



Universidade Federal de Pelotas
Faculdade de Veterinária
Núcleo de Pesquisa, Ensino e Extensão



Down-regulation da expressão hepática de ApoB₁₀₀ no período de transição de vacas leiteiras durante estações quentes



Apresentadores: Aline M., Amir S.
Orientador: Eduardo Schmitt

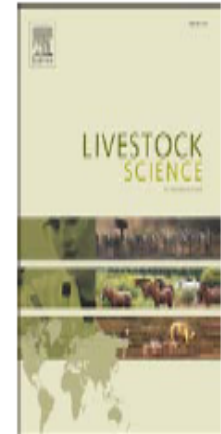


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Down-regulation of hepatic ApoB₁₀₀ expression during hot season in transition dairy cows

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Fator de
impacto:
1,410



Introdução

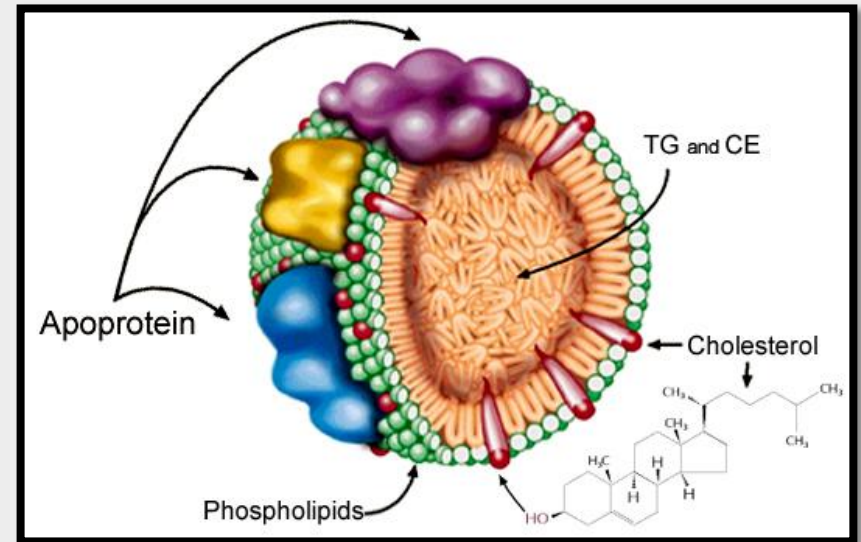
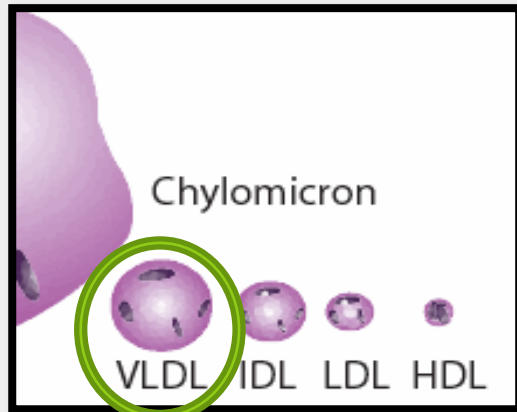
Lipoproteínas



O que são?

Qual sua função?

Como se classificam?



