EFFECT OF TIME ROAD TRANSPORT ON SOME BLOOD INDICATORS OF WELFARE IN SUCKLING KIDS

Abstract 10703

Session S38

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1. INTRODUCTION

The 13.5 millions of goat heads in EU-27 in 2008 were unequal distributes. Greece had 37.1% of total goat, Spain with 22.1% ranks second in number of heads, ahead of France, Italy and Romania. These five countries account for over 80% of goats in the EU. In Spain, goat effectives are concentrated in Canary Islands and South of Spain mainly Andalucía (it is the region that, by far, has the highest number of effectives). But there are great differences between regions with high consumption in central and north-eastern Spain. So transport is a very important factor on welfare in suckling kids. Loading, pre-slaughter, feed deprivation, and unloading are potent stressors that can alter the animal's physiology, accordingly welfare indexes, such as hormonal, haematological or biochemical parameters. The **objective** of this work was to find differences between blood indicators depending on the time of transport in suckling kids.

Keywords: transport time, welfare, goat kid, blood parameters

2. METHODS

- 30 Negra Serrana suckling kids
- Blood parameters
- Three sampling times: at farm (basal levels for all animals),
  - at slaughterhouse after short transport (2 hours in 15 animals)
  - at slaughterhouse after long transport (6 hours in 15 animals)
- The animals were slaughter without lairage immediately after unloading
- By ANOVA and Tukey test with SPSS

3. RESULTS

Table 1. Blood Parameters of kids from Negra Serrana goat breed

	Basal	Short Transport	Long Transport	ANOVA Significance
Glucose (ml/dl)	87.50 ± 4.26 a	110.93 ± 11.50 b	75.86 ± 2.40 ab	*
Red Blood Cells (RBC, $10^6/mm^3$)	13.70 ± 0.38 a	17.08 ± 0.44 b	17.26 ± 0.67 b	***
Mean Corpuscular Volume (MCV, fl)	26.79 ± 0.55 b	21.42 ± 0.72 a	20.18 ± 0.98 a	***
Mean Cell Hemoglobin (HbCM, pg)	8.41 ± 0.26 b	6.33 ± 0.22 a	6.04 ± 0.39 a	***
Leucocytes ($10^3/mm^3$)	16.05 ± 0.74 b	10.15 ± 0.49 a	11.91 ± 4.25 a	***
Creatine Kinase (CK, UI/L)	258.46 ± 29.24 a	839.4 ± 69.89 b	728.71 ± 72.43 b	***
Non esterifies fatty acids (NEFA, mmol/L)	0.36 ± 0.03 a	0.51 ± 0.06 a	1.04 ± 0.19 b	**
Cortisol (ng/ml)	23.98 ± 3.56 a	28.17 ± 3.74 a	48.77 ± 6.34 b	**

a-b: values in rows with different letters are significantly different ($p \leq 0.05$). * = $p < 0.05$, ** = $p < 0,01$, *** = $p < 0.001$

Glucose increased with short transport but decreased with long transport till basal levels because they became adapted to transport. RBC increases with the two length of time for transport. MCV, HbCM and Leucocytes decreased with respect to basal levels but none differences were found with the time of transport. CK increased with transport with respect basal levels. And with NEFA and Cortisol parameters, the differences appeared for long transport (higher levels) respect to short transport and basal levels.

4. CONCLUSIONS

Some parameters could differentiate basal levels from transport while other ones that differentiated basal levels and short transport from long transport. So blood parameters were good welfare physiological indicators for transport of suckling kids.

62nd Annual Meeting EAAP 2011
August 29th - September 2nd
Stavanger NORWAY