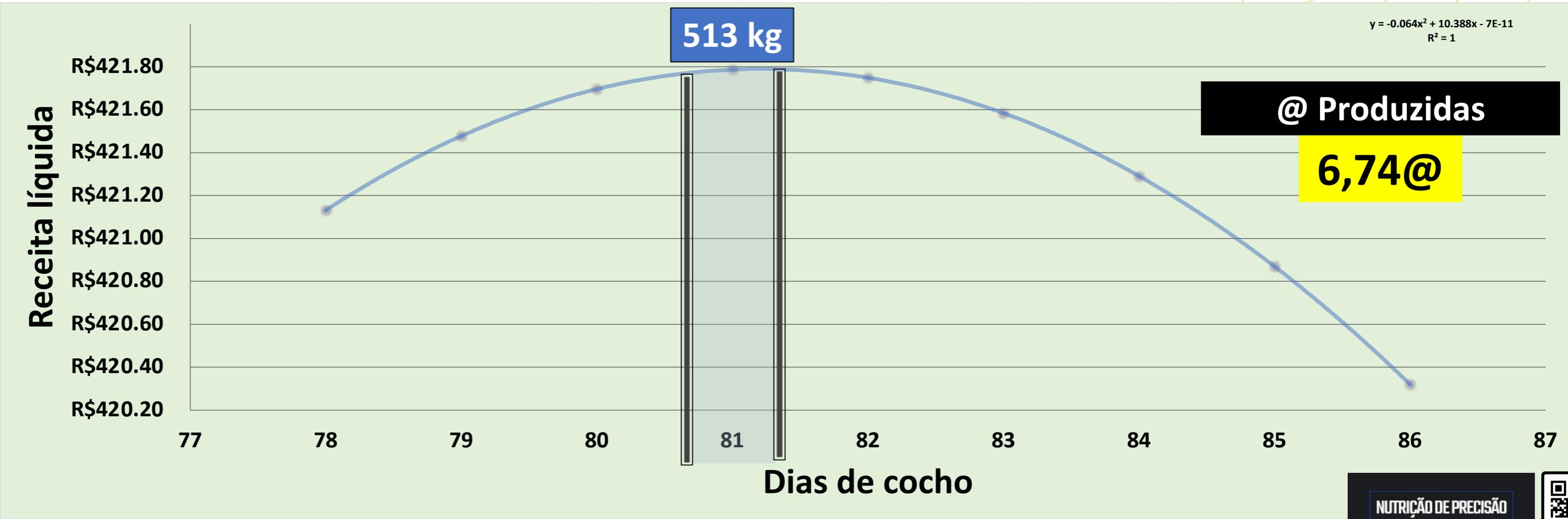
# Ponto ótimo de abate vs. Dias de lucro

**Peso vivo inicial:**  
363,1 kg

**Boi Magro:**  
R\$2.800,00

**Diária:**  
R\$14,26

**@ Projetada:**  
R\$234,00



**NUTRIÇÃO DE PRECISÃO**  
NA PECUÁRIA DE CORTE



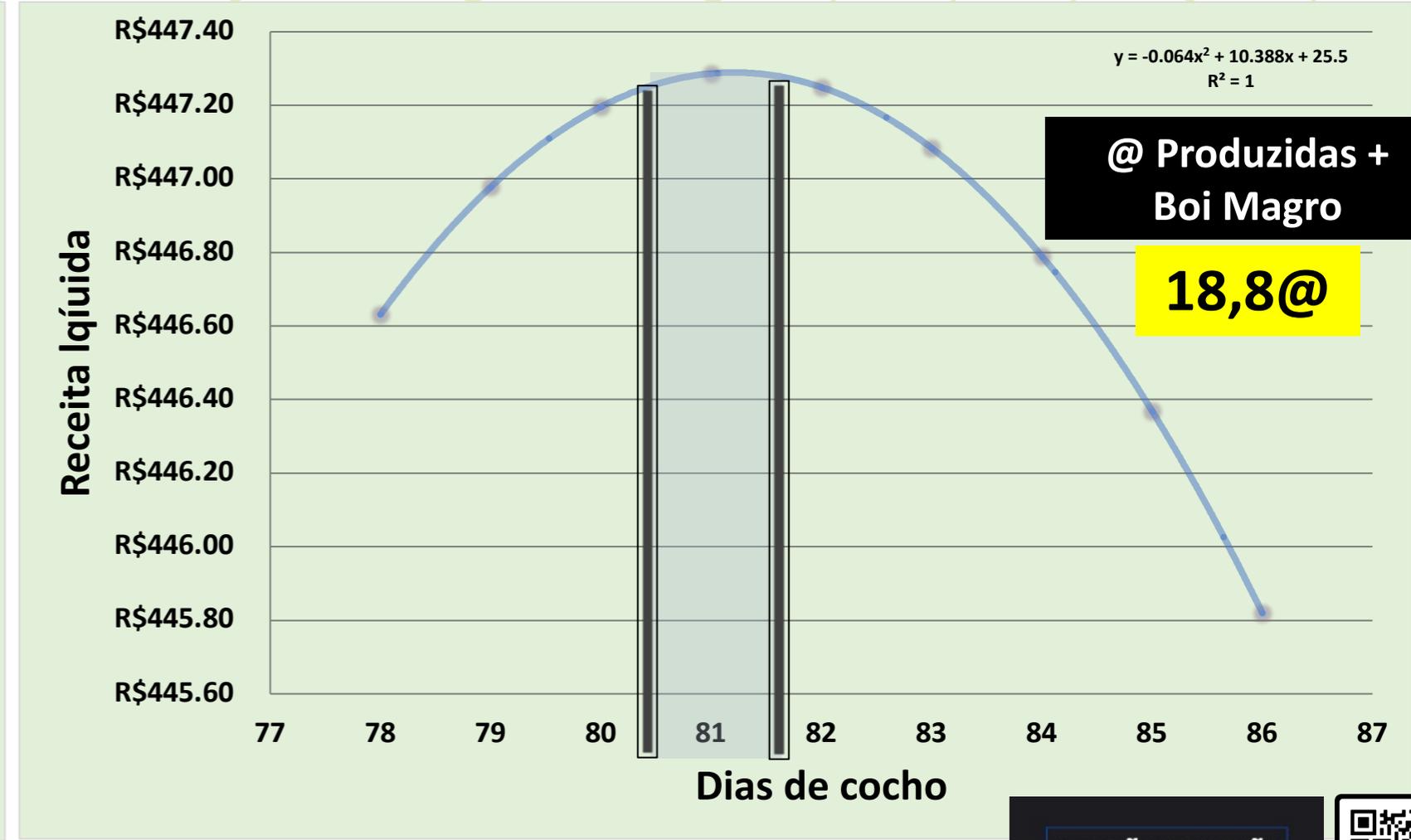
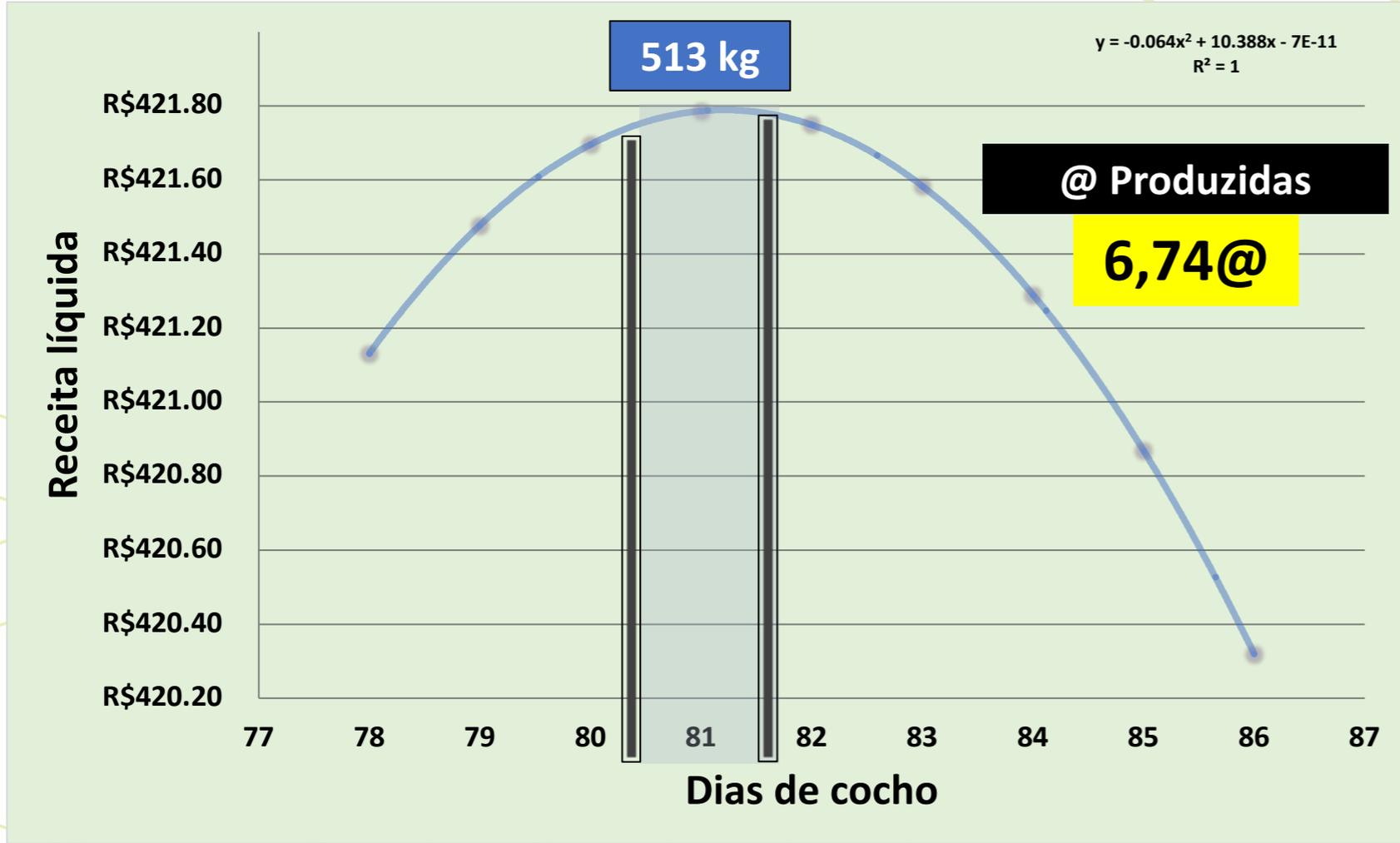
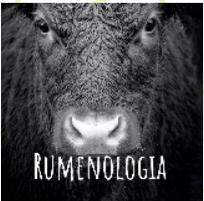
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**NUTRIÇÃO DE PRECISÃO**  
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Quais fatores influenciam a tomada de decisão?

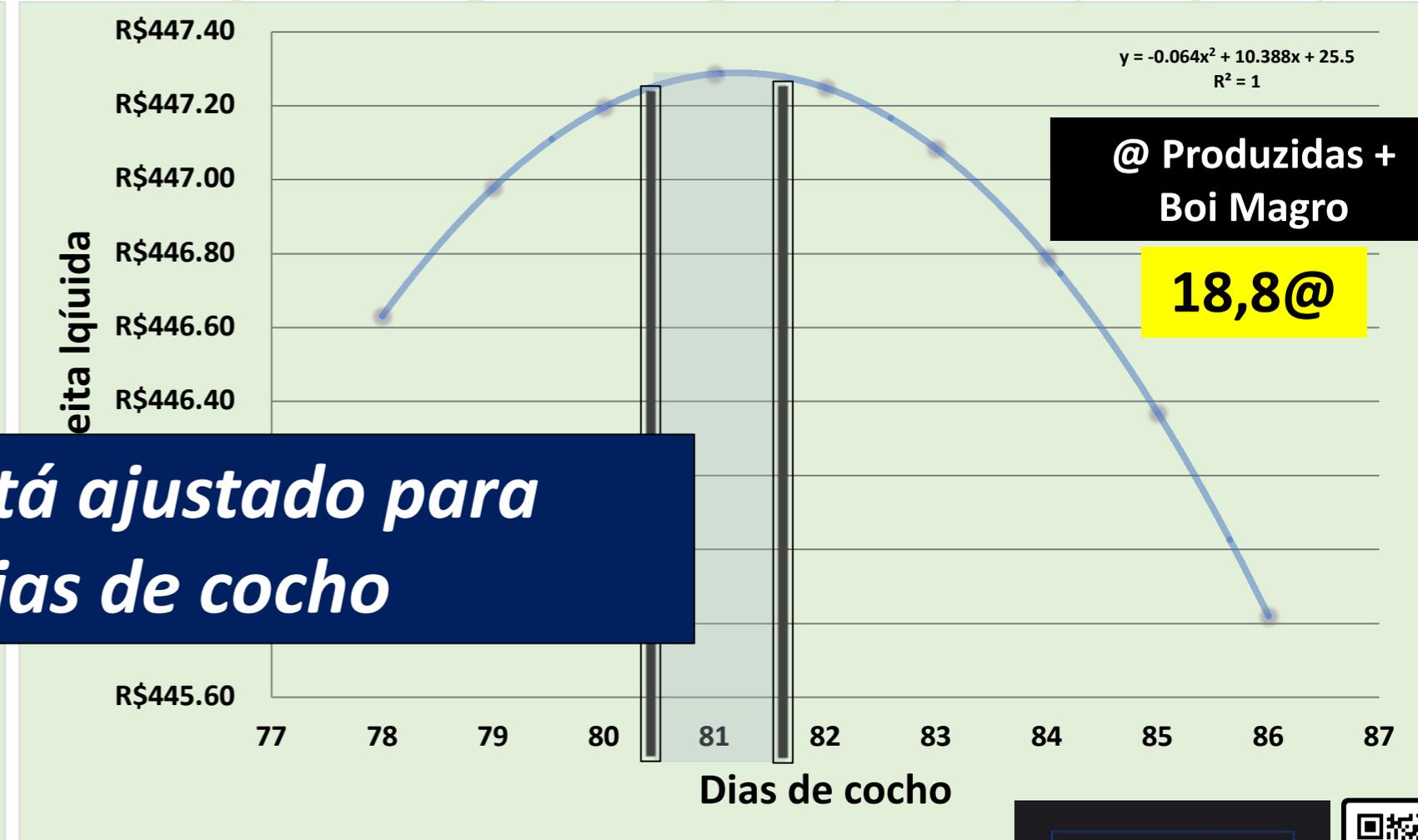
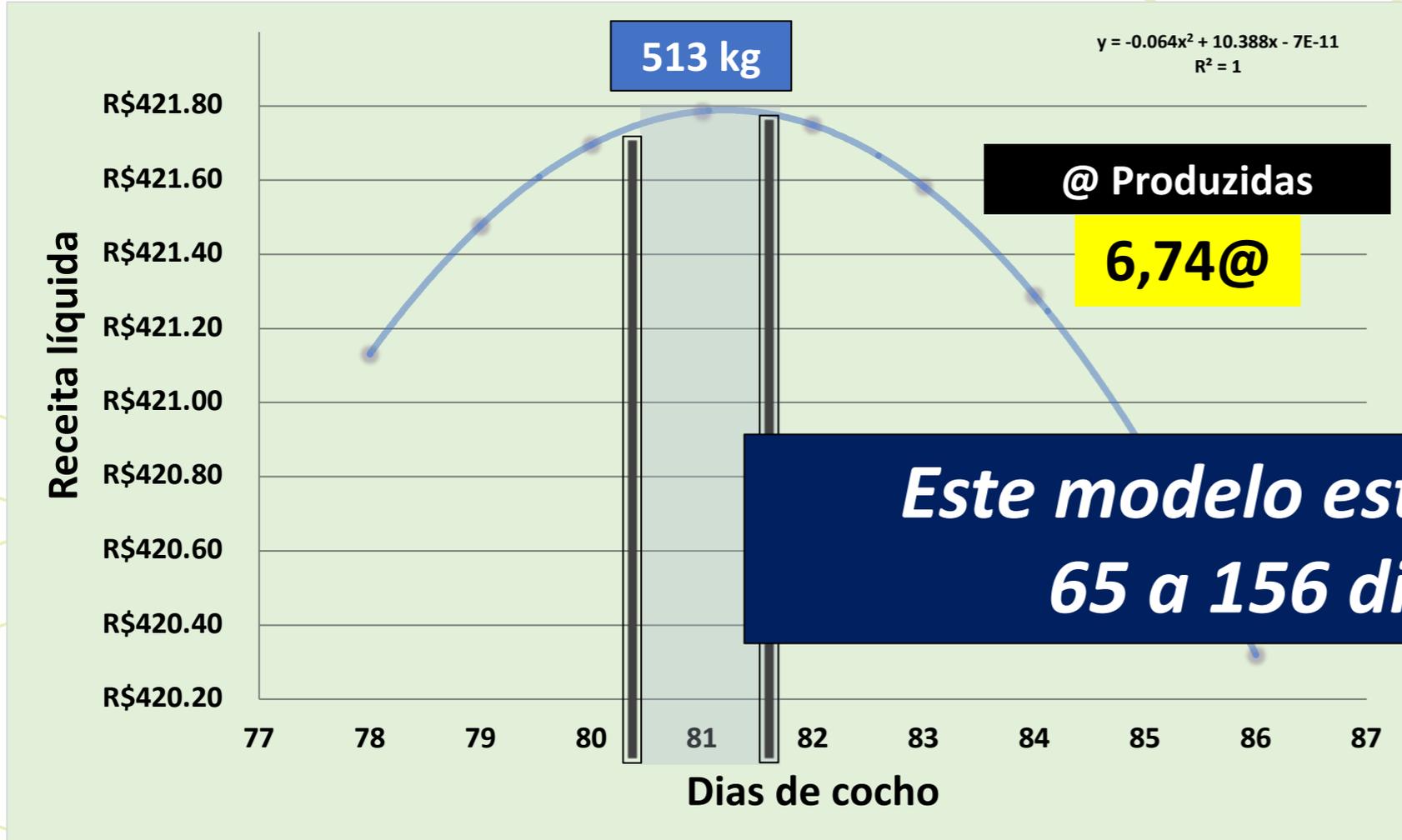
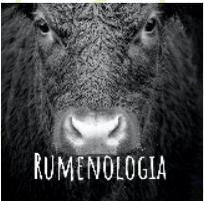
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R\$14,26

@ Projetada:  
R\$234,00



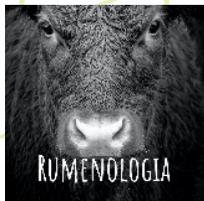
**Este modelo está ajustado para 65 a 156 dias de cocho**

**NUTRIÇÃO DE PRECISÃO**  
NA PECUÁRIA DE CORTE



# Ponto ótimo de abate vs. Dias de lucro

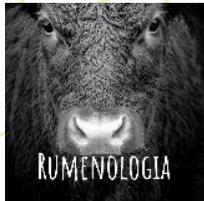
## E se a arroba cair?