Apolipoproteínas



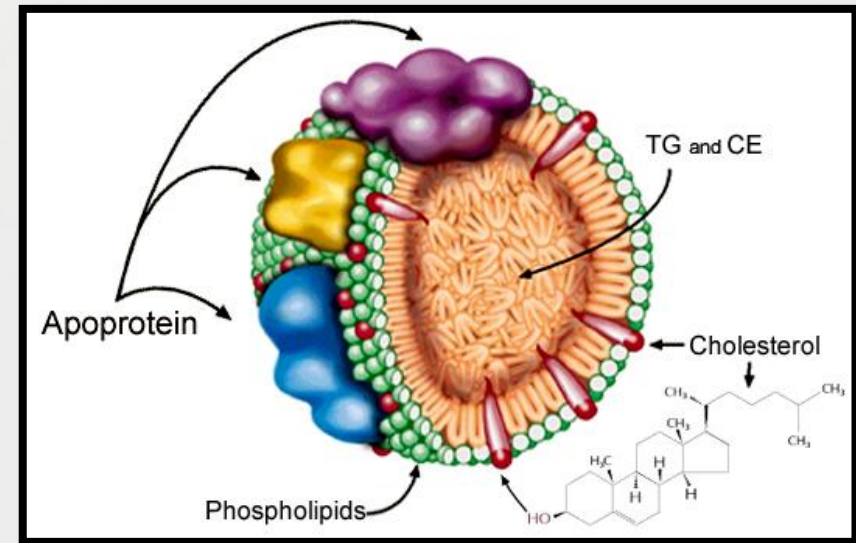
Sinalizadores de membrana

ApoB₄₈

ApoE

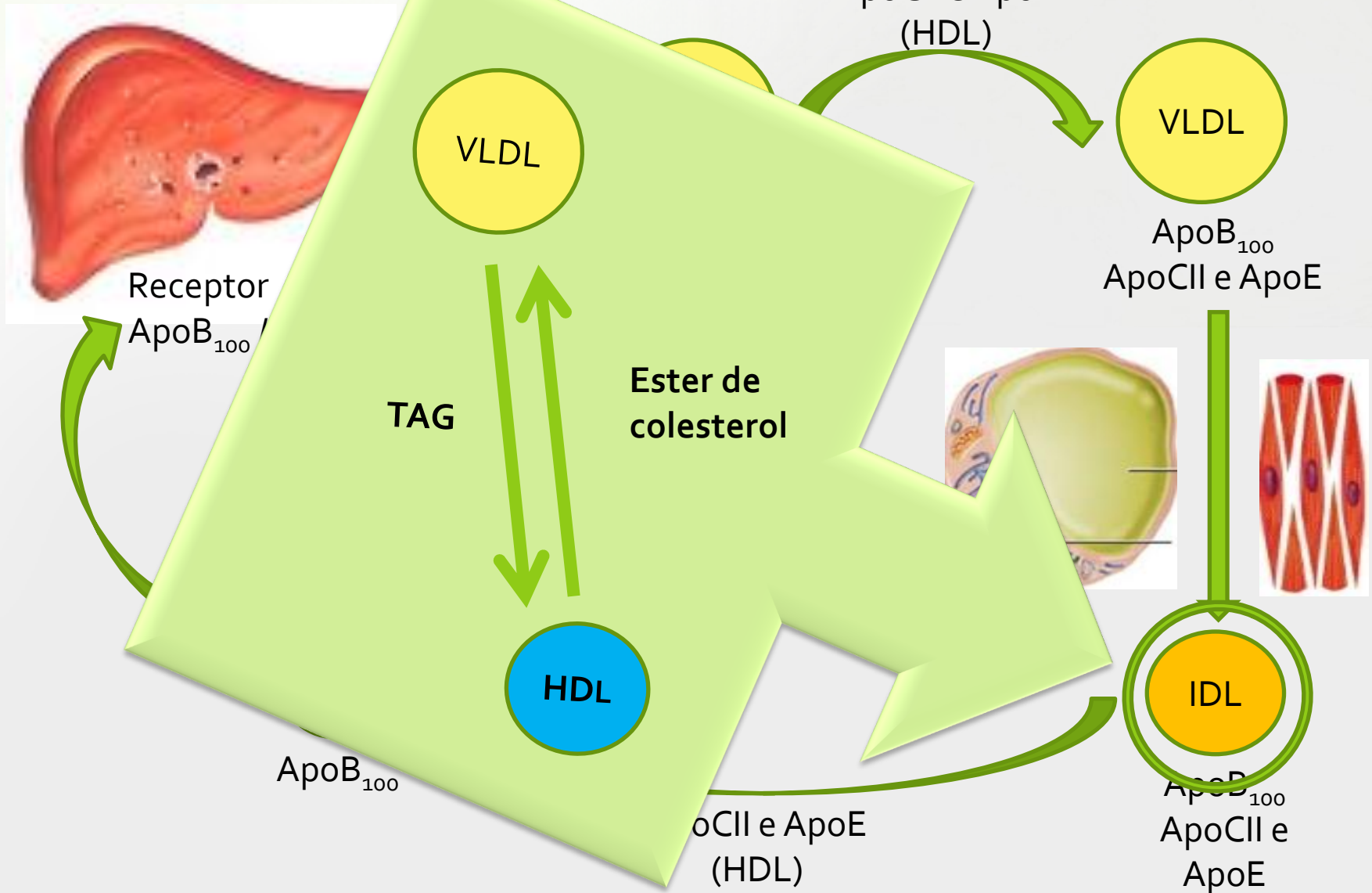
ApoB₁₀₀

ApoCII





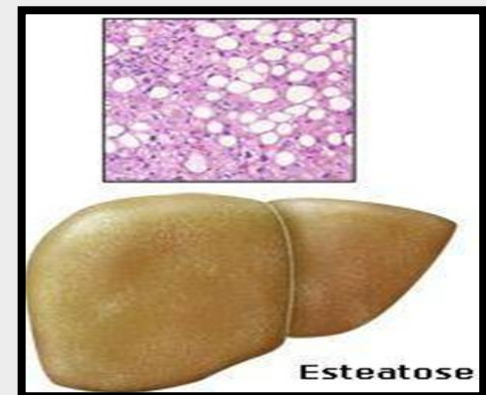
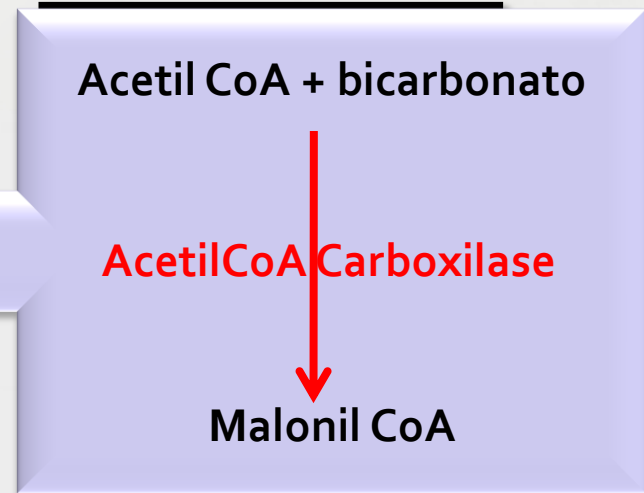
VLDL



Lipidose hepática



- AGs da dieta
- Carboidratos da dieta
- Mobilização de TAG
- Intoxicação hepática
- Síntese de apolipoproteínas



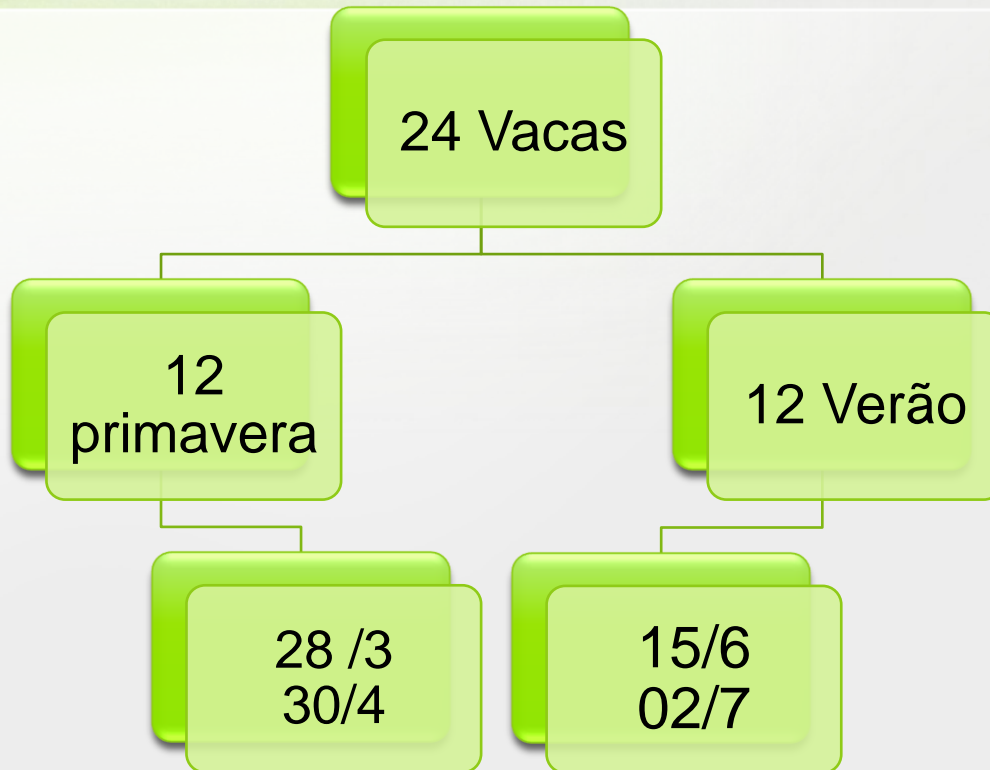
Objetivo



"Avaliar a influencia do estresse térmico sobre a expressão gênica e secreção da ApoB₁₀₀ durante o parto em vacas leiteiras da raça Holandesa. "



