

Effects of transportation on the physiopathological response of light lambs raised under pasture or concentrate feeding systems

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AIM

To analyse the effects of transportation on the immune and haematological parameters of light lambs raised under different feeding systems.



- Any **leukocyte** except eosinophils were affected by the **feeding system** (tendency for greater eosinophils in GR than in CO).

- Transportation** increased neutrophils and monocytes, but decreased lymphocytes.

- Erythrocytes** were not altered by the feeding system nor transport.

- Platelets** tended to be lower in GR than in CO.

CONCLUSIONS

✓ There were slight stress-related effects of 2-h lamb transportation on the immune function, which were similar in both feeding systems, without important alterations in the haematological parameters.

MATERIAL AND METHODS

Animals and experimental design

- Churra Tensina male lambs (n=38) suckled their mothers and grazed until slaughter (GR) or weaned at 7 weeks of age and fattened on a concentrate-based diet (CO).
- They were transported to the abattoir when they reached **23 kg** of live-weight (86 vs. 74 days of age in GR and CO, respectively).

Measurements and analysis

- Blood samples just before and after 2-h transport → Leukocyte, erythrocyte and thrombocyte populations with a cell counter.

RESULTS

	Feeding system			Significance of effects	
	GR	CO	Standard error	Feeding system	Transport system
Leukocytes					
White blood cells (x10 ³ /μl)	10.5	9.0	0.9	NS	NS
Neutrophils (%)	23.8	24.8	1.7	NS	***
Lymphocytes (%)	64.6	65.2	1.7	NS	***
Monocytes (%)	10.8	9.4	0.6	NS	*
Eosinophils (%)	0.72	0.43	0.12	0.09	NS
Basophiles (%)	0.13	0.13	0.06	NS	NS
Erythrocytes					
Red blood cells (x10 ⁶ /μl)	11.0	10.7	0.4	NS	NS
Haemoglobin (g/dl)	9.6	10.0	0.2	NS	NS
Haematocrit (%)	28.7	28.4	0.8	NS	NS
Thrombocytes					
Platelets (x10 ³ /μl)	599	1010	146	0.06	NS

***=P<0.001, *=P<0.05, NS = Not significant (P>0.10).

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