# Ponto ótimo de abate vs. Dias de lucro

## E se a arroba cair?

@ Projetada a R\$205



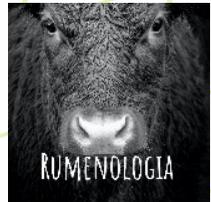
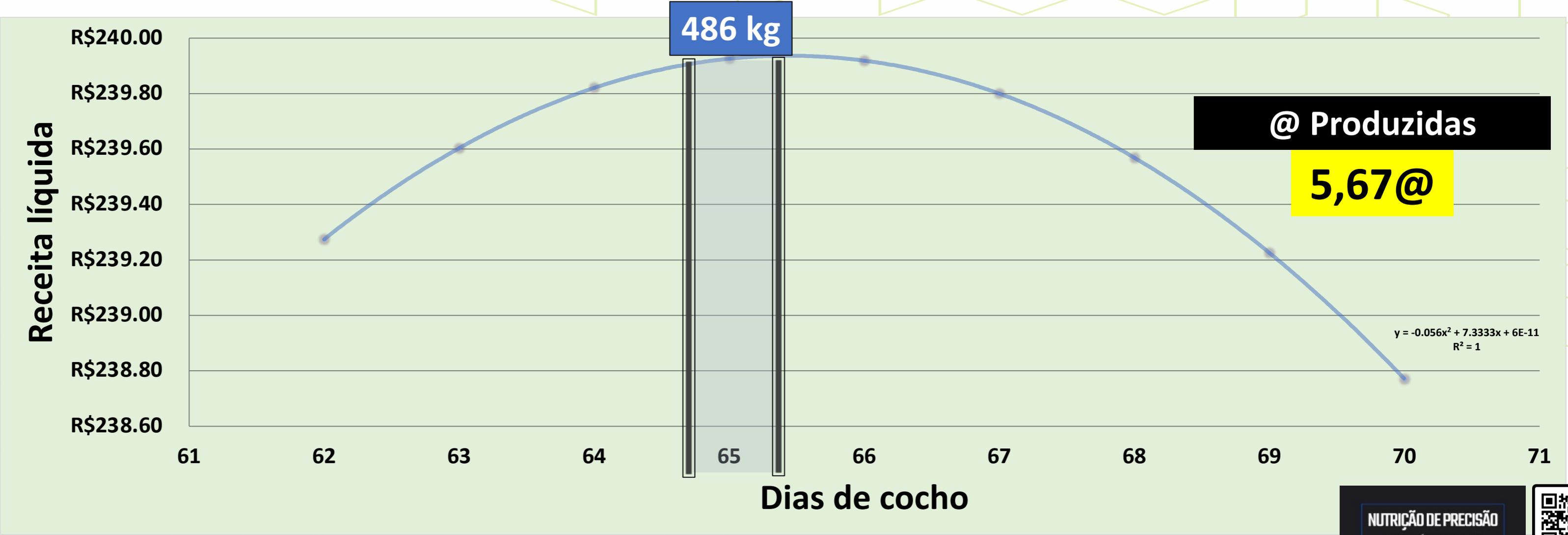
# Ponto ótimo de abate vs. Dias de lucro

**Peso vivo inicial:**  
363,1 kg

**Boi Magro:**  
R\$2.800,00

**Diária:**  
R\$14,26

**@ Projetada:**  
R\$205,00



NUTRIÇÃO DE PRECISÃO  
NA PECUÁRIA DE CORTE



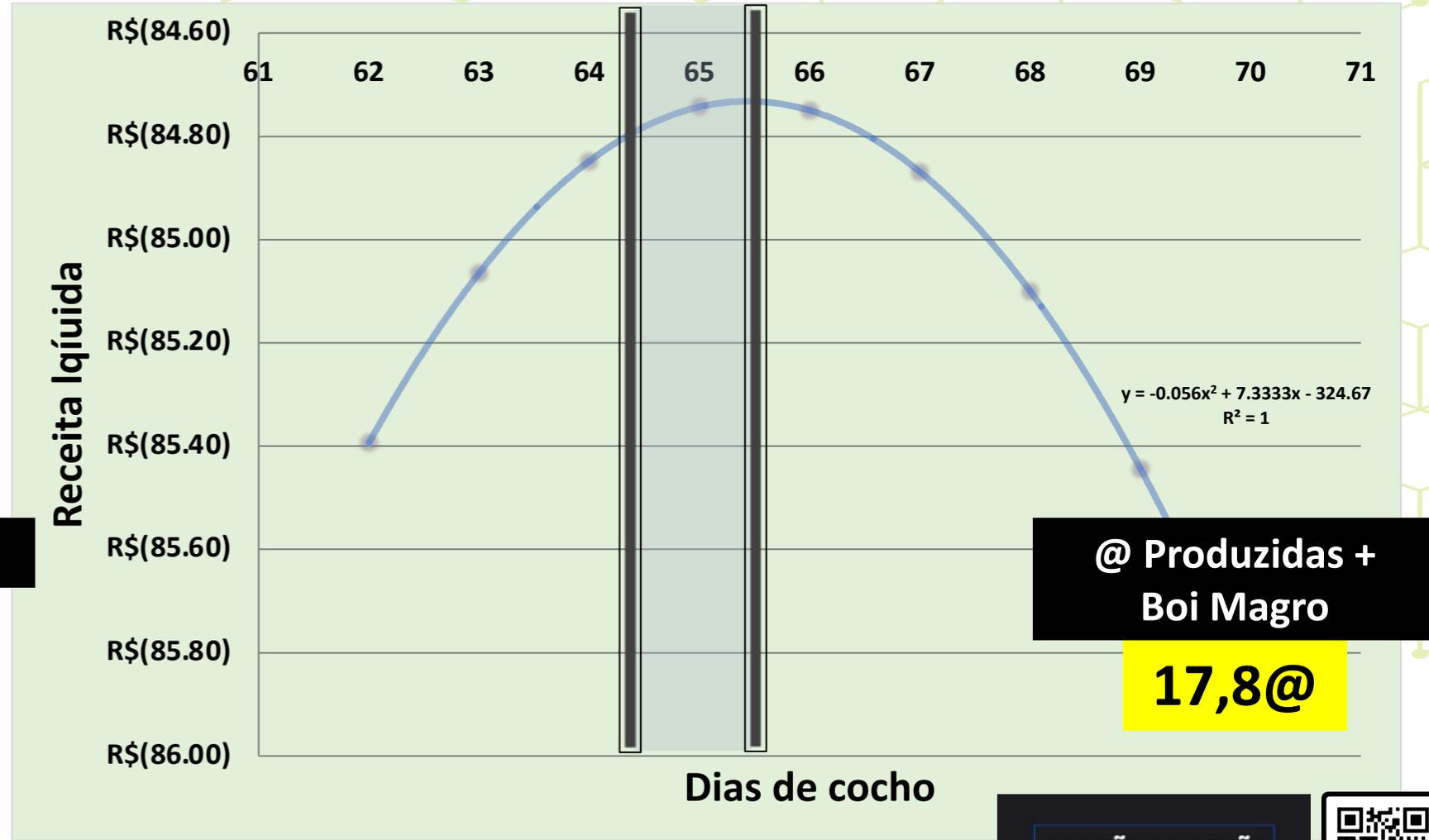
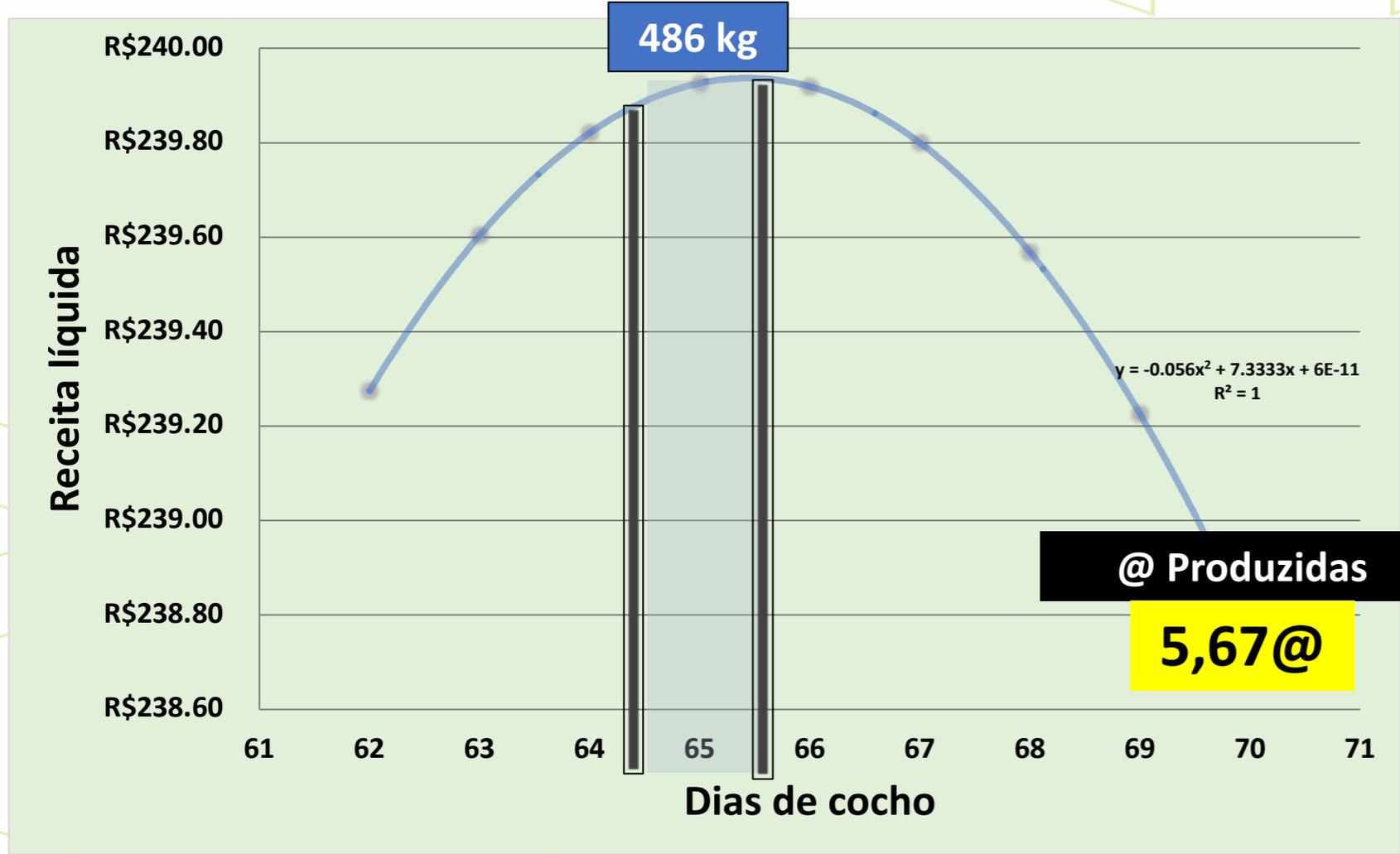
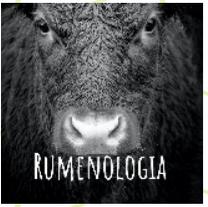
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Peso vivo inicial:  
363,1 kg

Boi Magro:  
R\$2.800,00

Diária:  
R\$14,26

@ Projetada:  
R\$205,00



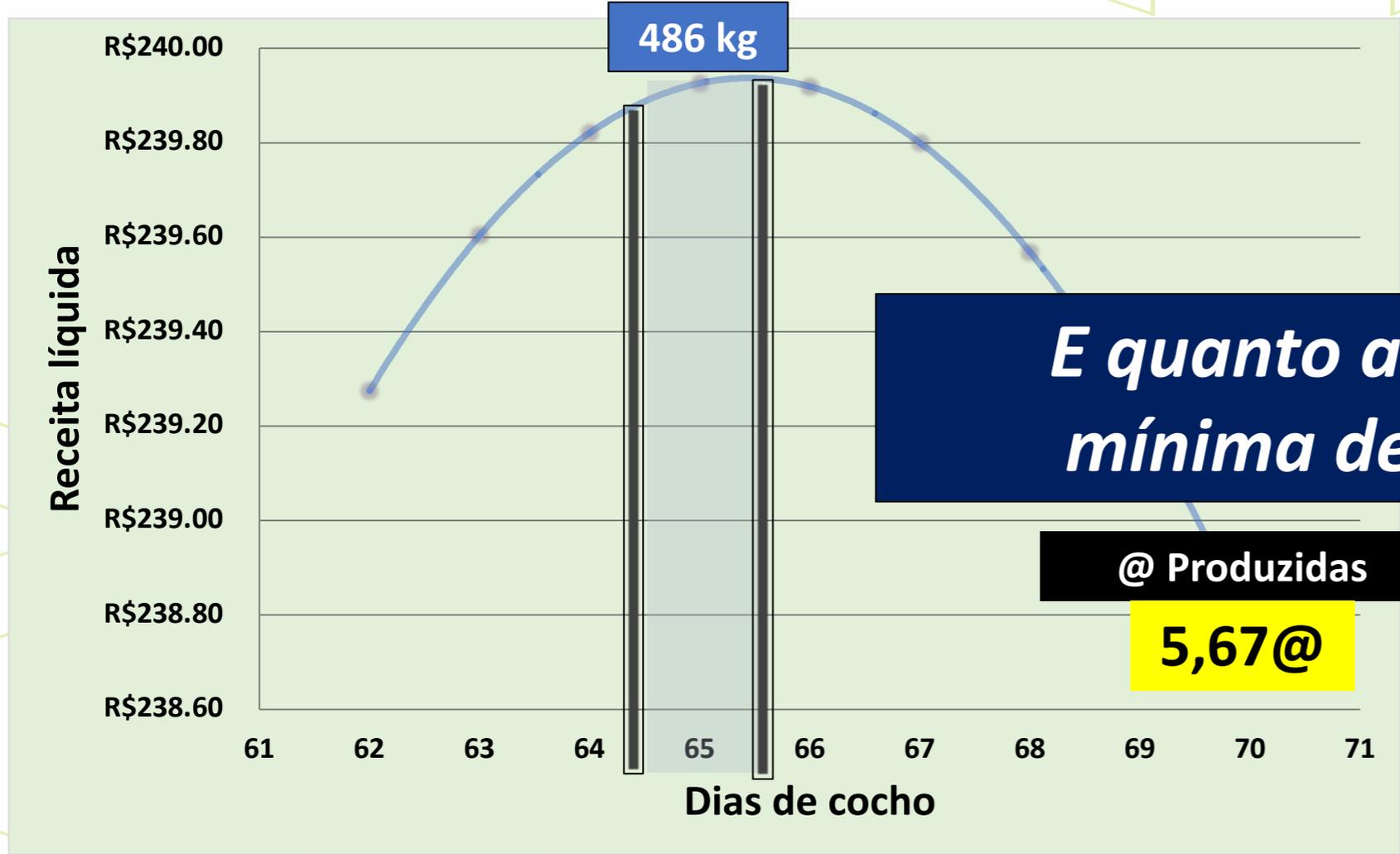
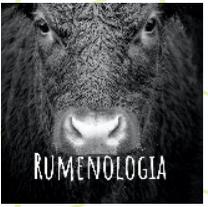
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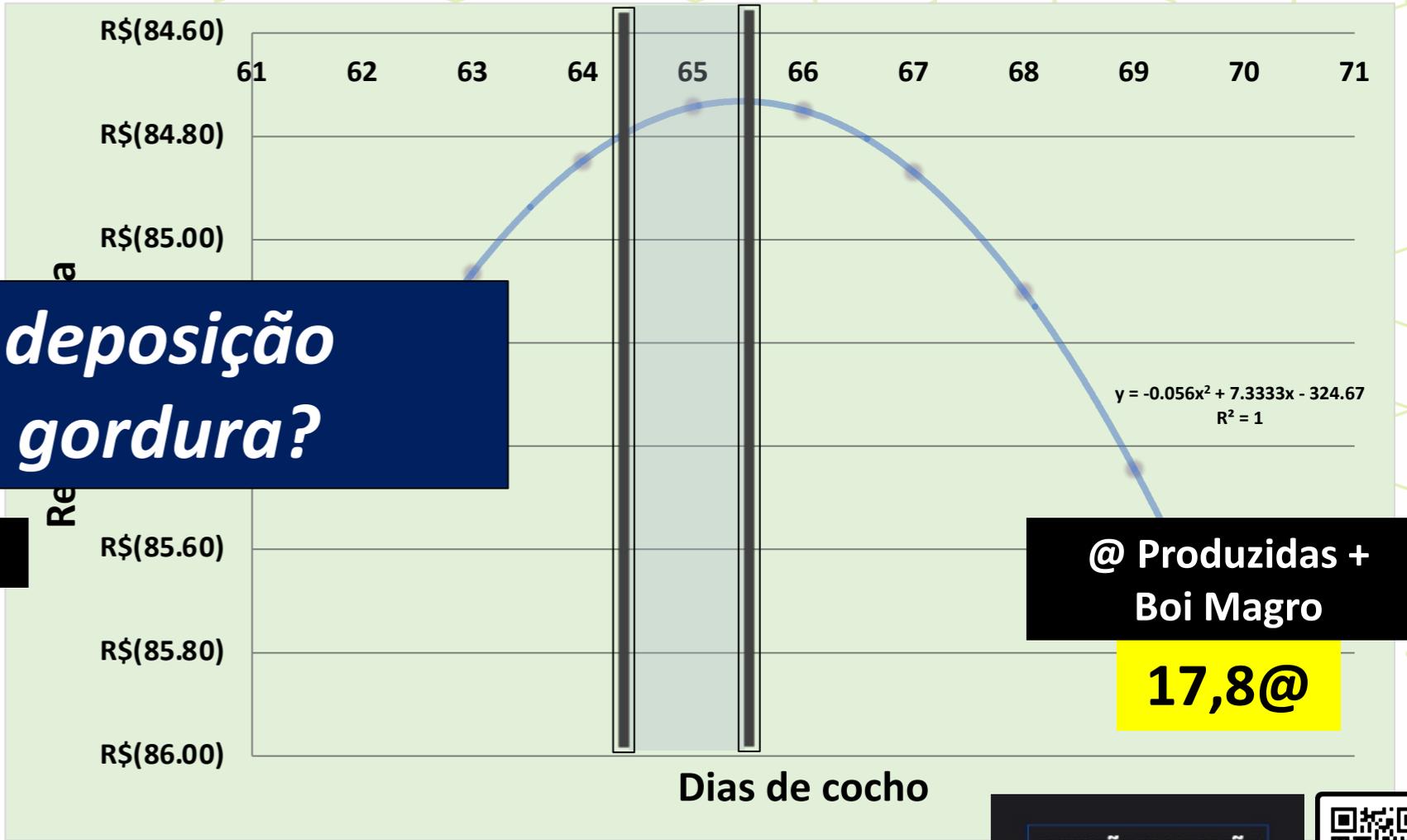
Boi Magro:  
R\$2.800,00