Materiais e Métodos



Duas ordenhas ao dia

Alimentação



Freestall

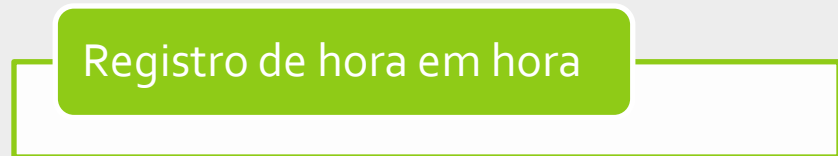
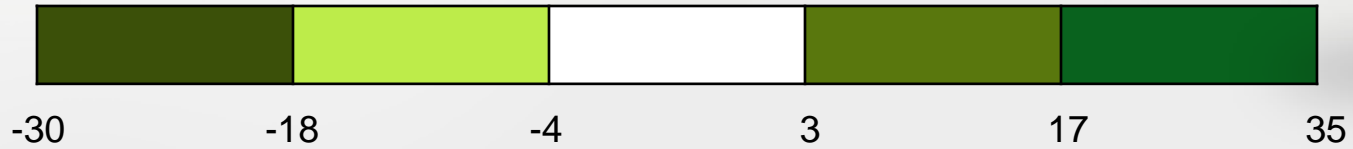


Composição da dieta	lactação
Energia líquida (Mcal/kg)	1,57
Proteína bruta (%)	15,90
FDN (%)	38,80



Ecc

Coleta sangue



Análises Bioquímicas



Uréia

NEFA

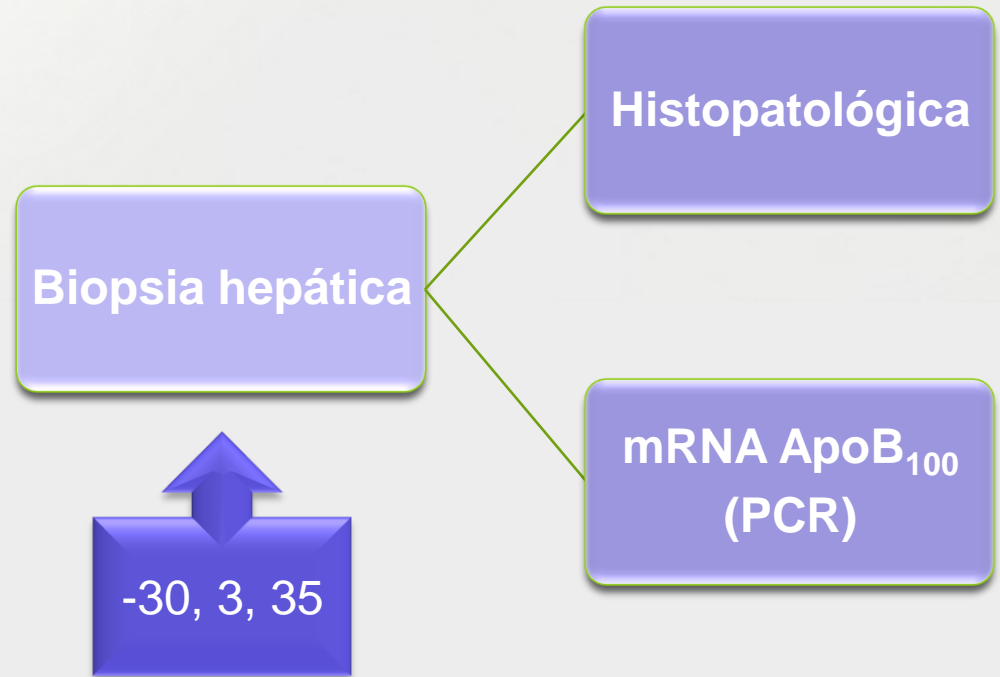
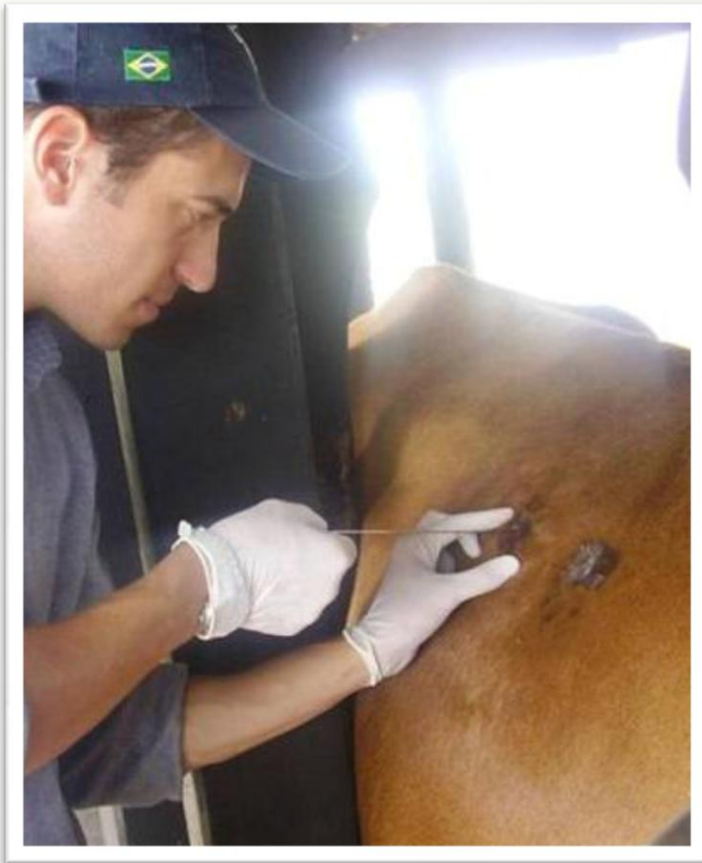
Colesterol

BHBA

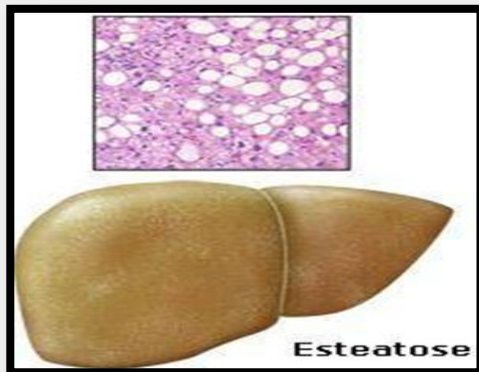
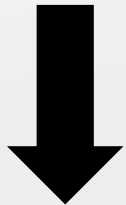
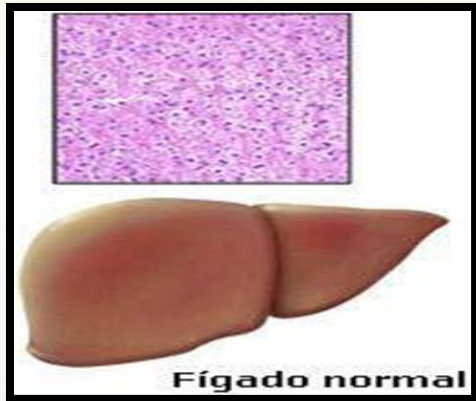
ApoB₁₀₀

