

# PROCEEDINGS OF THE IV INTERNATIONAL CONFERENCE ON GOATS



MARCH 8 TO 13, 1987  
BRASILIA, BRAZIL



VOLUME II

SPONSORED BY  
EMPRESA BRASILEIRA DE PESQUISA AGROPECUÁRIA – EMBRAPA  
VINCULADA AO MINISTÉRIO DA AGRICULTURA

**International  
Goat  
Association**

PROCEEDINGS  
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IV INTERNATIONAL CONFERENCE ON GOATS  
Volume II

**Sponsored by:**

Empresa Brasileira de Pesquisa Agropecuária - EMBRAPA  
Vinculada ao Ministério da Agricultura

International Goat Association - IGA

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Odon P. Santana  
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**Published by:**

Departamento de Difusão de Tecnologia - DDT  
Brasília, Brazil, 1987

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# 193 RELATIONSHIP BETWEEN LACTATION AND THYROID FUNCTION IN SAANEN GOATS

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The aim of the present study was to evaluate the normal thyroid hormone concentrations and the effect of repeated lactations on the thyroid function in Saanen goats. Blood samples were taken once only from 45 pregnant goats about 30 days before delivery and from 242 goats during the second month of different lactations (90 goats in the first, 78 in the second, 33 in the third, 31 in the fourth and 10 in the fifth lactation). The study was carried out during the winter on a Saanen goat herd reared exclusively inside a goathouse. Serum total thyroxine (TT4) and total triiodothyronine (TT3) were assayed by specific radioimmunoassays using commercial kits (SPAK T4 and SPAK T3 - Byk-Mallinckrodt, Milan, Italy); the T3 binding capacity was evaluated by the T3 resin uptake method (Micromedic System INC, Horshampa 19044, USA); total serum protein (TP) concentrations were also determined by the biuret-EDTA method. In order to avoid interassay variation all samples were tested in a single run. The statistical analysis was performed by one way variance analysis. The results, expressed as mean±SD, indicate that:

1) TT4 and TT3 serum values at the time of lactation are higher than those observed in dry goats: respectively,  $TT4 = 5.3 \pm 1.8$  ug/dl and  $4.9 \pm 1.5$  ug/dl ( $P > 0.05$ );  $TT3 = 169 \pm 47$  ng/dl and  $142 \pm 39$  ng/dl); 2) TT4 and TT3 levels follow a linear regression ( $P < 0.05$ ) with respect to the number of lactations: respectively,  $TT4 =$  from  $5.7 \pm 2.0$  ug/dl (first lactation) to  $4.9 \pm 1.6$  ug/dl (fifth lactation),  $b = -0.25$ ;  $TT3 =$  from  $183 \pm 33$  ng/dl (first lactation) to  $150 \pm 55$  ng/dl (fifth lactation),  $b = -11.31$ ). 3) There are no variations in the T3 binding capacity with respect to the number

of lactations nor between goats in lactation and dry goats: respectively:  $37.2 \pm 5.5\%$  and  $38.9 \pm 7.1\%$ ; 4) TP concentrations follows a linear regression ( $P < 0.05$ ) with respect to the number of lactations: from  $7.9 \pm 1.1$  g/dl (first lactation) to  $8.4 \pm 0.9$  g/dl (fifth lactation),  $b=0.14$ . In conclusion, these data indicate that in healthy Saanen goats there is a progressive and significant reduction of TT4 and TT3 serum concentrations with the increase in the number of lactations and a contemporaneous increase in the TP serum. The explanation of these results remains to be clarified, although the age of the goats and the number of lactations should be taken into account and may play a significant role.

RELATIONSHIP BETWEEN SEASONAL GROWTH OF CASHMERE FIBER IN GOATS

Author: [Illegible]

Address: [Illegible]

Abstract: [Illegible]

Summary: [Illegible]

EMBRAPA - DPP. Documentos, 14

Issue: 2,000 copies

International Conference on Goats, 4.,  
Brasília, DF, 1987.

Proceedings of the IV International  
Conference on Goats. — Brasília :  
EMBRAPA-DDT, 1987.

2v. — (EMBRAPA-DPP. Documentos ; 14)

I. Goat-Congress-Brazil. I. Empresa  
Brasileira de Pesquisa Agropecuária .  
Departamento de Difusão de Tecnologia,  
Brasília, DF. II. Title. III. Series.

CDD 636.39