Diária:  
R\$14,26

@ Projetada:  
R\$205,00



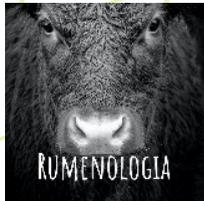
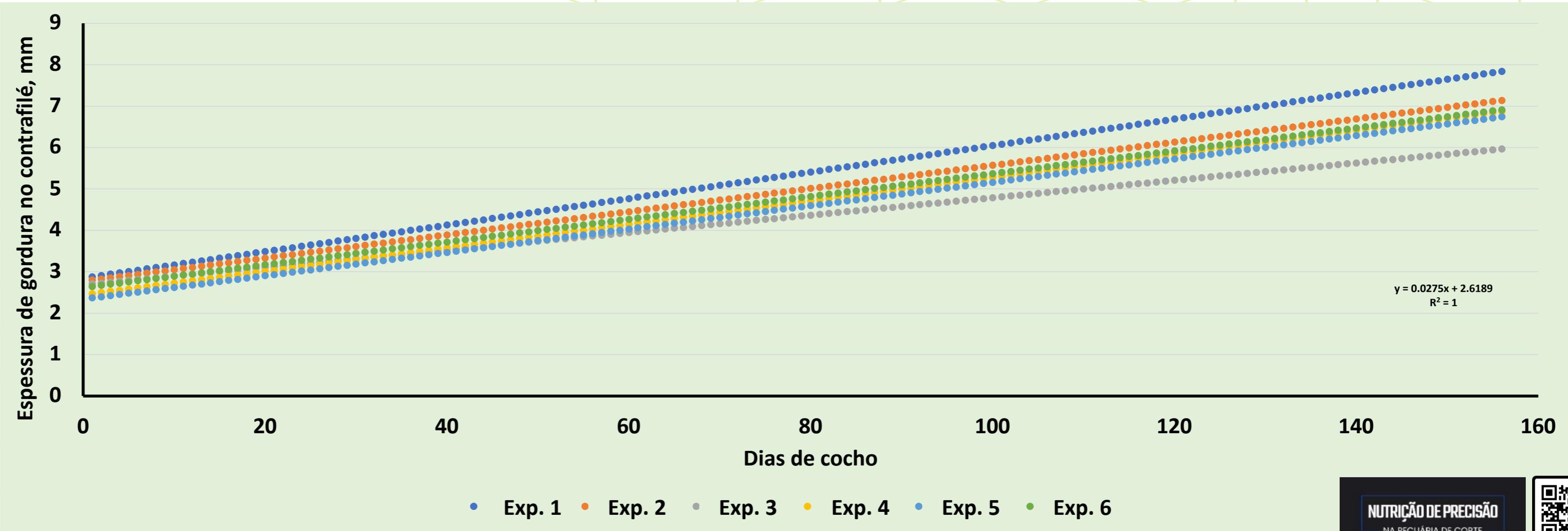
*E quanto a deposição mínima de gordura?*



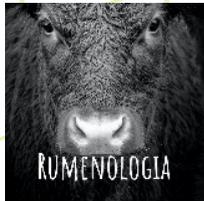
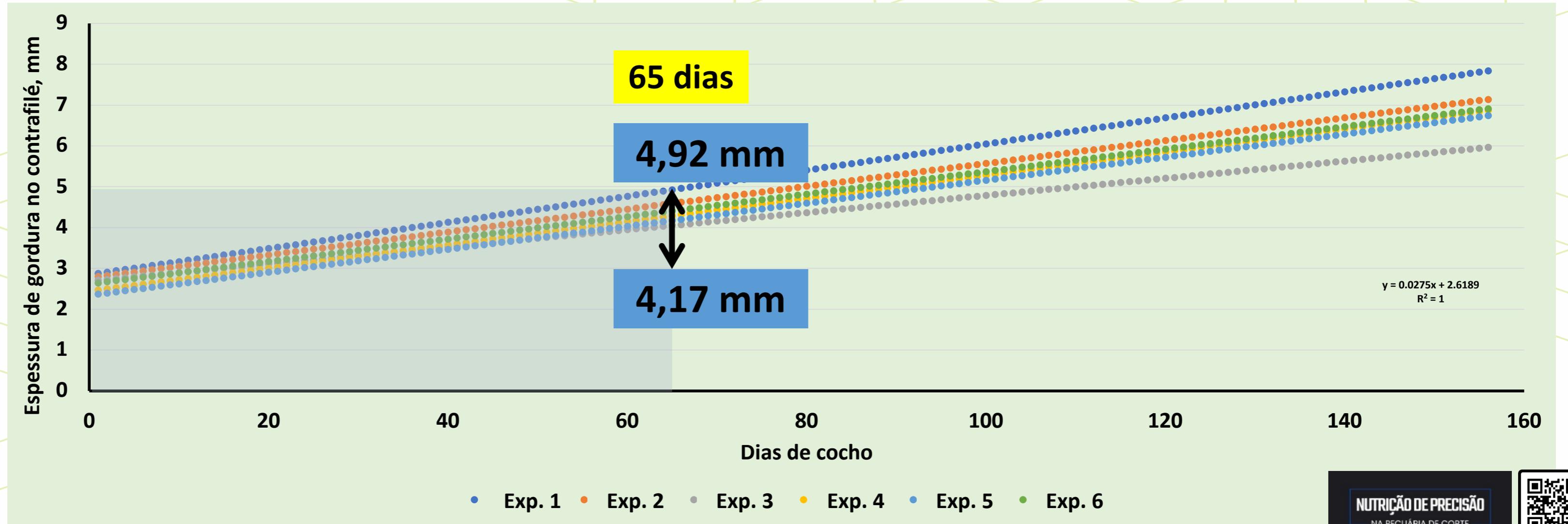
NUTRIÇÃO DE PRECISÃO  
NA PECUÁRIA DE CORTE



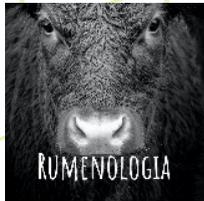
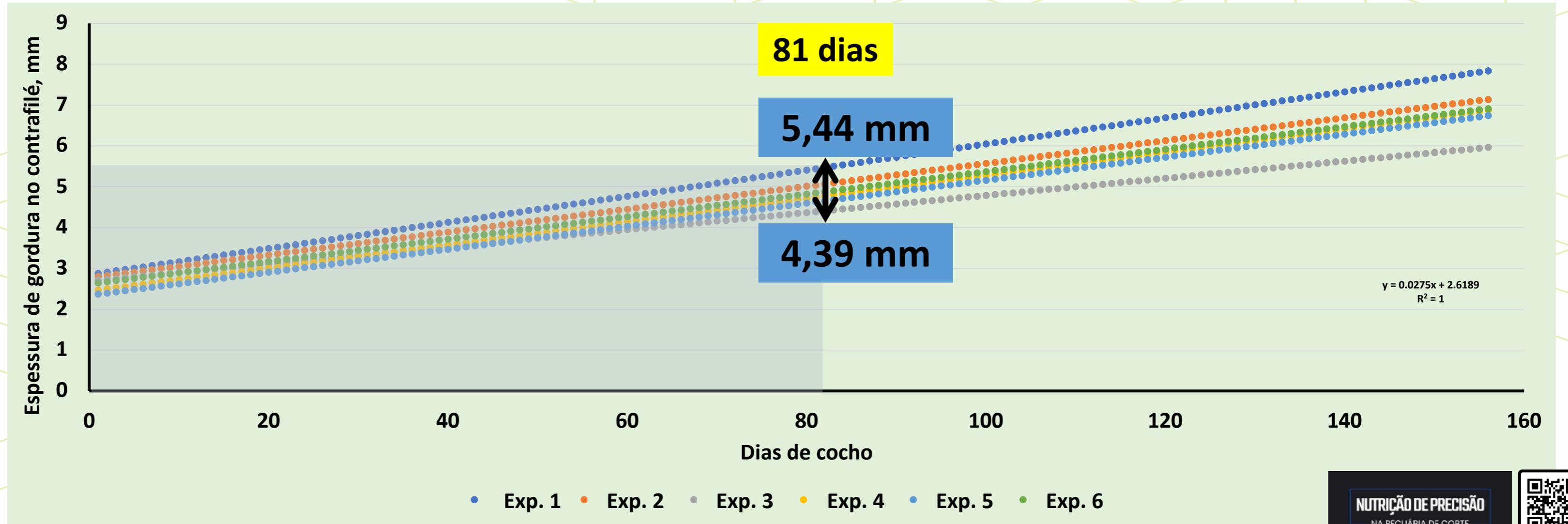
# Ponto ótimo de abate vs. Dias de lucro



# Ponto ótimo de abate vs. Dias de lucro

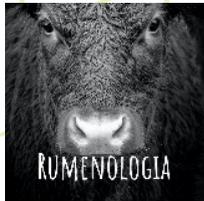


# Ponto ótimo de abate vs. Dias de lucro



# Ponto ótimo de abate vs. Dias de lucro

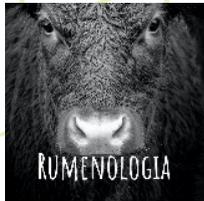
## E se o preço dos insumos diminuir?



# Ponto ótimo de abate vs. Dias de lucro

## E se o preço dos insumos diminuir?

**Diária a R\$12,25**



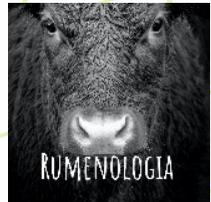
# Ponto ótimo de abate vs. Dias de lucro

**Peso vivo inicial:**  
363,1 kg

**Boi Magro:**  
R\$2.800,00

**Diária:**  
R\$12,25

**@ Projetada:**  
R\$234,00



**NUTRIÇÃO DE PRECISÃO**  
NA PECUÁRIA DE CORTE



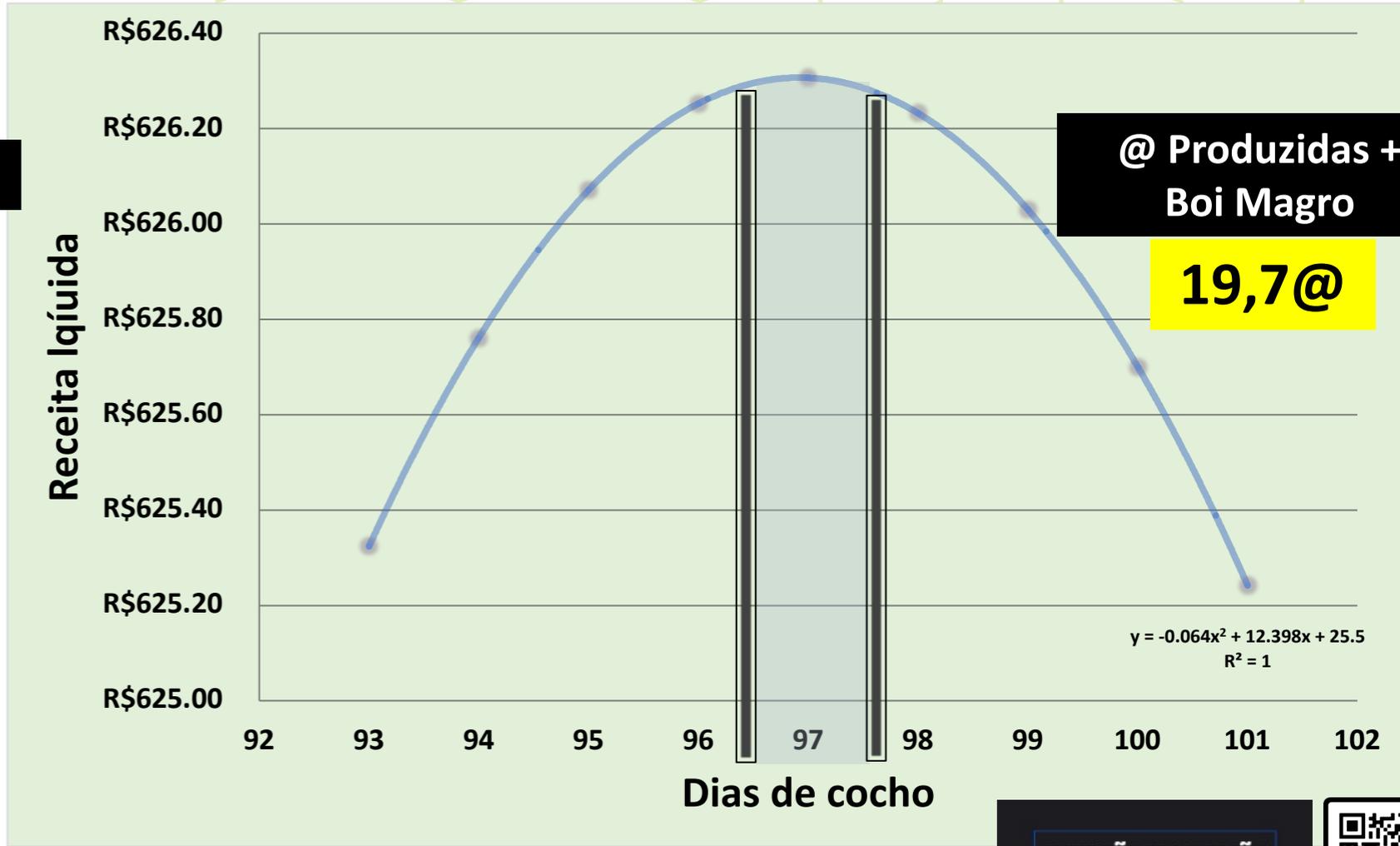
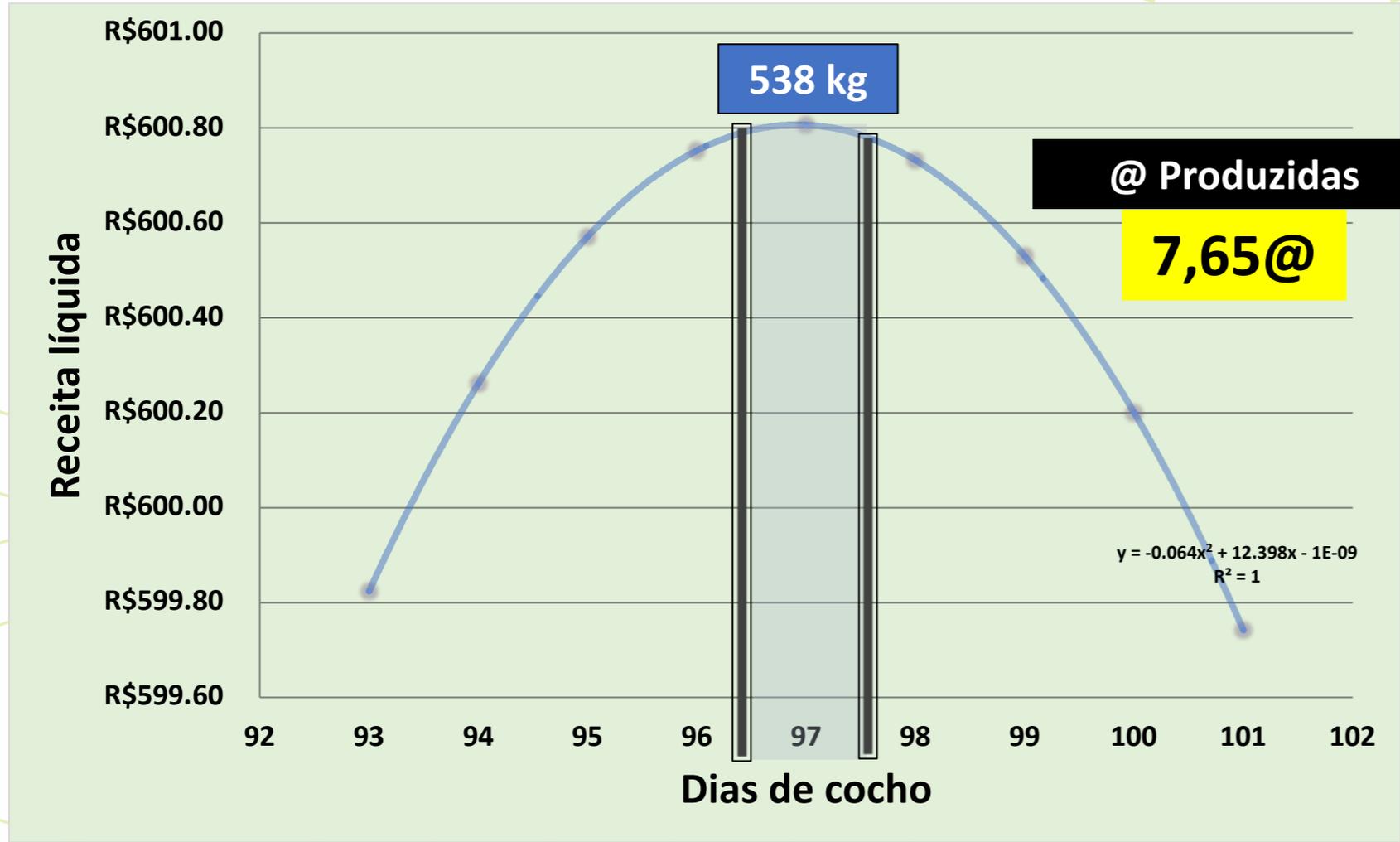
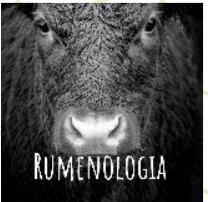
# Ponto ótimo de abate vs. Dias de lucro

Peso vivo inicial:  
363,1 kg

Boi Magro:  
R\$2.800,00

Diária:  
R\$12,25

@ Projetada:  
R\$234,00

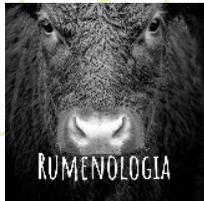


**NUTRIÇÃO DE PRECISÃO**  
NA PECUÁRIA DE CORTE



# Ponto ótimo de abate vs. Dias de lucro

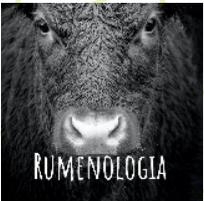
## Mas eu produzo carne *Premium*, como fica meu cenário?



# Ponto ótimo de abate vs. Dias de lucro

Mas eu produzo carne *Premium*,  
como fica meu cenário?