Glicose





Classificação do grau de lipidose



1

- Ausência de gotícula de gordura

2

- Presença de uma única célula de gordura

3

- Lipidose centrolubular

4

- Lipidose microvesicular

5

- Lipidose macrovesicular

6

- Lipidose difusa



Resultados e discussão

Índice de temperatura e umidade

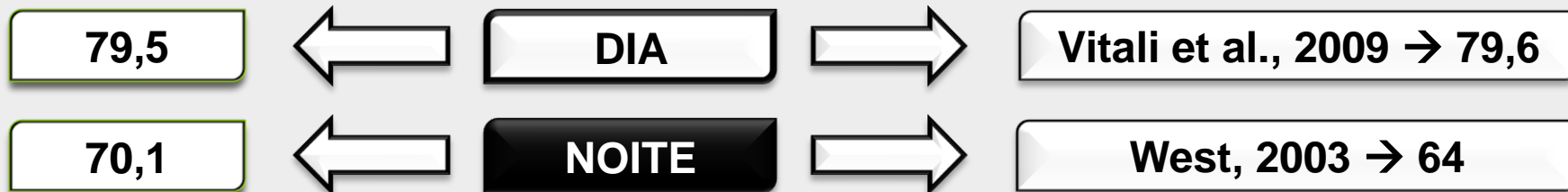


THI (77,5) → 29°C; 61,4%

THI (64) → 18,6°; 78%

Day / Month

Fig. 1. Changes of mean night-time THI (from 21.00 to 8.00 h) and mean daily-time THI (from 9.00 to 20.00 h) during summer season.



Grau de lipidose

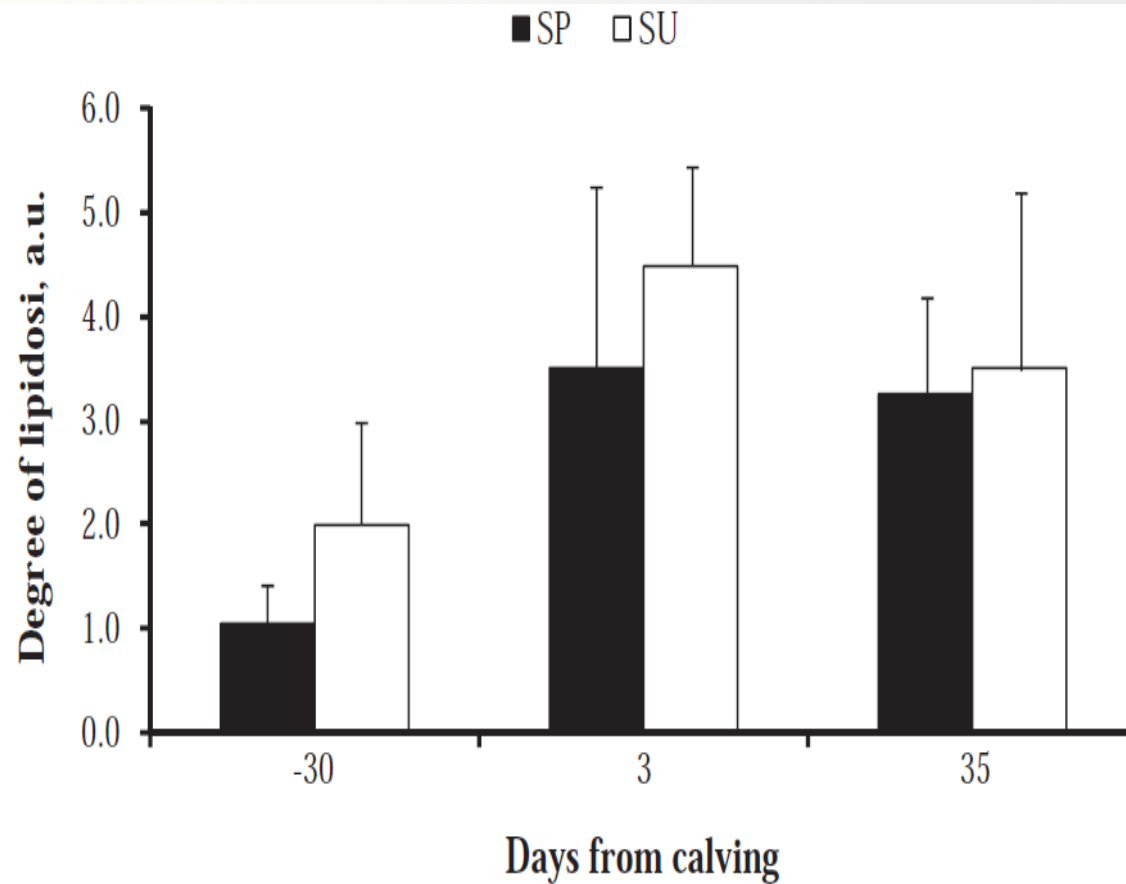


Fig. 2. Degree of lipidosi (means \pm SD) in transition dairy cows during spring (SP) or summer (SU) season. Fat accumulation was determined on the basis of the semi-quantitative grading scheme classification as reported in [Materials and methods](#).