@ Projetada a R\$257



# Ponto ótimo de abate vs. Dias de lucro

*Carne Premium?*

Peso vivo inicial:  
363,1 kg

Boi Magro:  
R\$2.800,00

Diária:  
R\$14,26

@ Projetada:  
R\$257,00

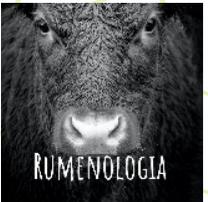


@ Produzidas

7,32@

Dias de cocho

NUTRIÇÃO DE PRECISÃO  
NA PECUÁRIA DE CORTE



# Ponto ótimo de abate vs. Dias de lucro

*Carne Premium?*

Peso vivo inicial:  
363,1 kg

Boi Magro:  
R\$2.800,00

Diária:  
R\$14,26

@ Projetada:  
R\$257,00

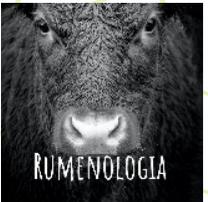


*Mas se for 1/2 Britânico não come mais?*

@ Produzidas

7,32@

NUTRIÇÃO DE PRECISÃO  
NA PECUÁRIA DE CORTE



# Ponto ótimo de abate vs. Dias de lucro

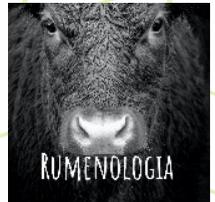
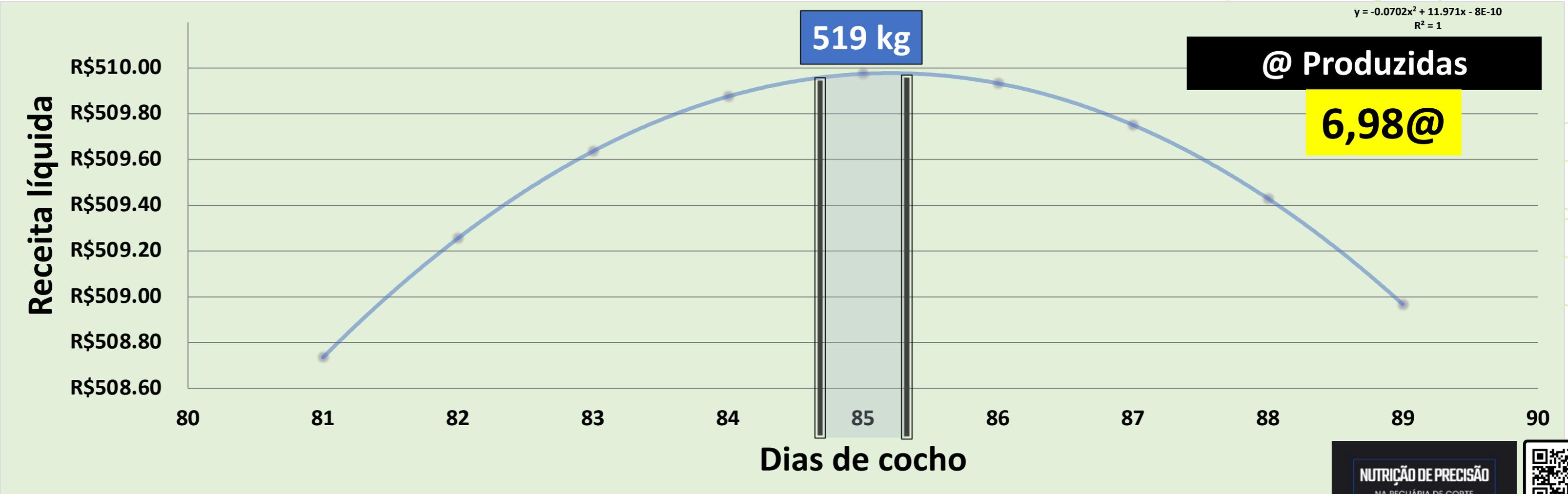
**Carne Premium?**

**Peso vivo inicial:**  
363,1 kg

**Boi Magro:**  
R\$2.800,00

**Diária:**  
R\$15,10

**@ Projetada:**  
R\$257,00



**NUTRIÇÃO DE PRECISÃO**  
NA PECUÁRIA DE CORTE



# Ponto ótimo de abate vs. Dias de lucro

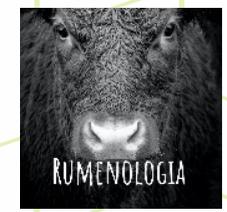
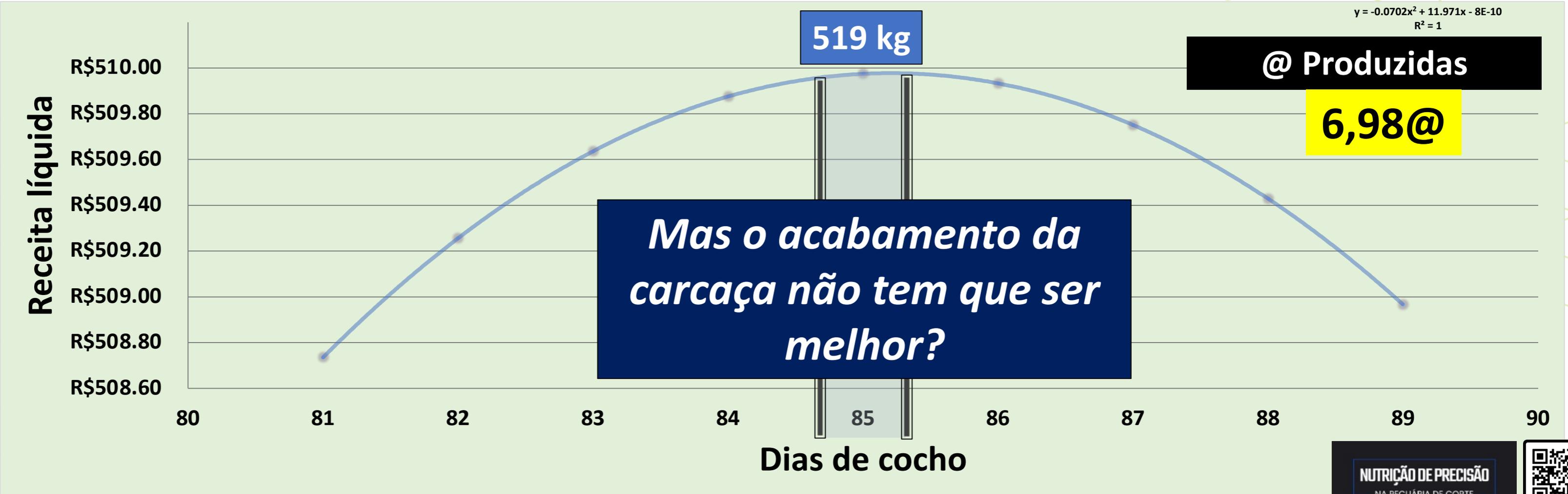
**Carne Premium?**

Peso vivo inicial:  
363,1 kg

Boi Magro:  
R\$2.800,00

Diária:  
R\$15,10

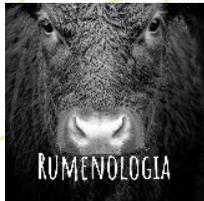
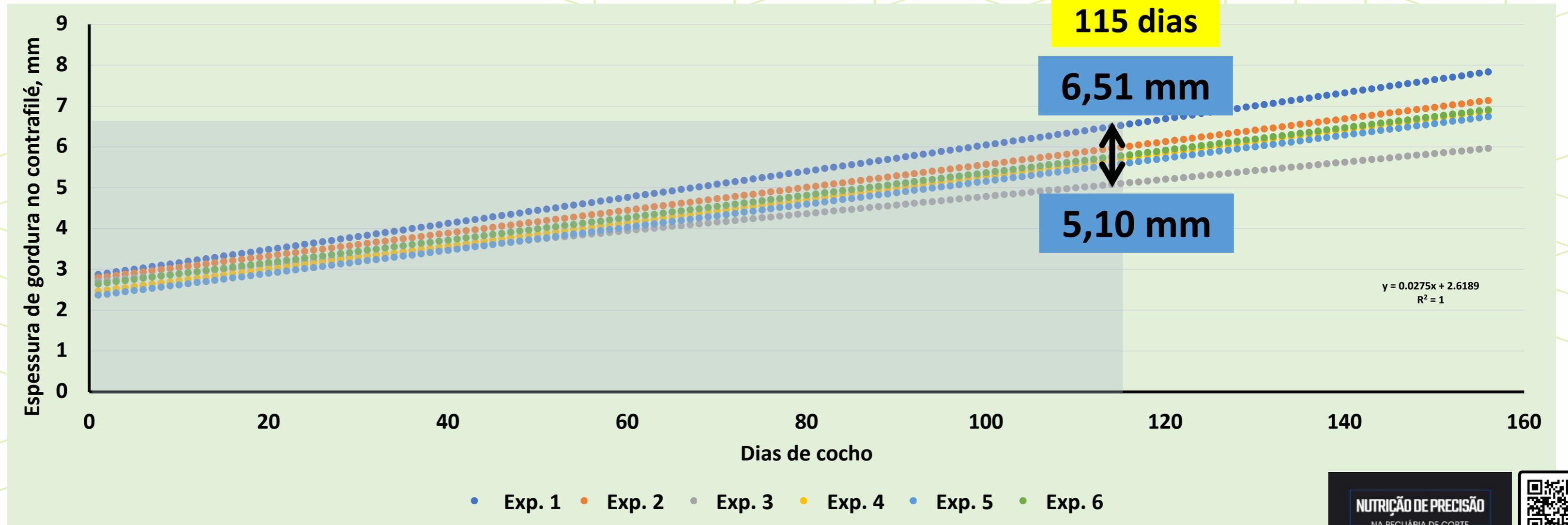
@ Projetada:  
R\$257,00



**NUTRIÇÃO DE PRECISÃO**  
NA PECUÁRIA DE CORTE



# Ponto ótimo de abate vs. Dias de lucro



# Ponto ótimo de abate vs. Dias de lucro

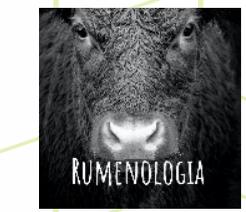
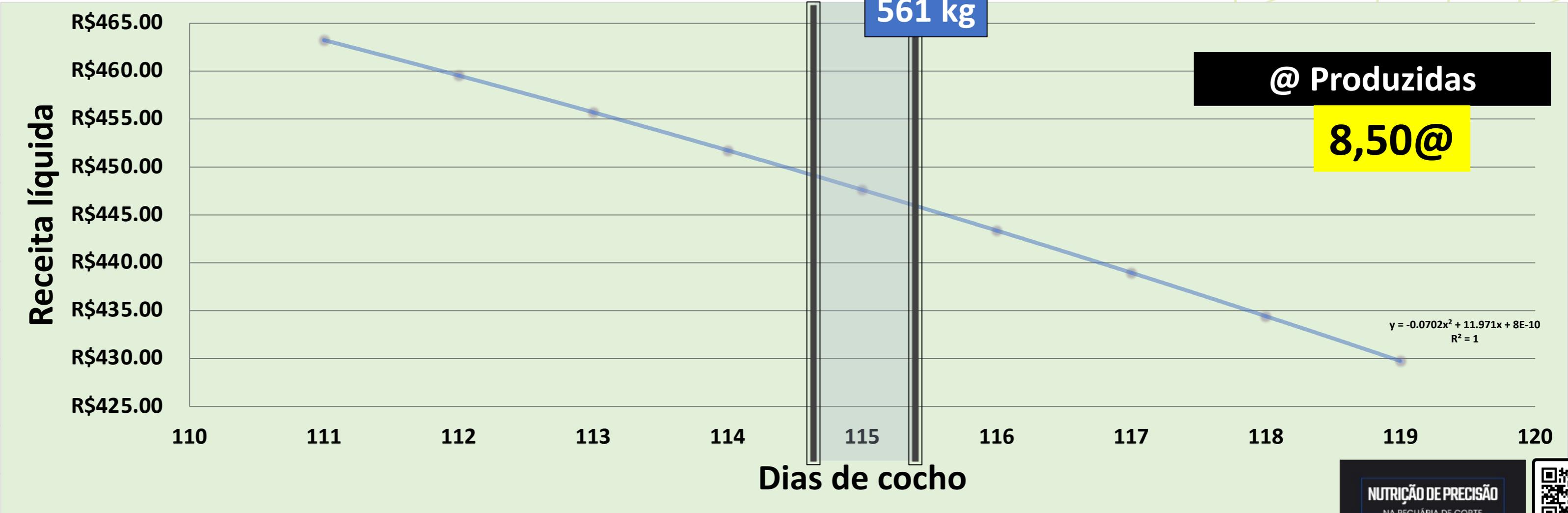
*Carne Premium?*

Peso vivo inicial:  
363,1 kg

Boi Magro:  
R\$2.800,00

Diária:  
R\$15,10

@ Projetada:  
R\$257,00



NUTRIÇÃO DE PRECISÃO  
NA PECUÁRIA DE CORTE



# Ponto ótimo de abate vs. Dias de lucro

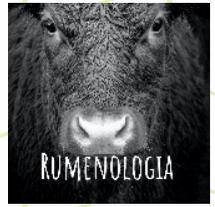
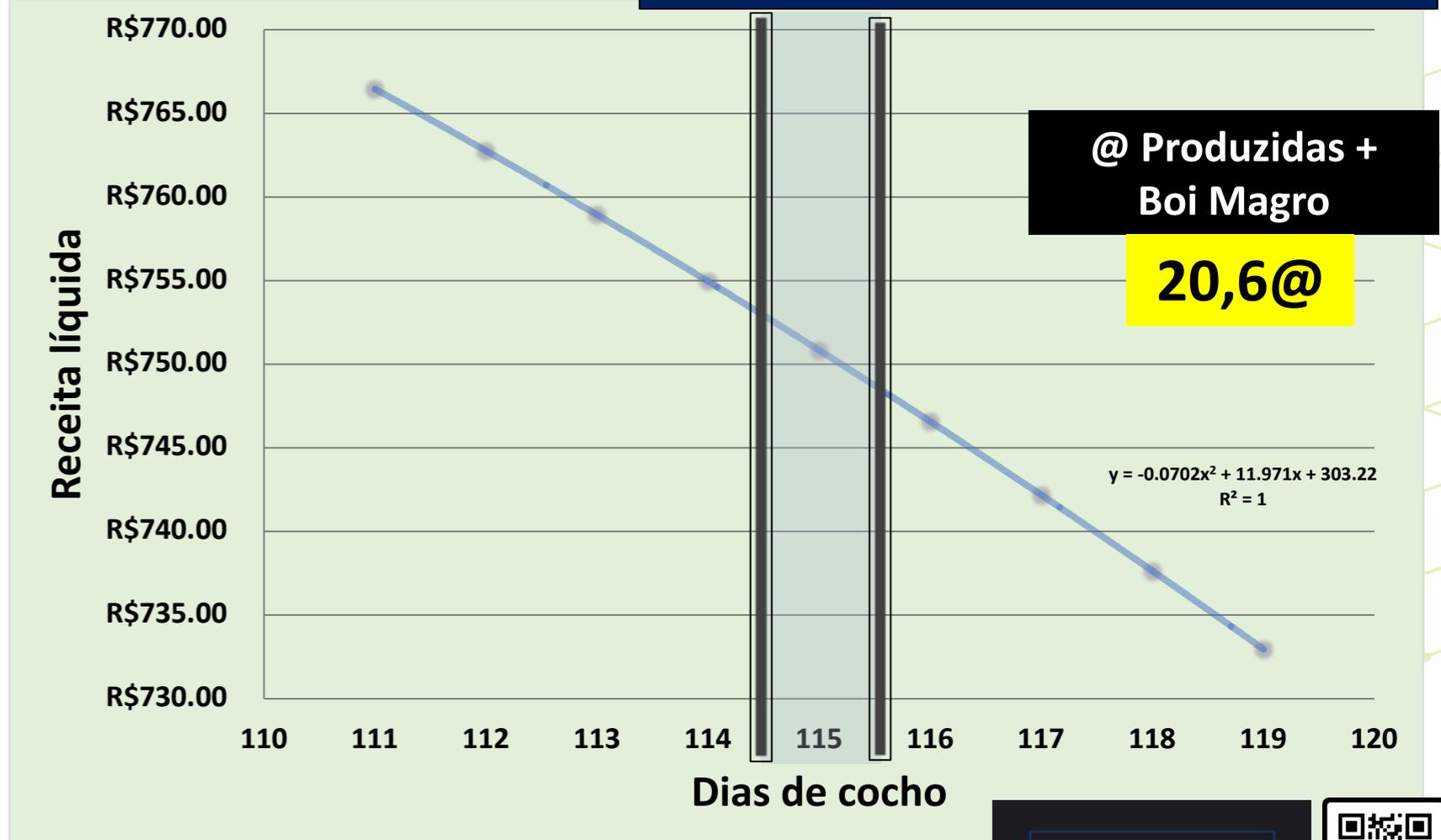
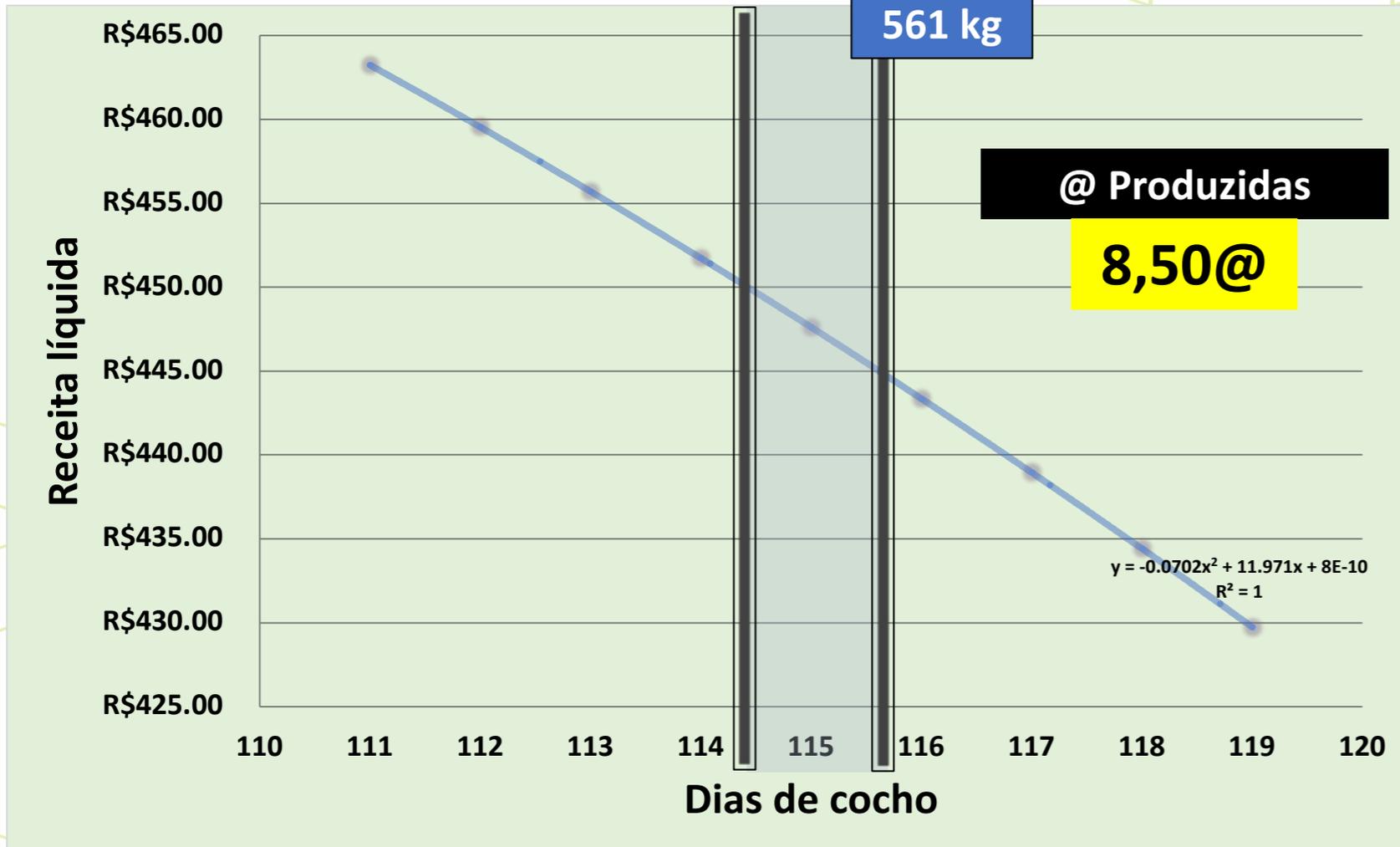
**Carne Premium?**

Peso vivo inicial:  
363,1 kg

Boi Magro:  
R\$2.800,00

Diária:  
R\$15,10

@ Projetada:  
R\$257,00



**NUTRIÇÃO DE PRECISÃO**  
NA PECUÁRIA DE CORTE

# Ponto ótimo de abate vs. Dias de lucro

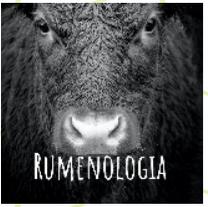
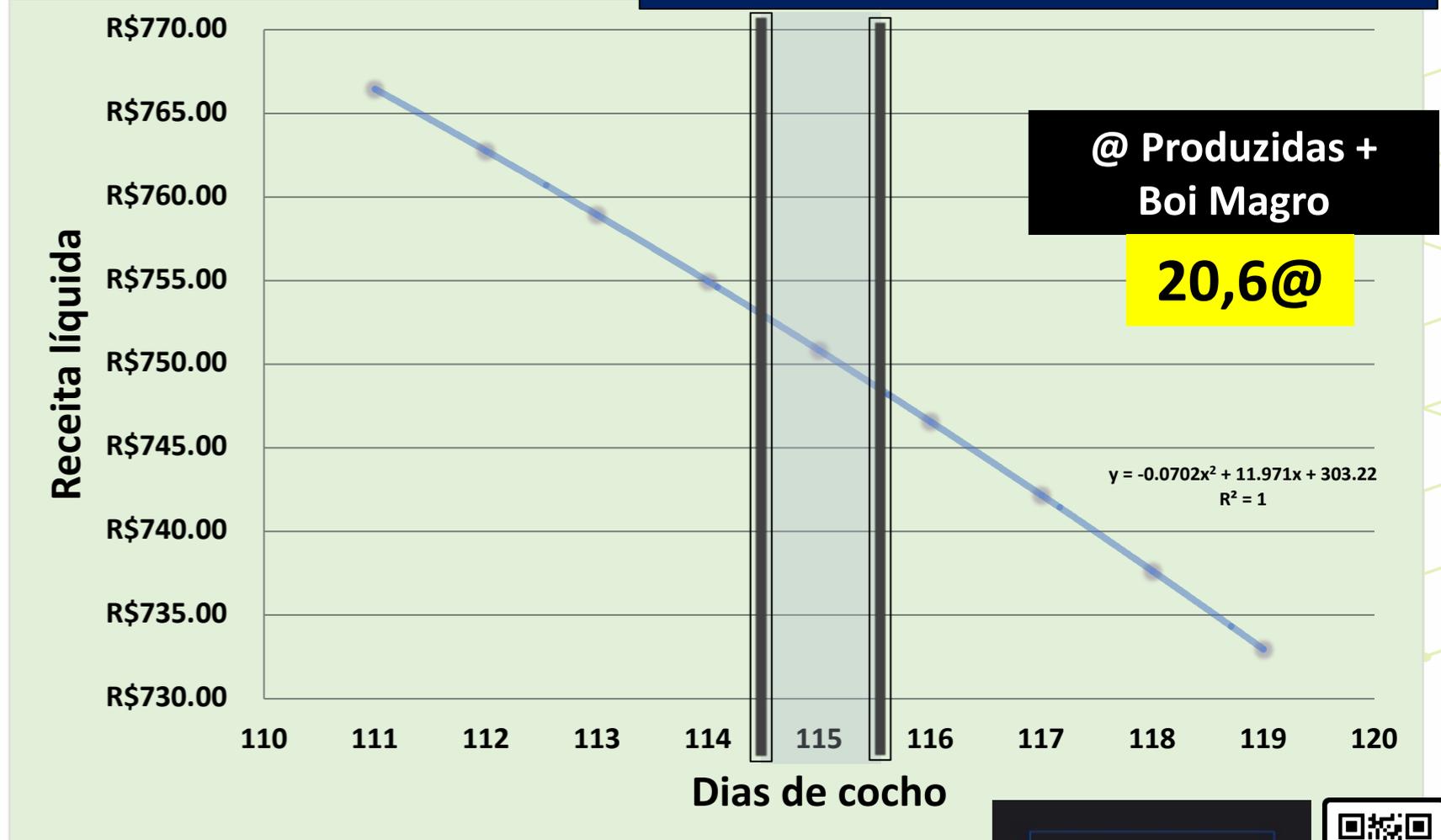
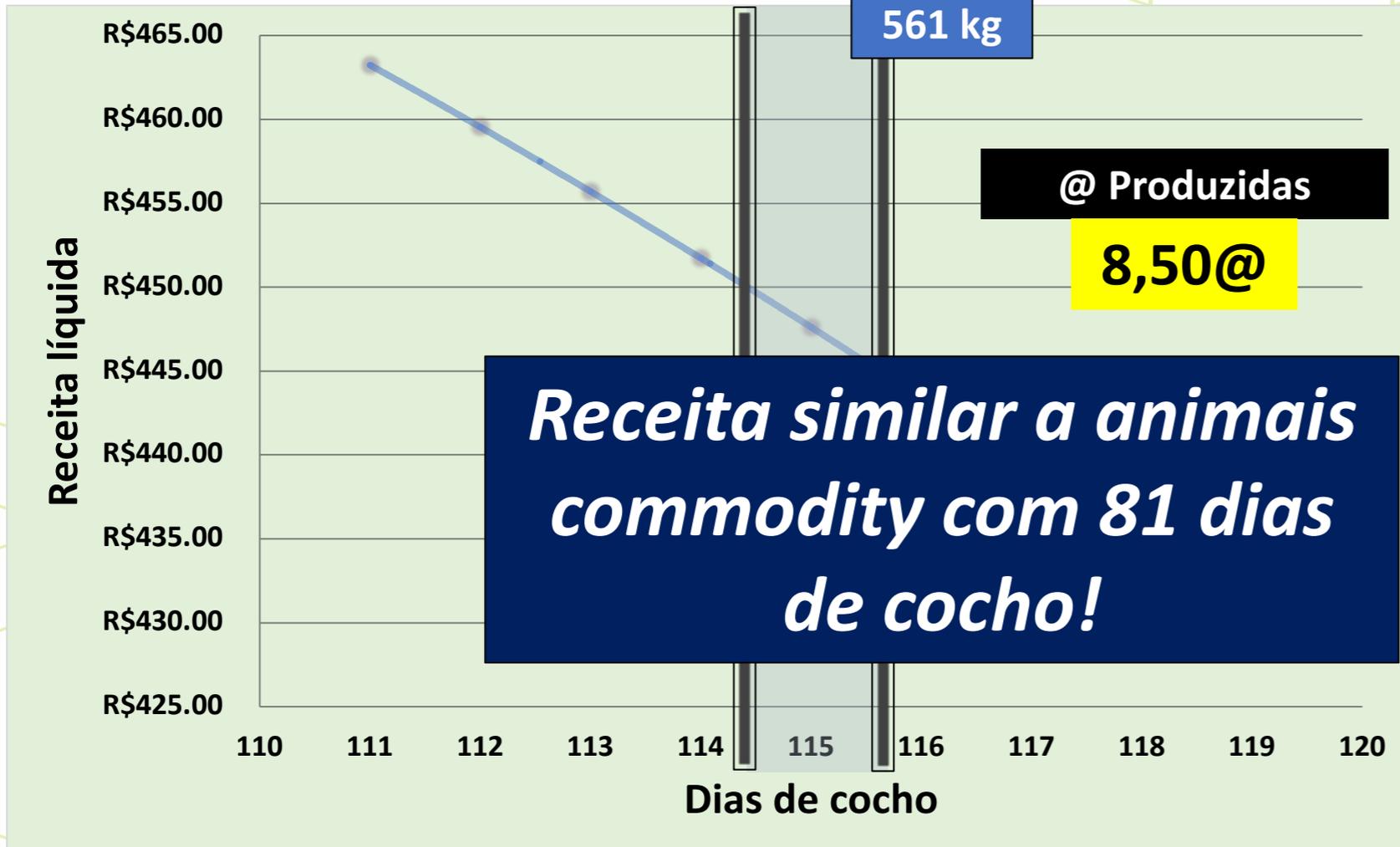
**Carne Premium?**

Peso vivo inicial:  
363,1 kg

Boi Magro:  
R\$2.800,00

Diária:  
R\$15,10

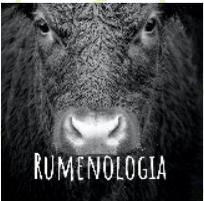
@ Projetada:  
R\$257,00



**NUTRIÇÃO DE PRECISÃO**  
NA PECUÁRIA DE CORTE

# Ponto ótimo de abate vs. Dias de lucro

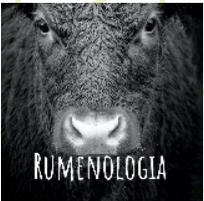
E se o manejo do confinamento  
**NÃO** for muito bom?



# Ponto ótimo de abate vs. Dias de lucro

E se o manejo do confinamento  
**NÃO** for muito bom?

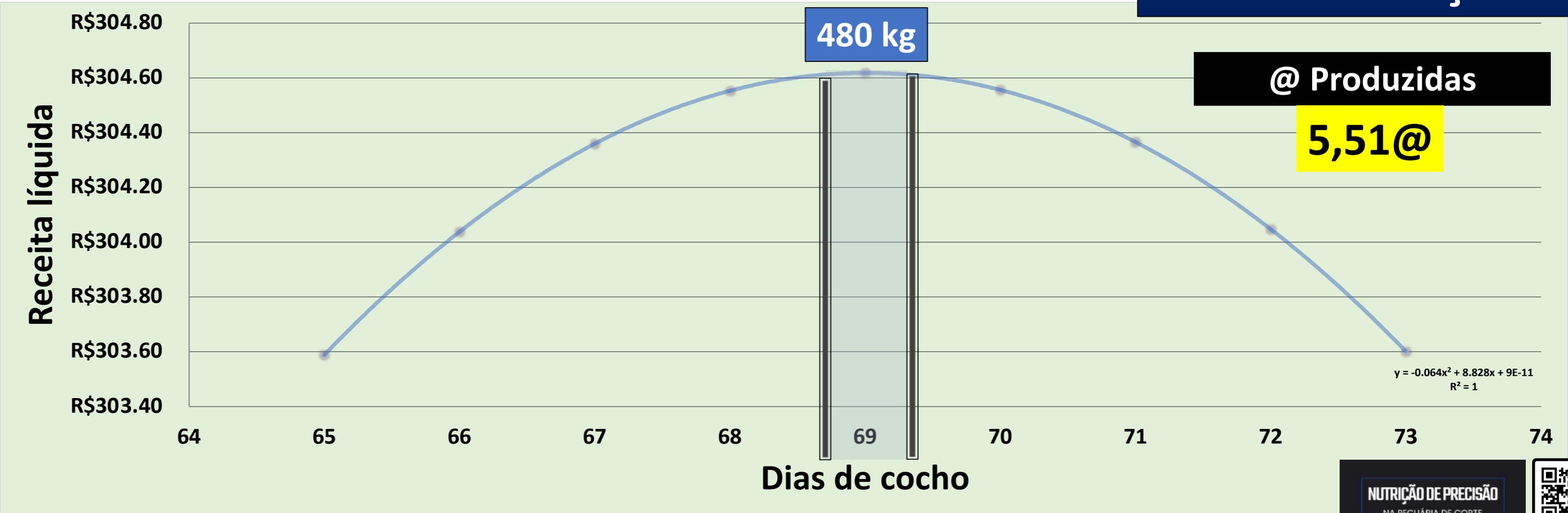
Redução de 100g no  
GPD carcaça



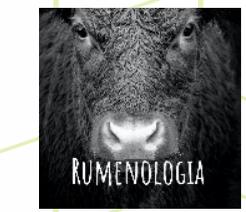
# Ponto ótimo de abate vs. Dias de lucro

*Redução de 100g no GPD carcaça*

- Peso vivo inicial: 363,1 kg
- Boi Magro: R\$2.800,00
- Diária: R\$14,26
- @ Projetada: R\$234,00



@ Produzidas  
**5,51@**



NUTRIÇÃO DE PRECISÃO  
NA PECUÁRIA DE CORTE

# Ponto ótimo de abate vs. Dias de lucro

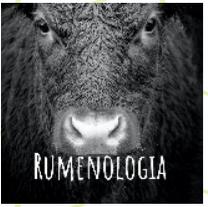
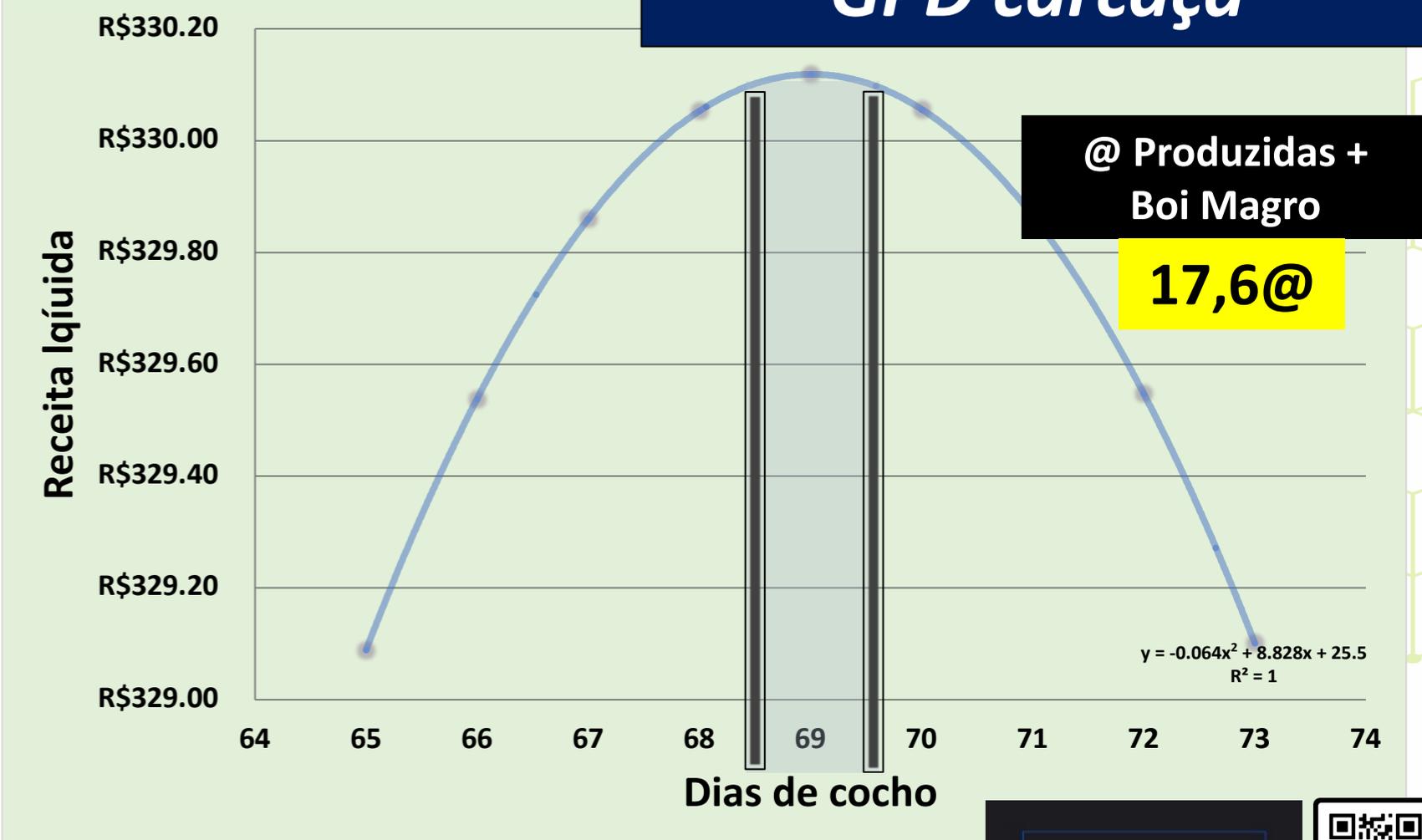
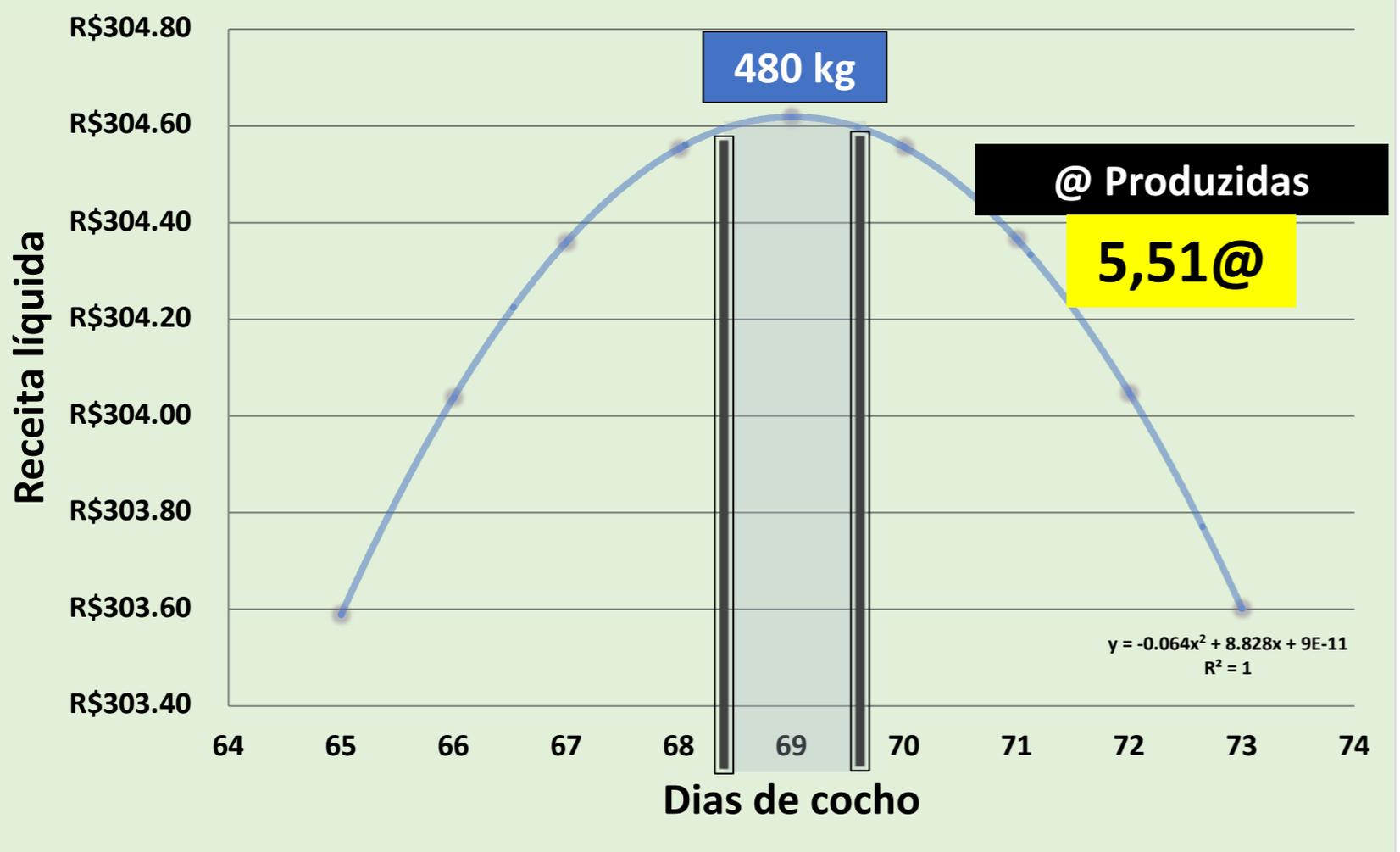
**Redução de 100g no GPD carcaça**