Expressão e síntese de ApoB₁₀₀

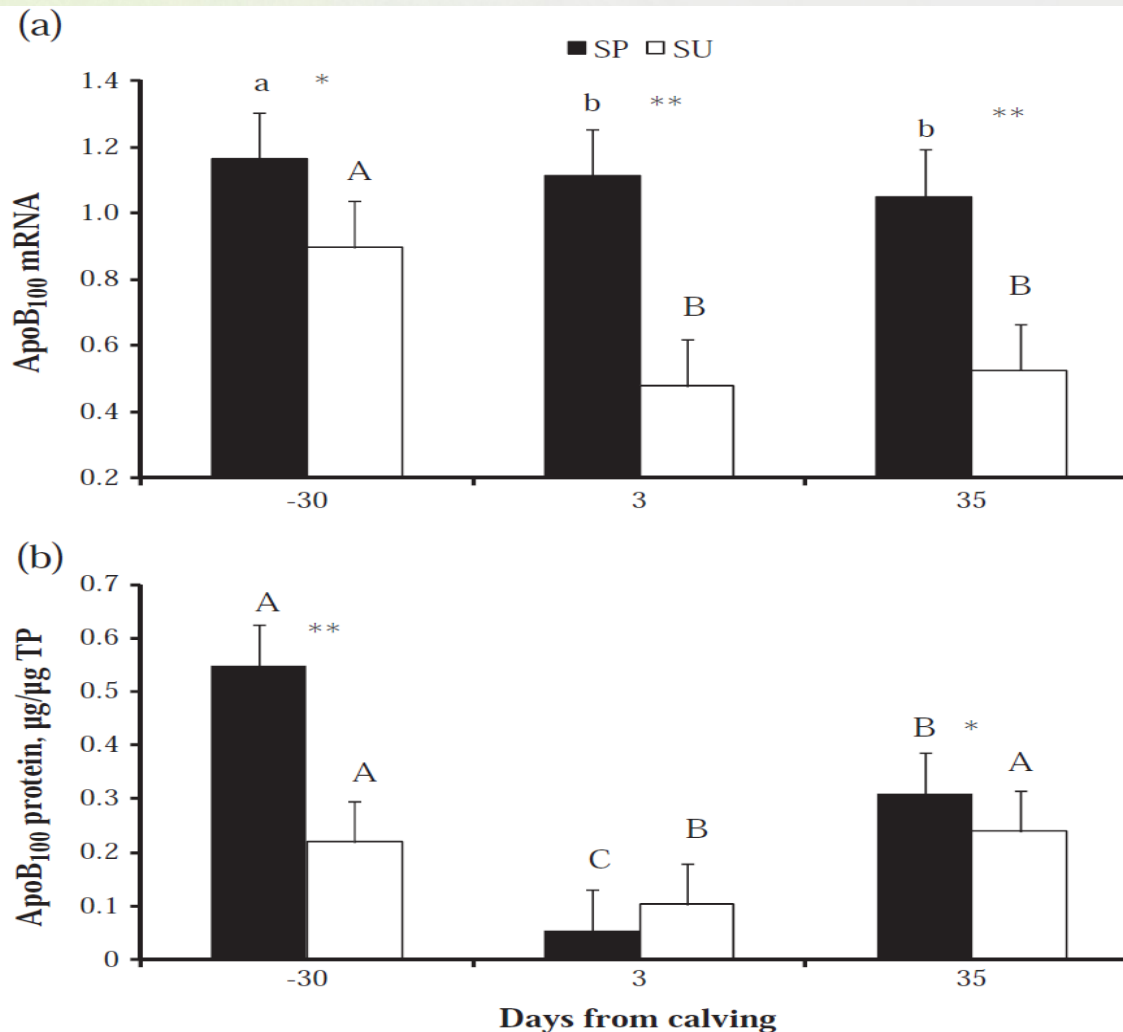


Fig. 3. Apolipoprotein B₁₀₀ (ApoB₁₀₀) mRNA (a) and protein cellular concentration (b) in liver of the transition dairy cows during spring (SP) or summer (SU) season. ApoB₁₀₀ mRNA was determined by real time PCR (rt-PCR) as described under [Materials and methods](#). Values are normalized to bovine RPS9 expression. Concentrations of cellular ApoB₁₀₀ were determined using a plate SRID test and adjusted for total protein (TP) concentrations in the cell lysate. Results are least-squares means and pooled standard error. The determination of ApoB₁₀₀ mRNA and ApoB₁₀₀ cellular protein was done in triplicate. A, B and C: different labels indicate differences significant at $P < 0.01$, a and b: different labels indicate differences significant at $P < 0.05$ between days of sampling within season. ** and * indicate differences significant at $P < 0.01$ and $P < 0.05$, respectively, between seasons within day of sampling.