Peso vivo inicial:  
363,1 kg

Boi Magro:  
R\$2.800,00

Diária:  
R\$14,26

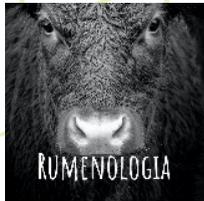
@ Projetada:  
R\$234,00



**NUTRIÇÃO DE PRECISÃO**  
NA PECUÁRIA DE CORTE

# Ponto ótimo de abate vs. Dias de lucro

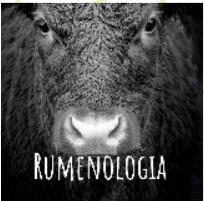
*Ah Danilo, mas redução de 100g é muito!*



# Ponto ótimo de abate vs. Dias de lucro

*Ah Danilo, mas redução de 100g é muito!*

**Redução de 40g no  
GPD carcaça**



# Ponto ótimo de abate vs. Dias de lucro

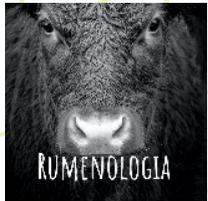
**Redução de 40g no GPD carcaça**

**Peso vivo inicial:  
363,1 kg**

**Boi Magro:  
R\$2.800,00**

**Diária:  
R\$14,26**

**@ Projetada:  
R\$234,00**



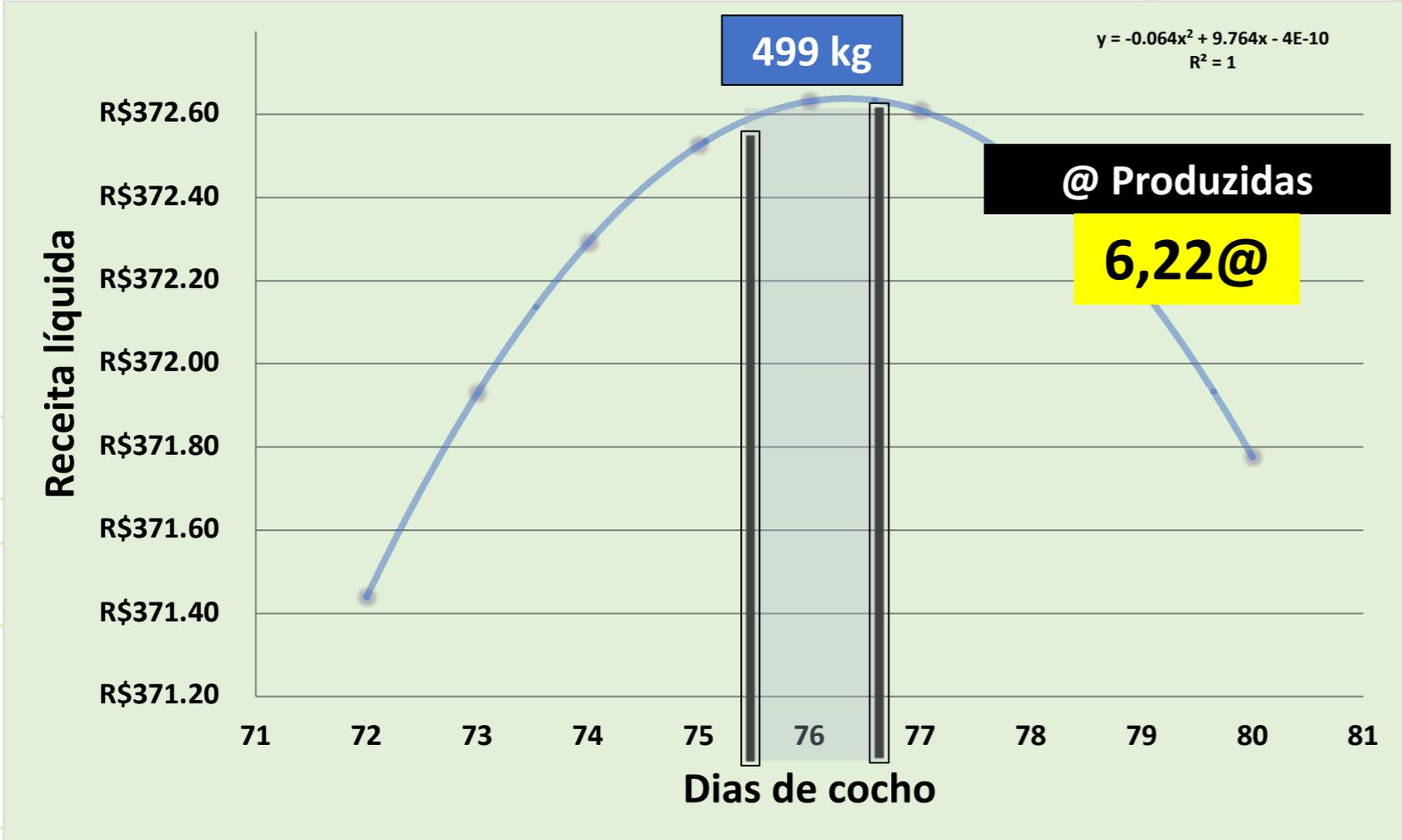
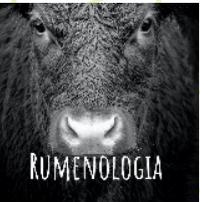
**NUTRIÇÃO DE PRECISÃO**  
NA PECUÁRIA DE CORTE



# Ponto ótimo de abate vs. Dias de lucro

**Redução de 40g no GPD carcaça**

- Peso vivo inicial: 363,1 kg
- Boi Magro: R\$2.800,00
- Diária: R\$14,26
- @ Projetada: R\$234,00

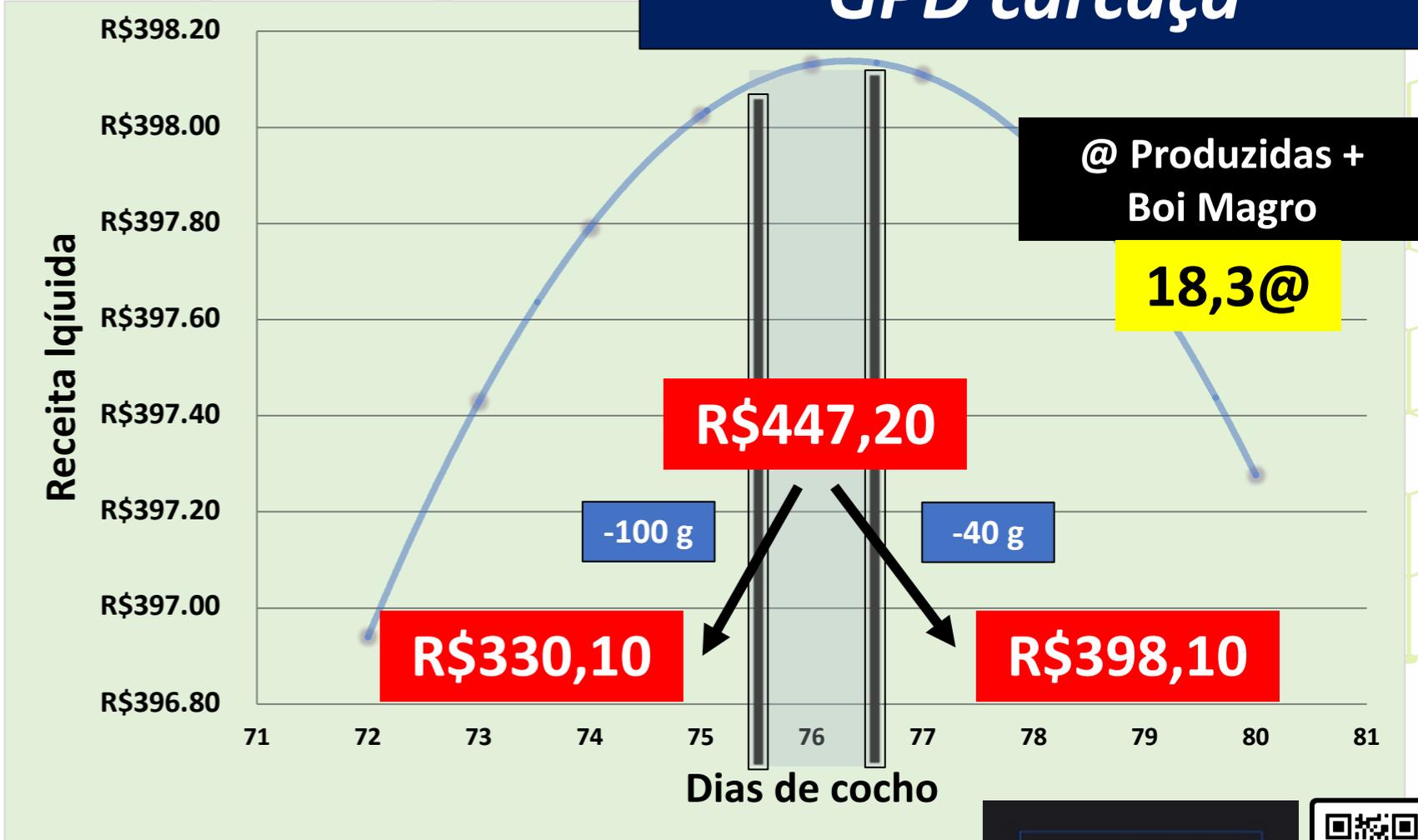
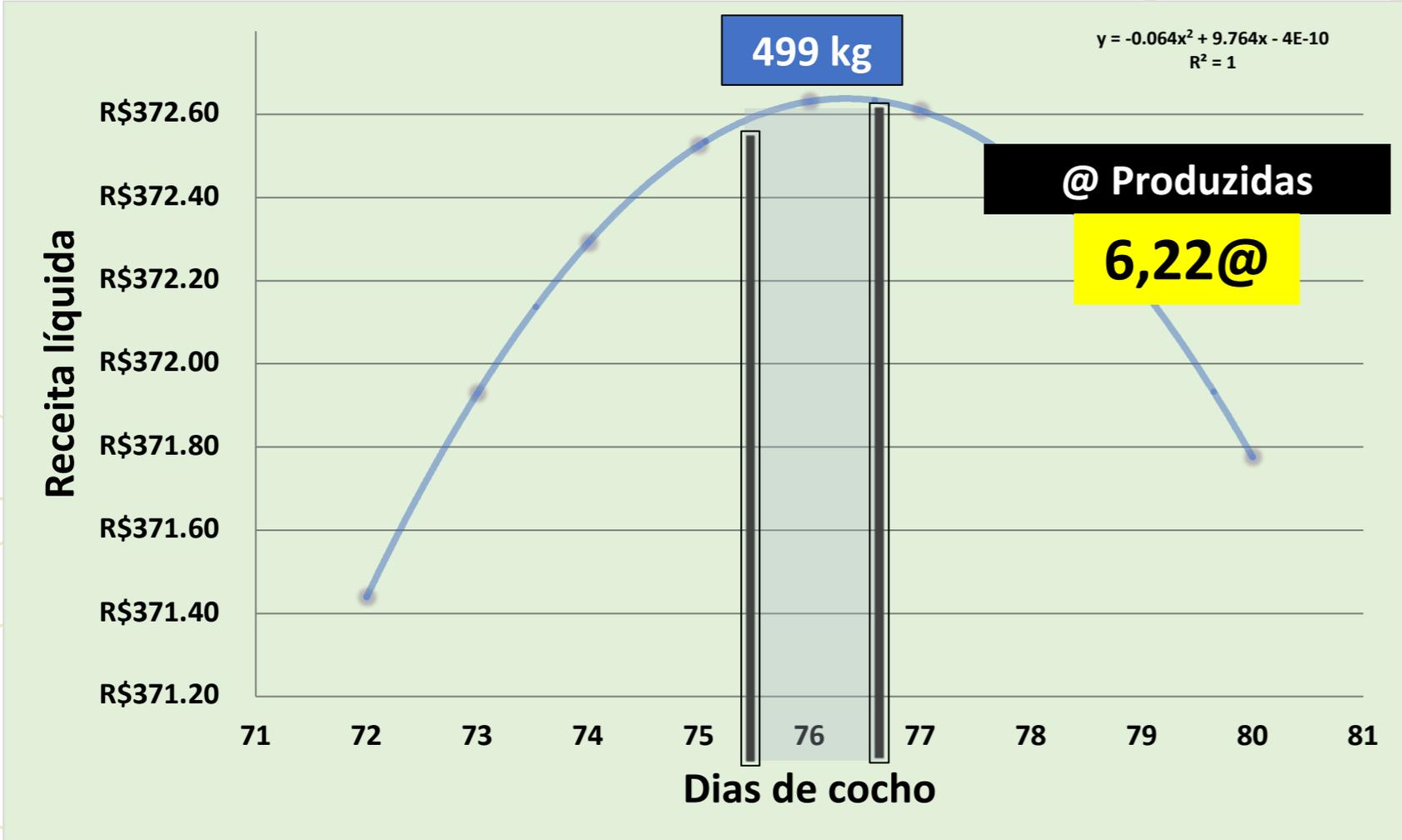
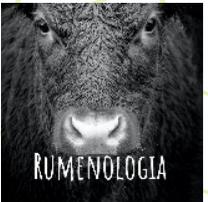


**NUTRIÇÃO DE PRECISÃO**  
NA PECUÁRIA DE CORTE

# Ponto ótimo de abate vs. Dias de lucro

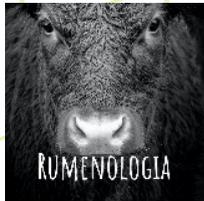
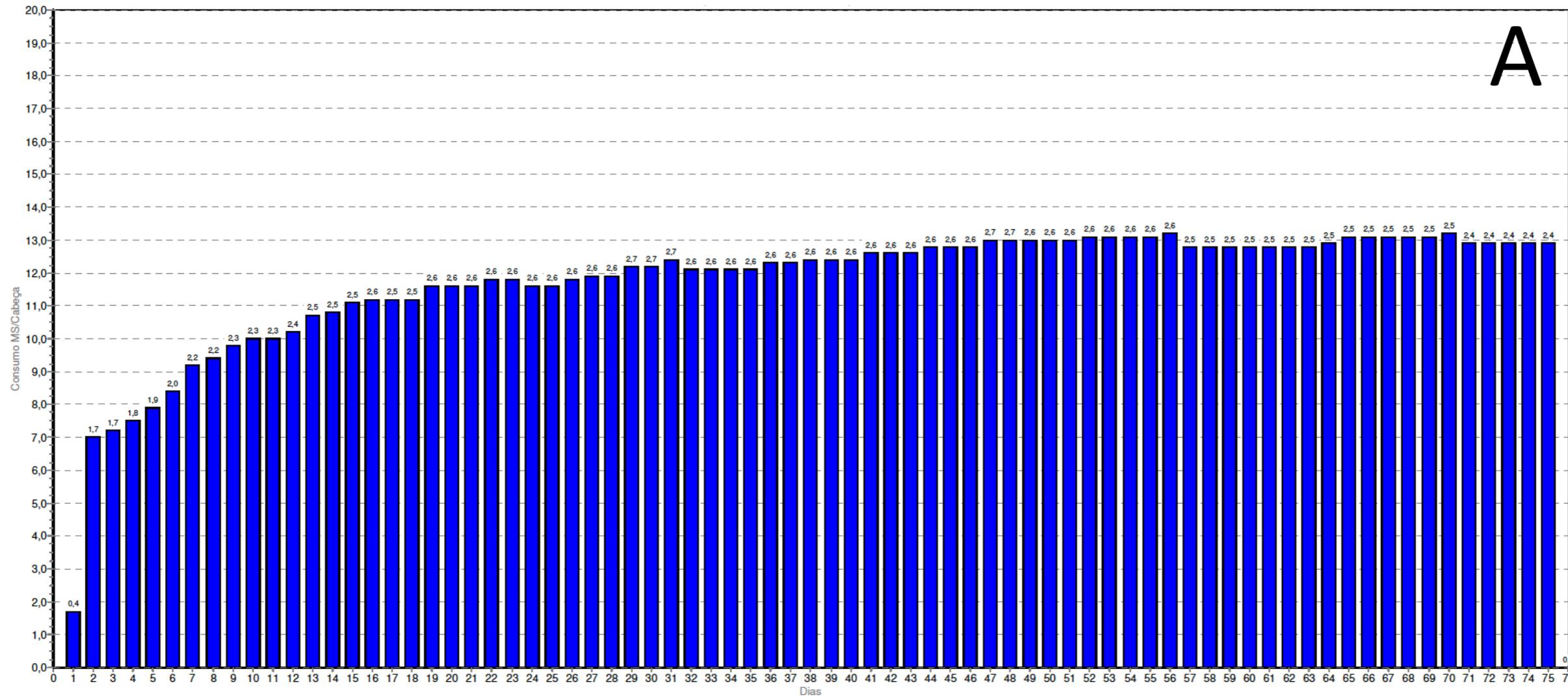
**Redução de 40g no GPD carcaça**