ApoB₁₀₀ plasmática

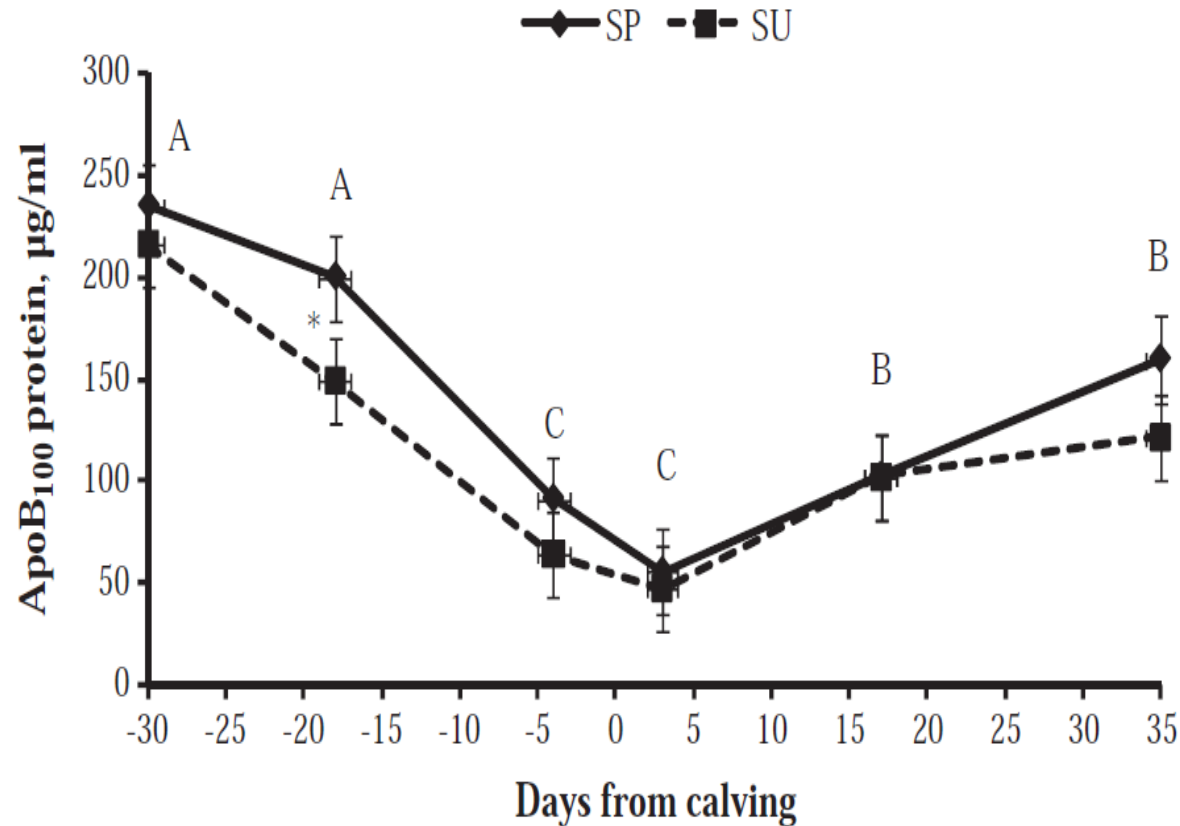
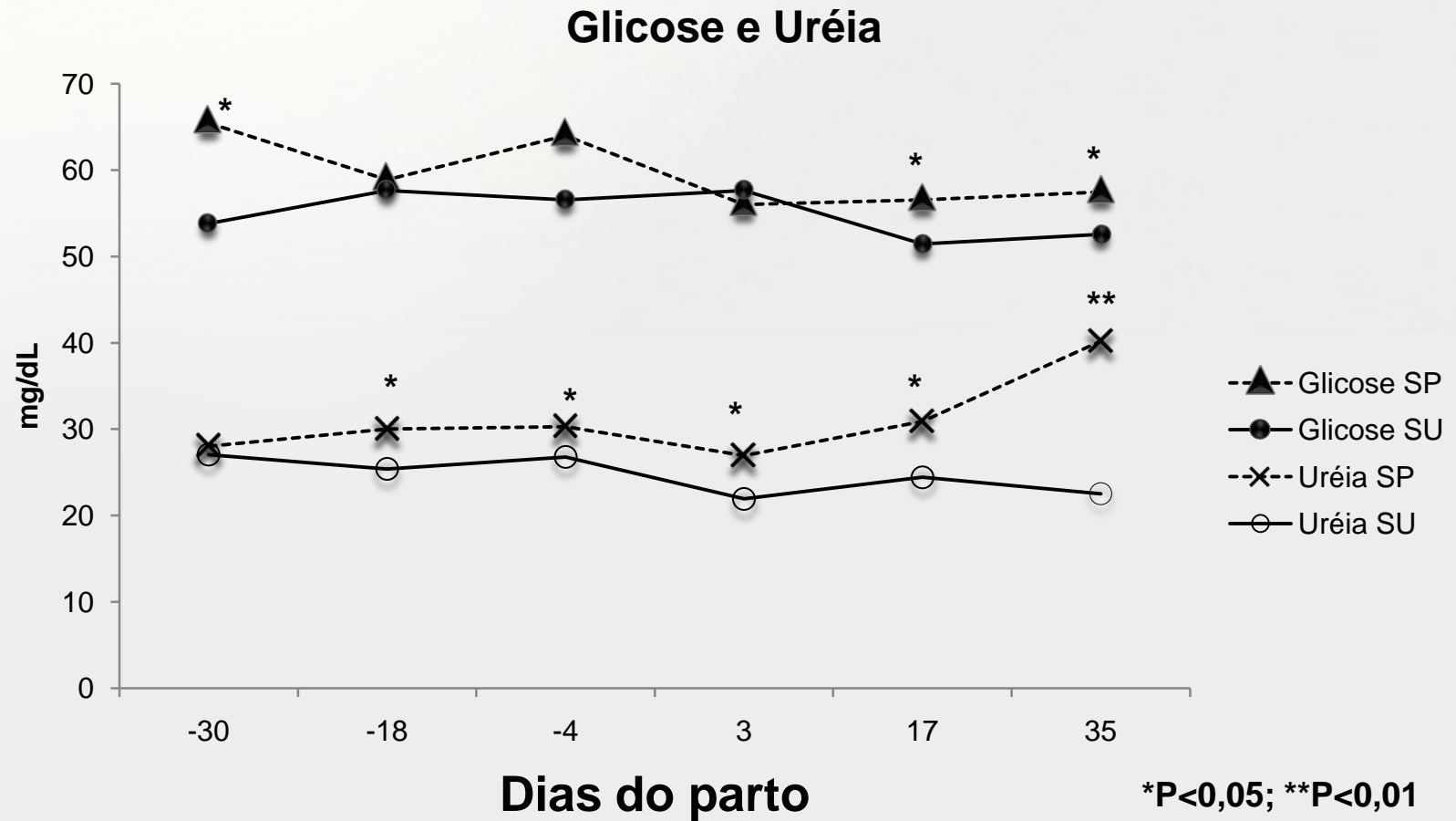


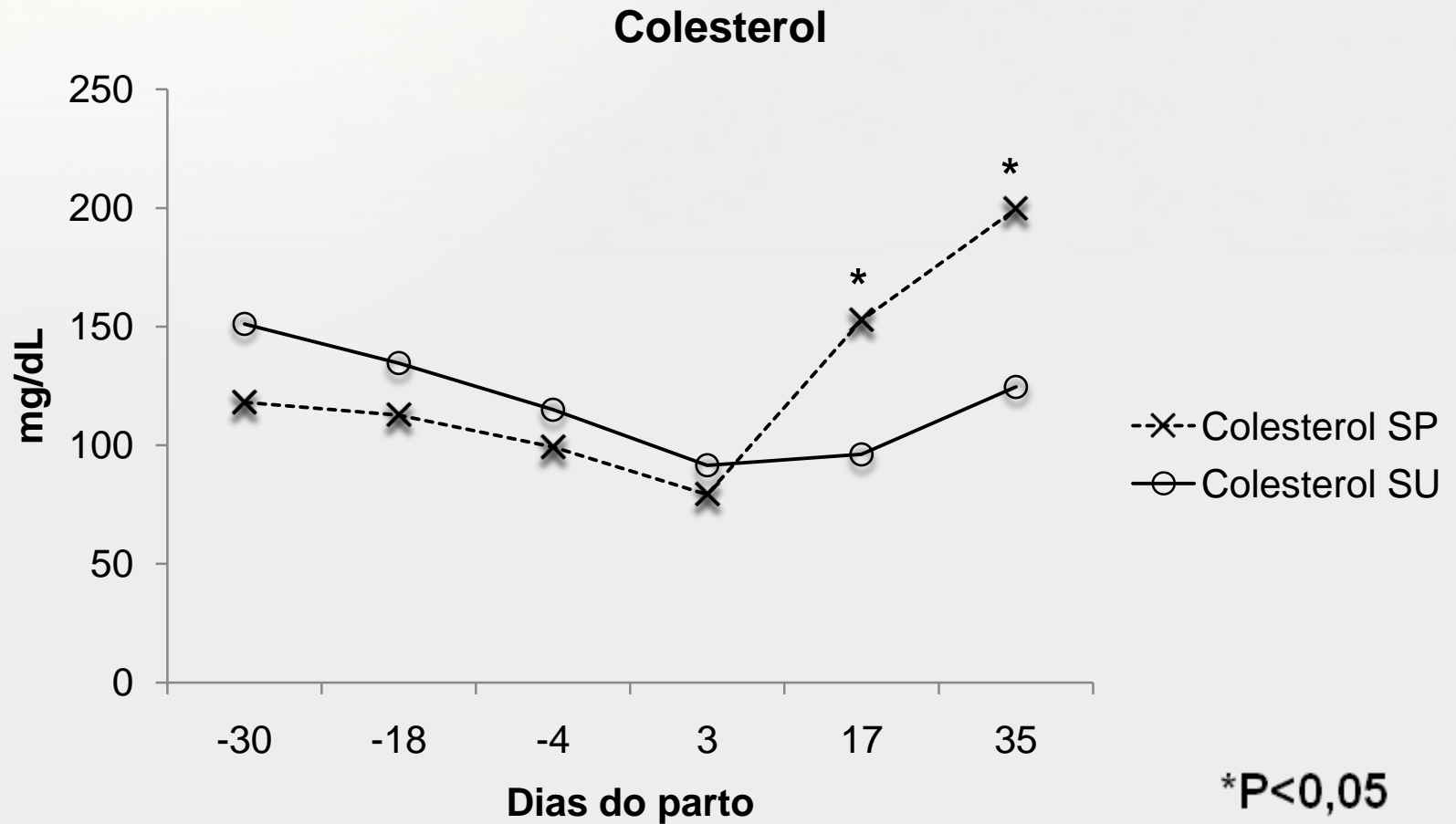
Fig. 4. Plasma apolipoprotein B₁₀₀ (ApoB₁₀₀) concentration in transition dairy cows during spring (SP) or summer (SU) season. Concentrations of plasma ApoB₁₀₀ were determined by using a plate SRID test. Results are least square means and pooled standard error. The determination of plasma ApoB₁₀₀ protein was done in triplicate. A, B and C: different labels indicate differences significant at $P < 0.01$ between days of sampling for each group. * indicates differences significant at $P < 0.05$ between seasons within day of sampling.

Níveis plasmáticos

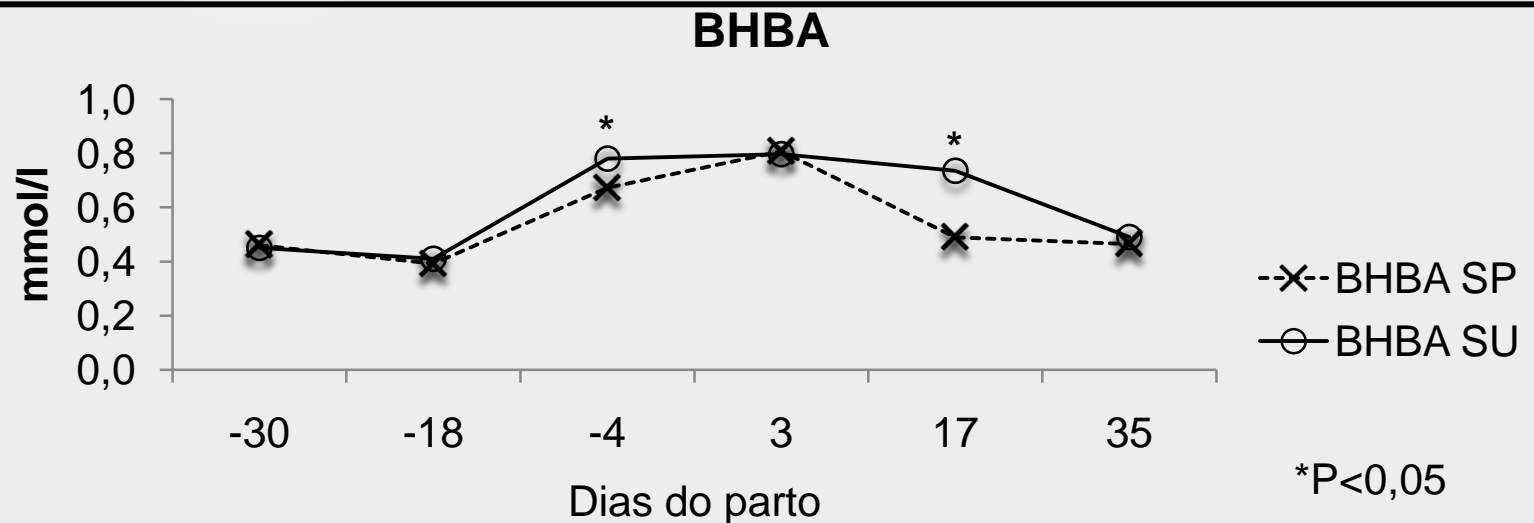
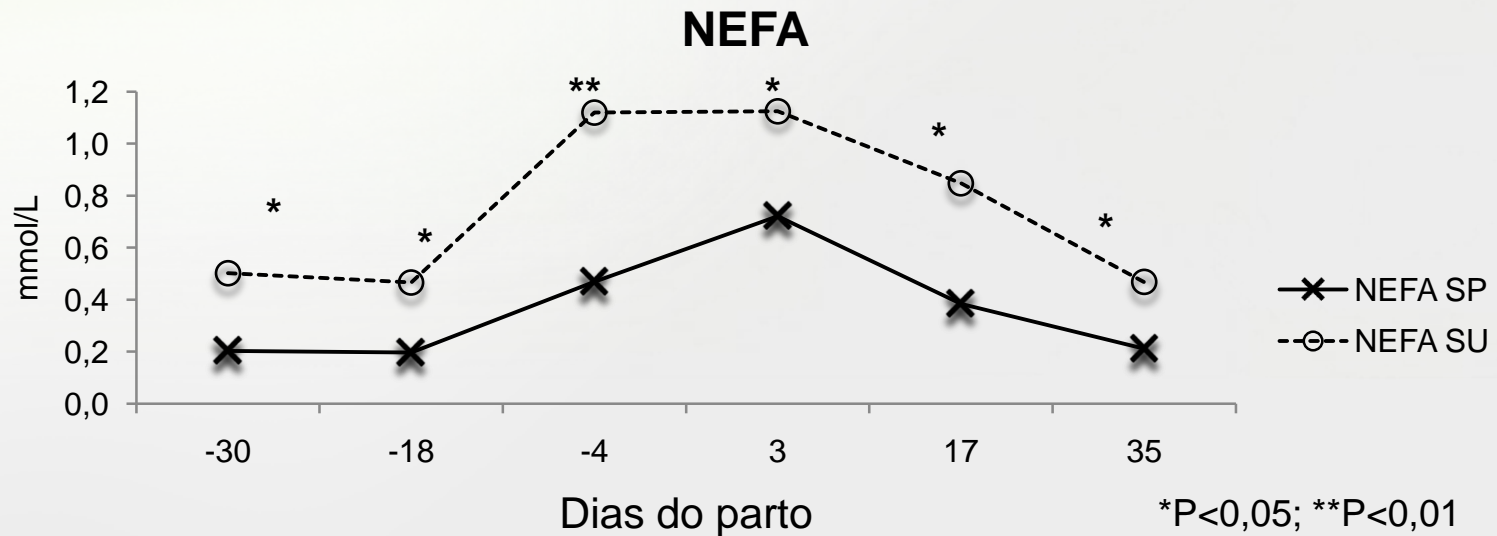