- Peso vivo inicial: 363,1 kg
- Boi Magro: R\$2.800,00
- Diária: R\$14,26
- @ Projetada: R\$234,00

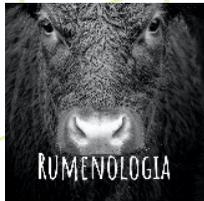
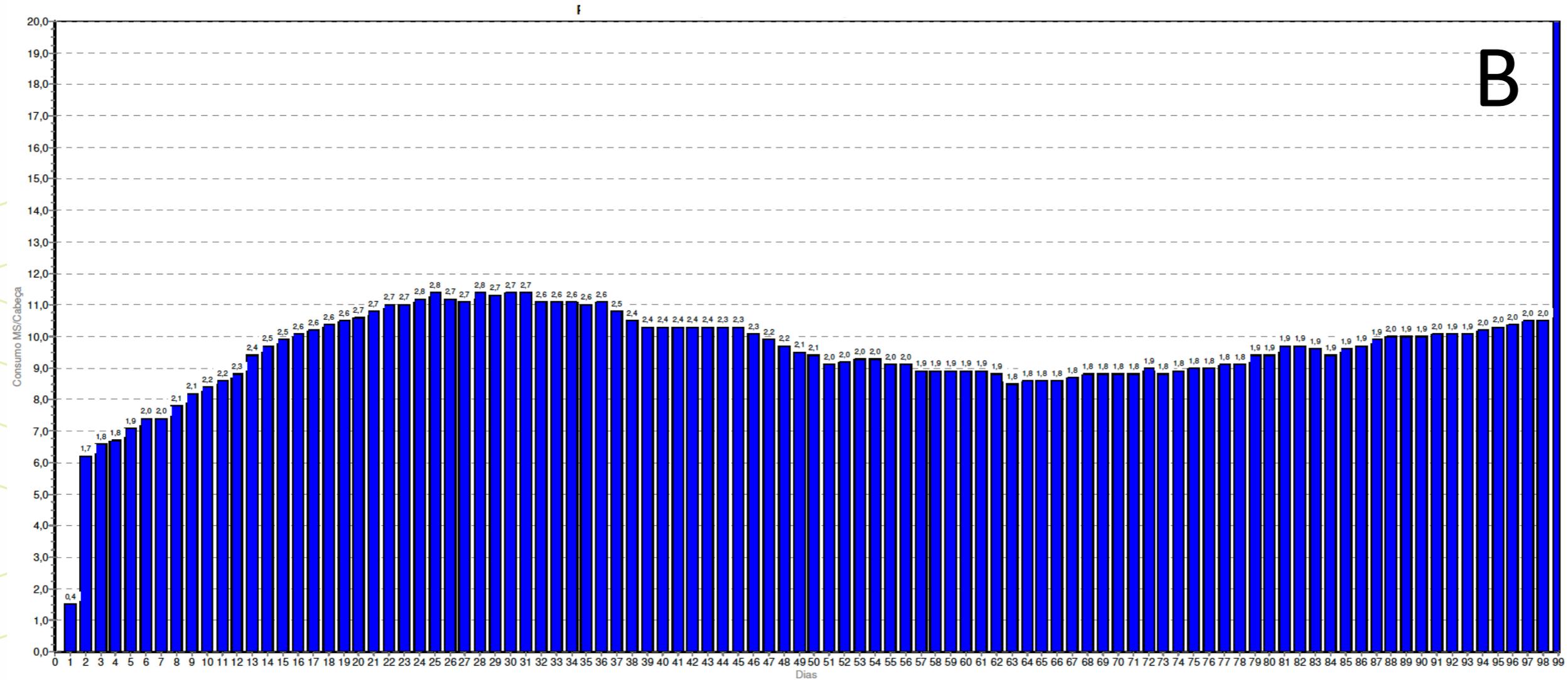


**NUTRIÇÃO DE PRECISÃO**  
NA PECUÁRIA DE CORTE

# Curvas de consumo de matéria seca



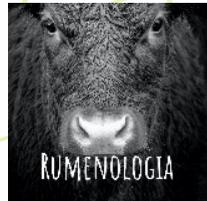
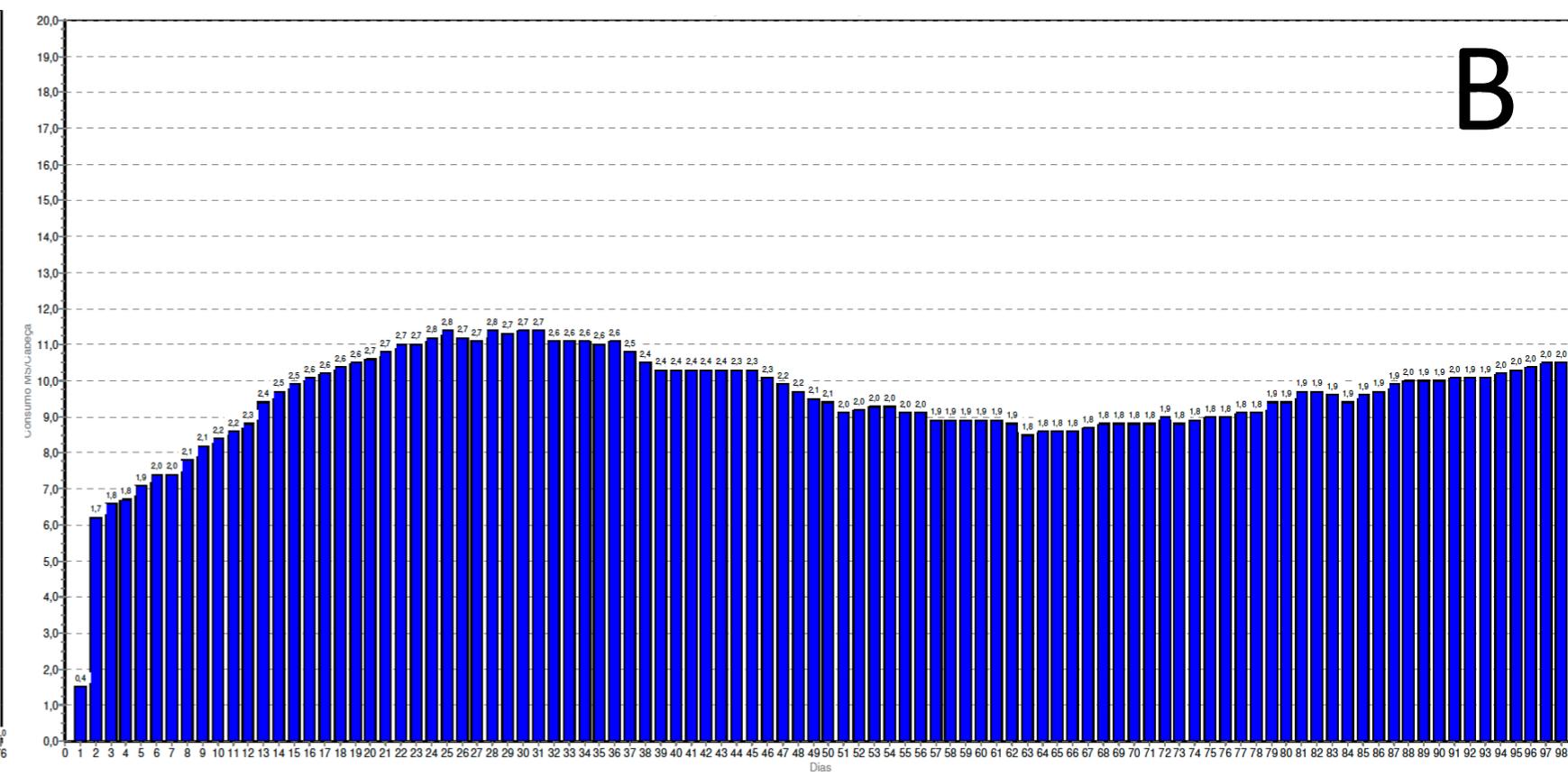
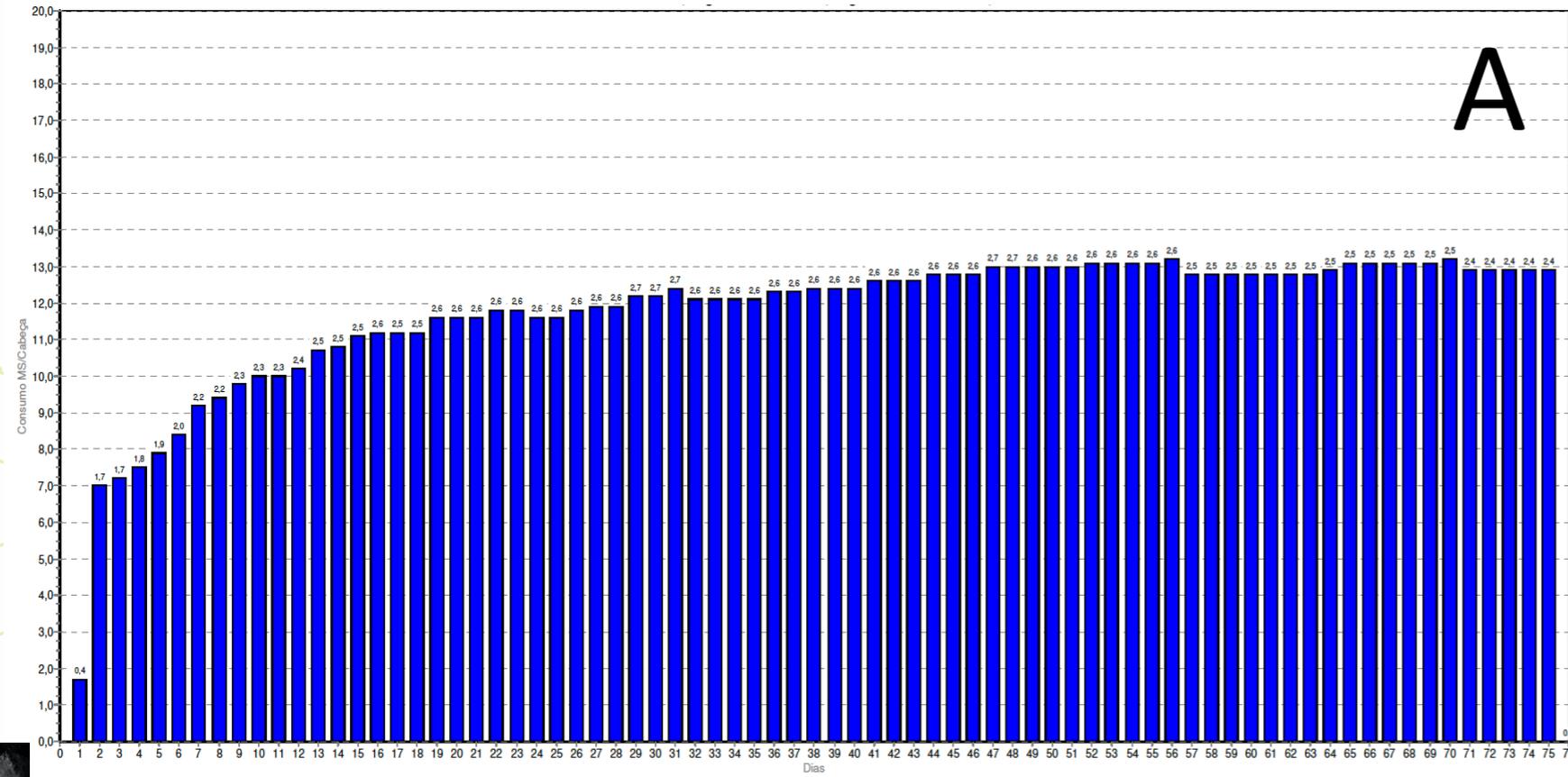
# Curvas de consumo de matéria seca



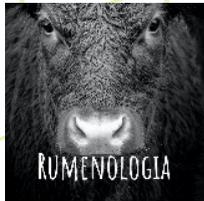
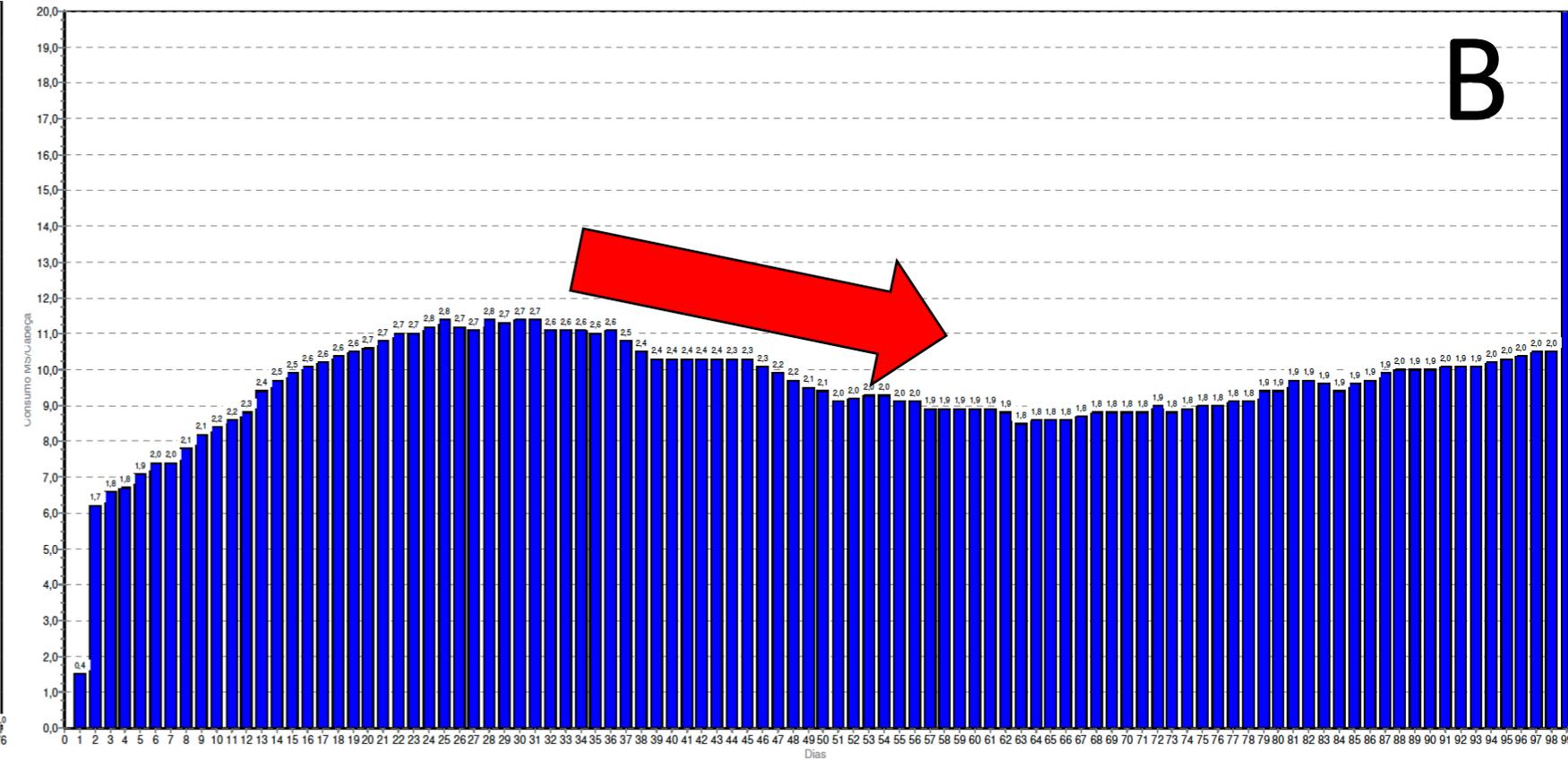
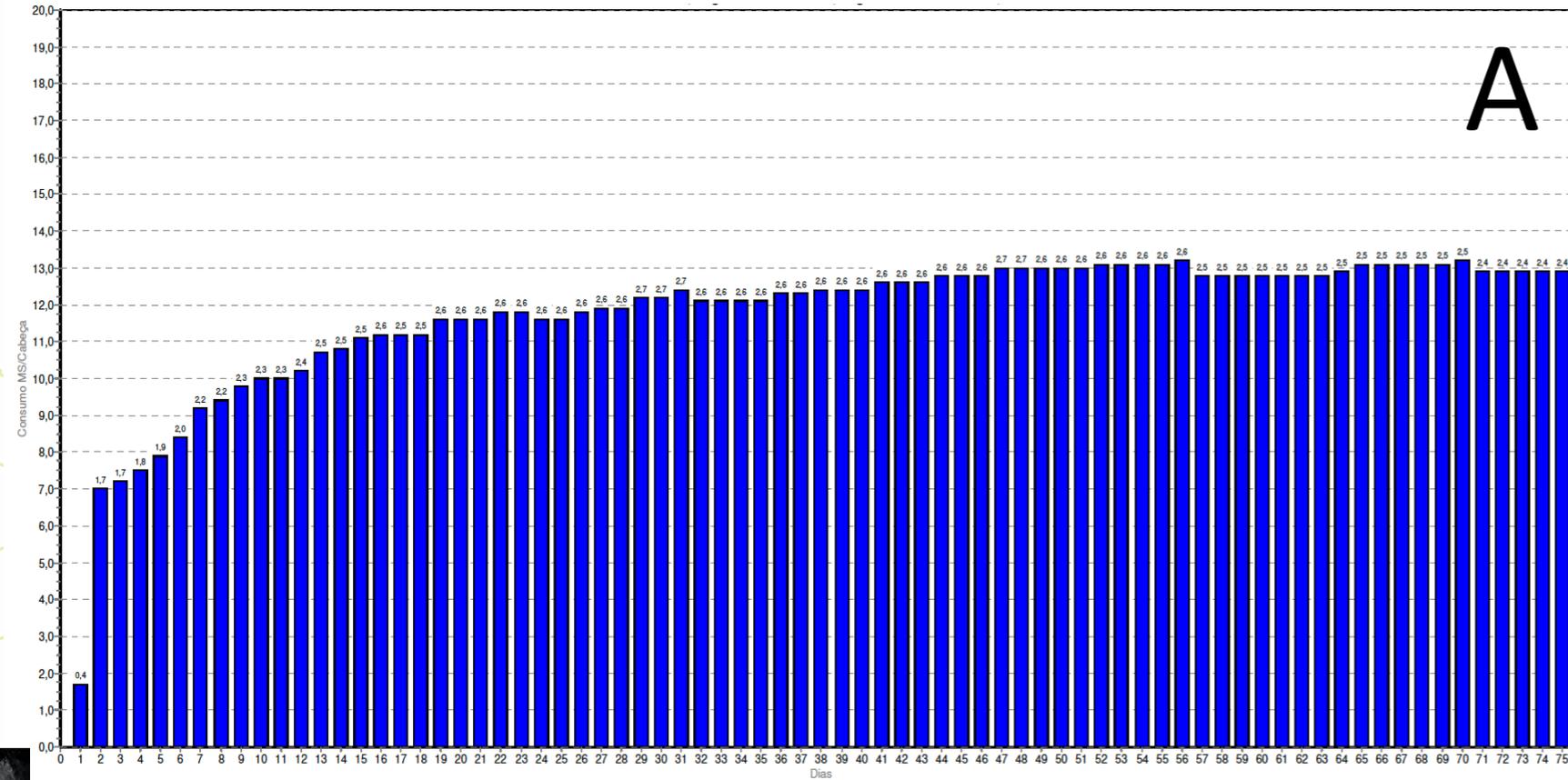
**NUTRIÇÃO DE PRECISÃO**  
NA PECUÁRIA DE CORTE