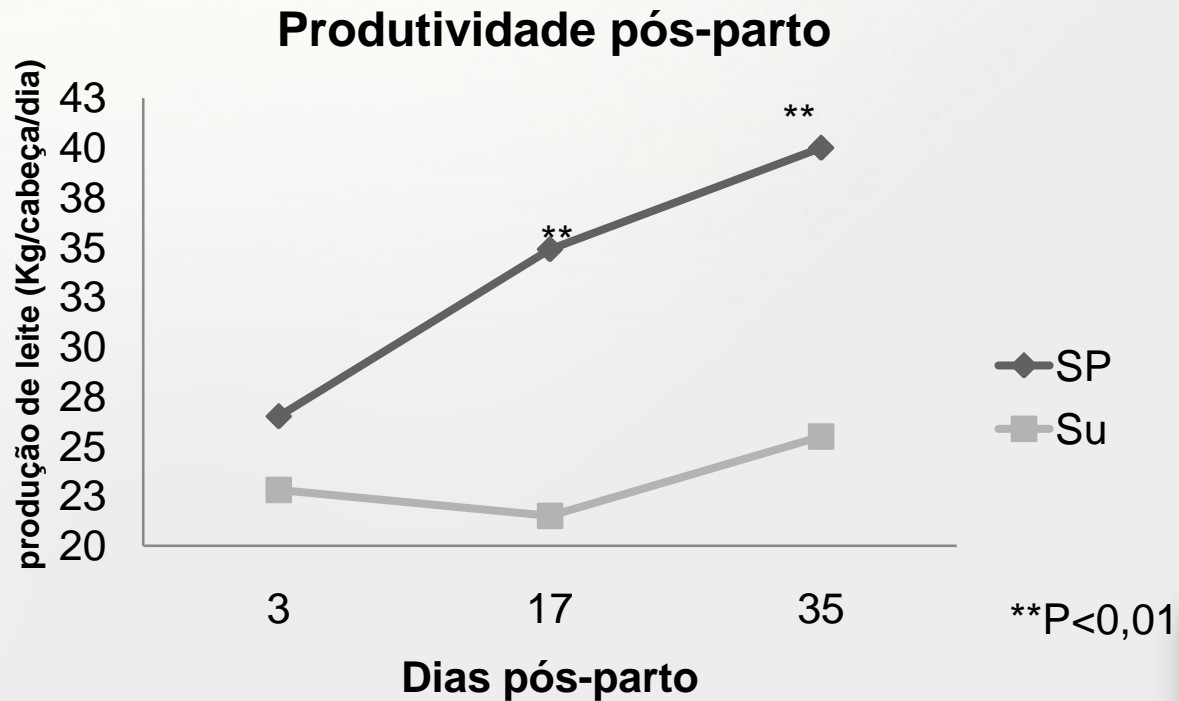
Níveis plasmáticos



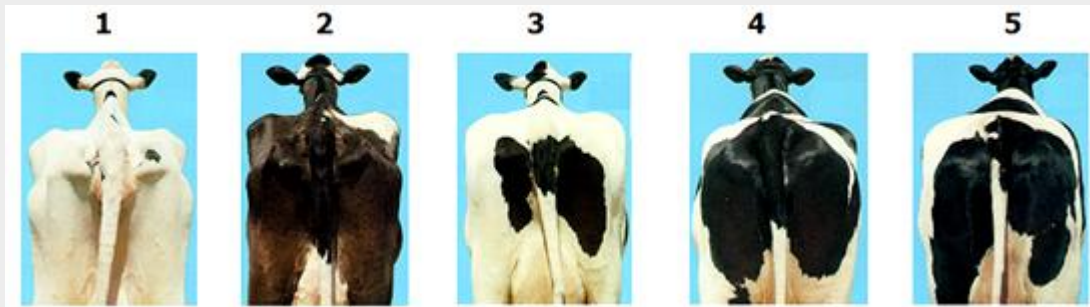
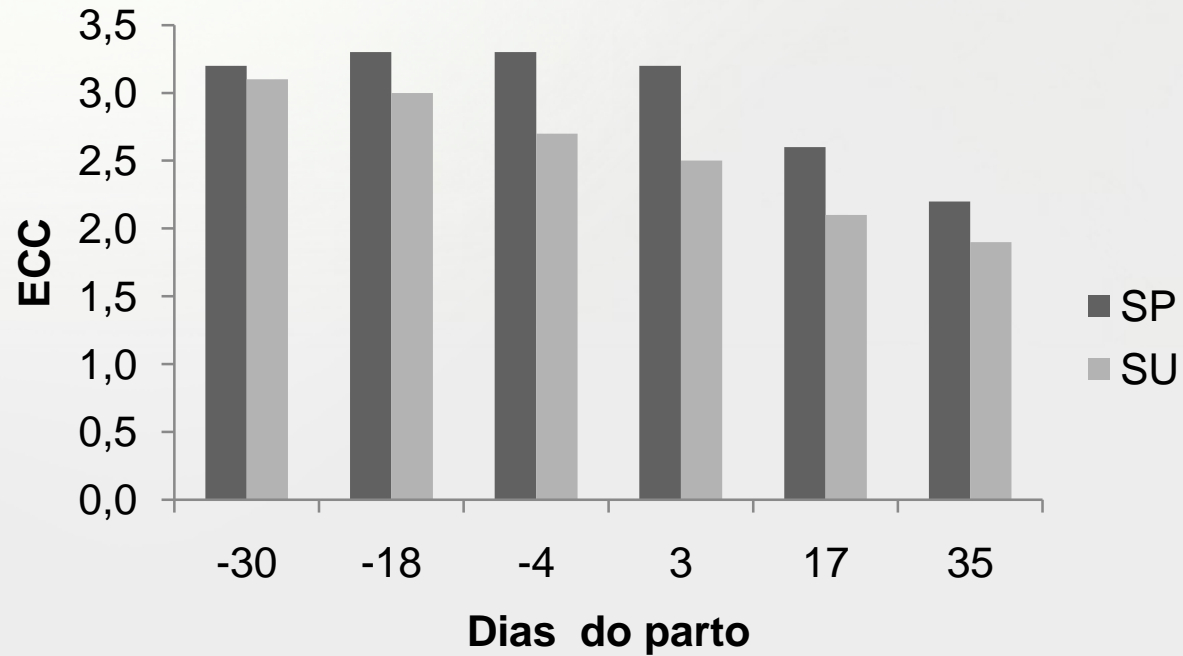
Níveis plasmáticos



Produção de leite



ECC relacionado aos dias do parto





Conclusão

“O estudo atual fornece as primeiras evidências sobre os efeitos negativos da estação quente no gene ApoB100 e expressão da proteína em vacas leiteiras de transição. As alterações dos metabólicos em vacas com periparto no verão pode ser responsável por aumentar a suscetibilidade a doenças metabólicas. .”





**Obrigado
pela
atenção.**