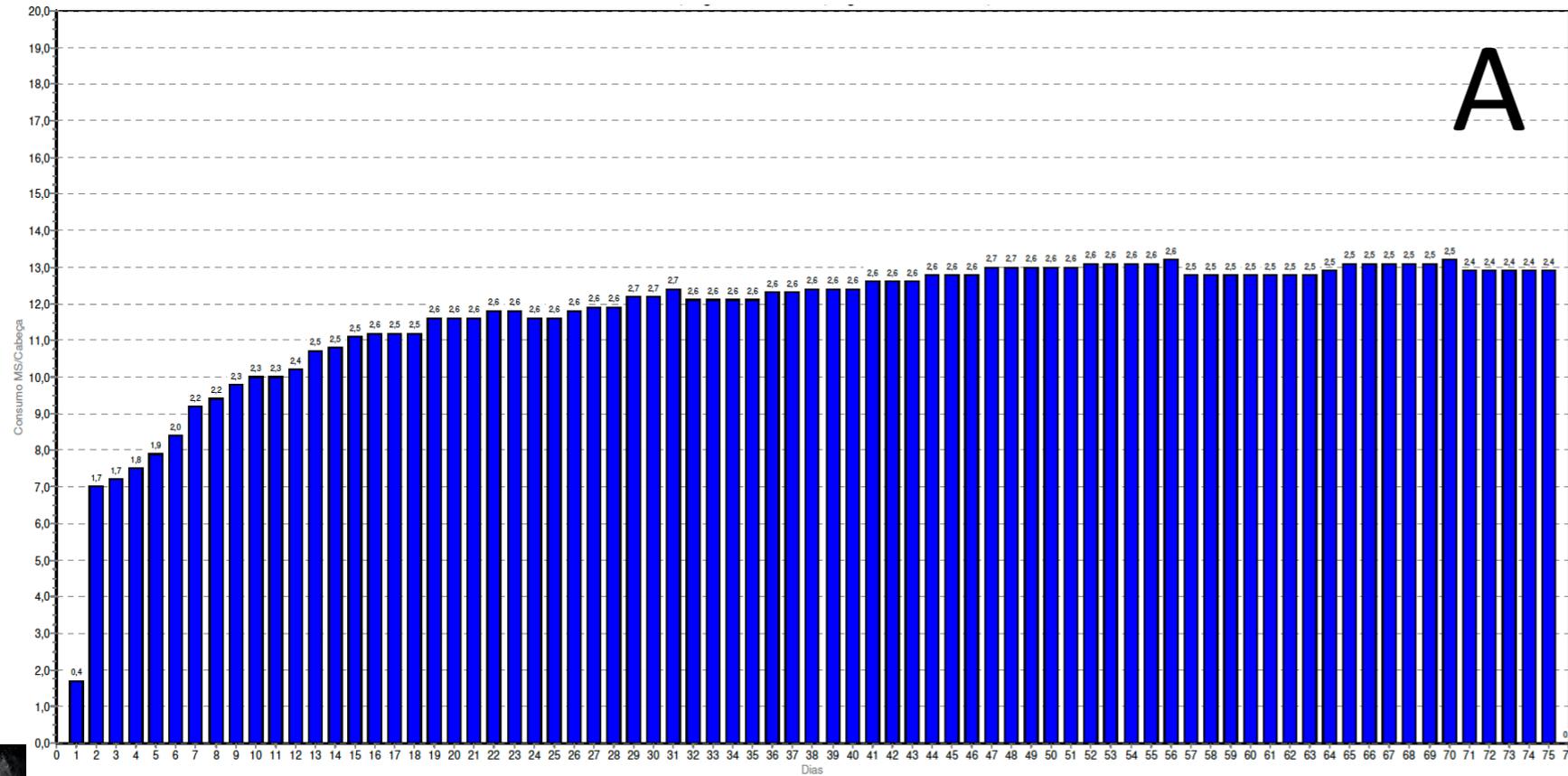
# Curvas de consumo de matéria seca



# Curvas de consumo de matéria seca



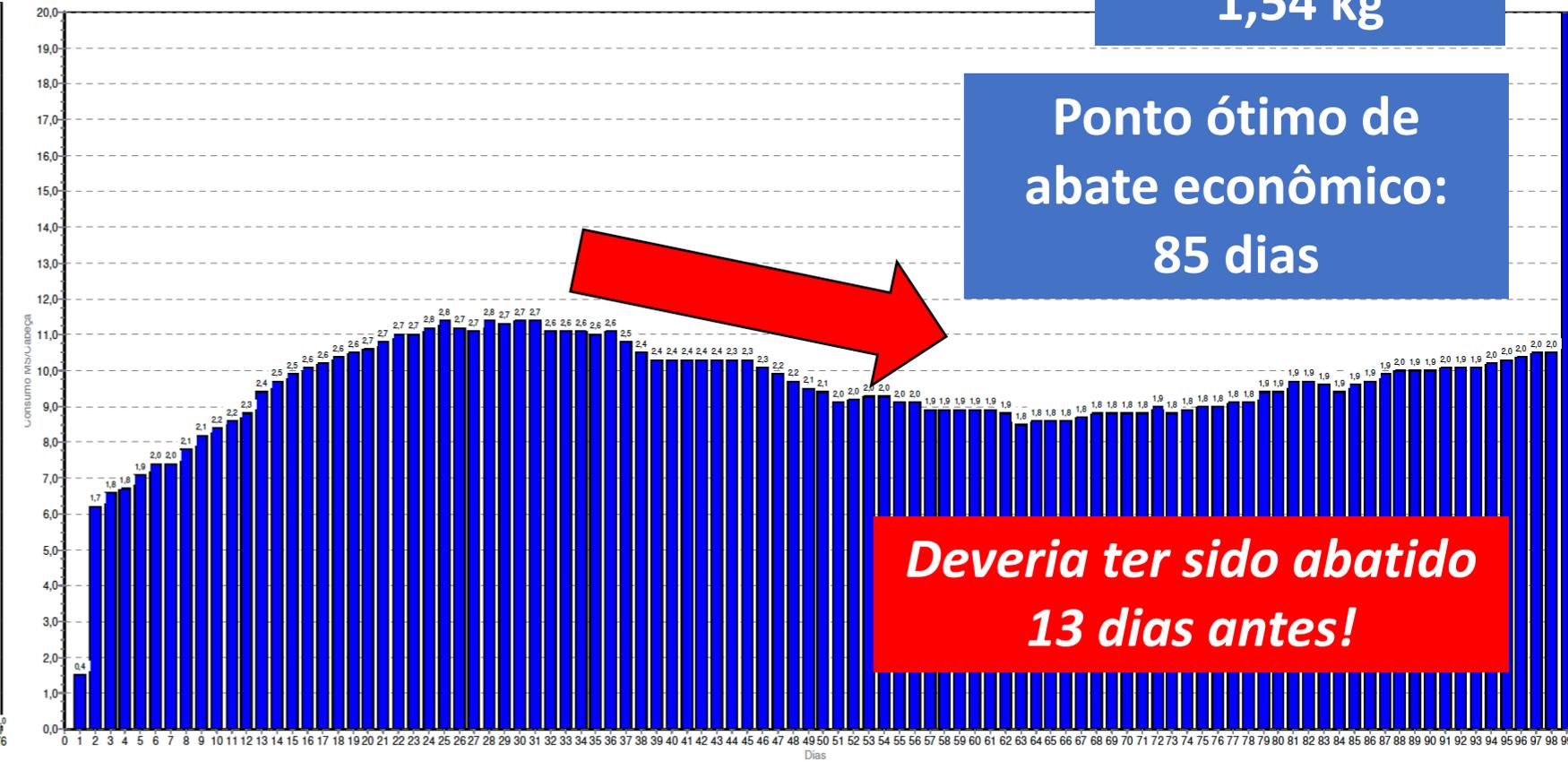
# Curvas de consumo de matéria seca



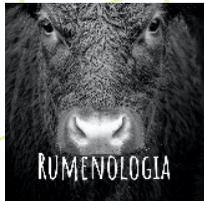
A

GPD:  
1,54 kg

Ponto ótimo de  
abate econômico:  
85 dias



*Deveria ter sido abatido  
13 dias antes!*



NUTRIÇÃO DE PRECISÃO  
NA PECUÁRIA DE CORTE



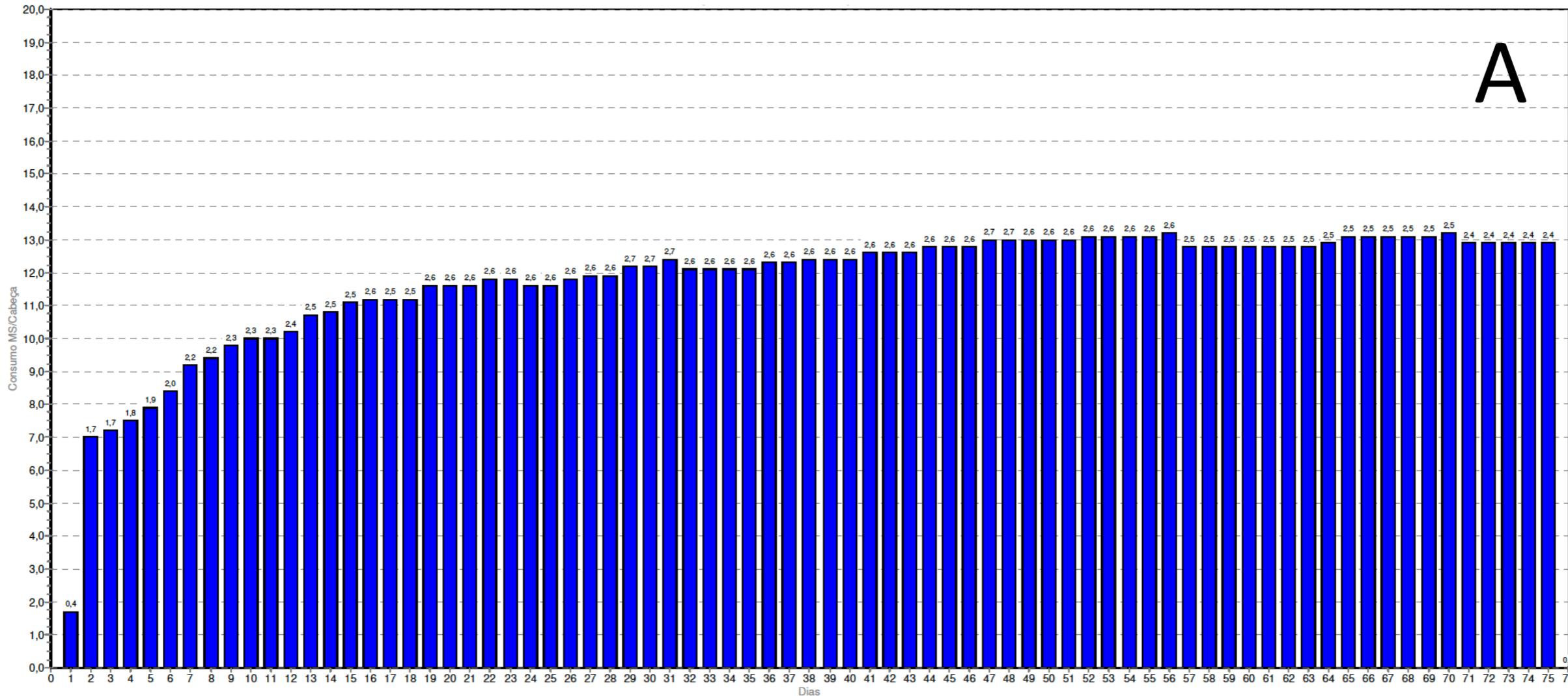
# Curvas de consumo de matéria seca

Peso vivo inicial:  
411,3 kg

Boi Magro:  
R\$2.800,00

Diária:  
R\$13,50

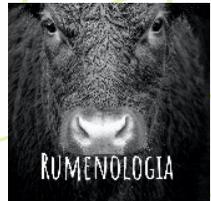
@ Projetada:  
R\$230,00



GPD:  
1,67 kg

Ponto ótimo de  
abate econômico:  
85 dias

*Poderia ter avançado  
mais 10 dias!*



NUTRIÇÃO DE PRECISÃO  
NA PECUÁRIA DE CORTE



# Habilidade do nutricionista

**NASEM (2016)**

BCNRM simulation file \\Mac\Home\Documents\National Academies\BCNRM2016\NP T04\AULA05\_Pratica Inicial\_19AGO23 Nivel 02.bcNRF  
 Creator |:| Version |:| Date danilomillen |:| ORIGINAL Beef Cattle Nutrient Requirements Model 2016 Version 1.0.37.16 |:| 2023/Aug/16 16:20:02

The National Academies of  
 SCIENCES • ENGINEERING • MEDICINE

Diet (ID) Feeds	Amount		Dry matter	
	<input type="checkbox"/> kg/d	<input type="checkbox"/> %	kg/d	% DM

ME & MP summary	Metabolizable Energy (ME)			Metabolizable Protein (MP)		
	Available Mcal/d	Required Mcal/d	Balance Mcal/d	Available g/d	Required g/d	Balance g/d
Diet	30.21	30.21	0.00	980.7	792.0	188.8
Maintenance	30.21	10.43	19.78	980.7	356.0	624.7
Pregnancy	19.78	0.00	19.78	624.7	0.0	624.7
Lactation	19.78	0.00	19.78	624.7	0.0	624.7
Growth	19.78	19.78	0.00	624.7	435.9	188.8
Reserves	0.00	0.00	0.00	188.8	0.0	188.8

Items	Supplied	Required	Balance	
Ca	g/d	47.93	43.56	4.37
P	g/d	33.92	22.31	11.60
Mg	g/d	16.27	10.00	6.27
Cl	g/d	20.74	0.00	20.74
K	g/d	79.20	60.00	19.20
Na	g/d	9.97	7.00	2.97
S	g/d	20.05	15.00	5.05
Co	mg/d	5.80	1.50	4.30
Cu	mg/d	126.03	100.00	26.03
I	mg/d	6.00	5.00	1.00
Fe	mg/d	956.46	500.00	456.46
Mn	mg/d	316.90	200.00	116.90
Se	mg/d	1.23	1.00	0.23
Zn	mg/d	502.00	300.00	202.00
Vit A	1000 IU/d	45.00	39.00	6.00
Vit D	1000 IU/d	3.75	2.75	1.00
Vit E	IU/d	450.00	350.00	100.00
ARG	g/d	64.41	26.13	38.28
HIS	g/d	25.91	19.80	6.11
ILE	g/d	53.51	22.17	31.33
LEU	g/d	77.26	53.06	24.20

**1. Manejar plataformas precisas de avaliação de dietas**

**2. Fazer com que a dieta da tela do computador seja a que chega no rúmen!**

ME allowable gain	1.80 kg/d
MP allowable gain	2.58 kg/d

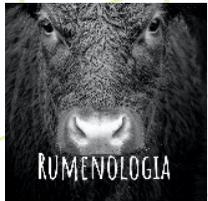
DMI predicted	8.50 kg/d
DMI actual	10.00 kg/d
NDF intake actual	0.36 % SBW
Water intake	62.02 L/d

Diet Summary	
Cost per day	23.83 \$/d
Dry matter	76.98 %AF
Forage	15.00 %DM

	g/d	%CP	%DM
RDP	1091.93	77.41	10.92
RUP	318.61	22.59	3.19
RDP:RUP	3.43	0.00	0.00

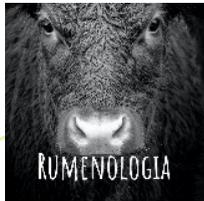
TDN and RDP allowable MCP	
TDN allowable MCP	1.33 kg/d
RDP required	1.33 kg/d
RDP available	1.39 kg/d
RDP balance	0.06 kg/d
RDP allowable MCP	1.33 kg/d

Source of Metabolizable Protein



# Ponto ótimo de abate vs. Dias de lucro

*Quais fatores influenciam a tomada de decisão:*



# Ponto ótimo de abate vs. Dias de lucro



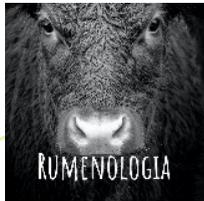
*Quais fatores influenciam a tomada de decisão:*

**1. Commodity ou Premium?**

**2. R\$: Diária, @ Projetada e Boi magro**

**3. Manejo alimentar**

**4. Habilidade do nutricionista**



# Ponto ótimo de abate vs. Dias de lucro



*Quais fatores influenciam a tomada de decisão:*

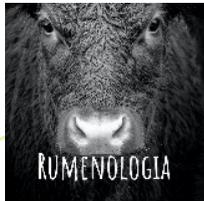
**1. Commodity ou Premium?**

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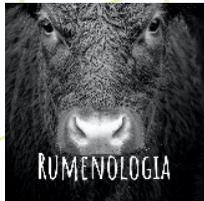
**3. Manejo alimentar**

**4. Habilidade do nutricionista**

**5. Raça, Peso maduro, Categoria**

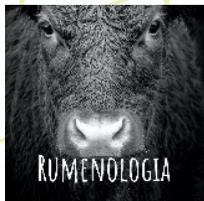


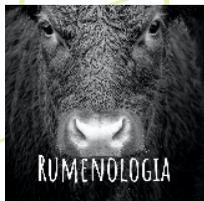
# Ponto ótimo de abate vs. Dias de lucro



**"SEM DADOS, VOCÊ É  
UMA PESSOA QUALQUER  
COM UMA OPINIÃO."**

W. Edwards Deming





# Obrigado

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NUTRIÇÃO DE PRECISÃO  
NA PECUÁRIA DE CORTE

