



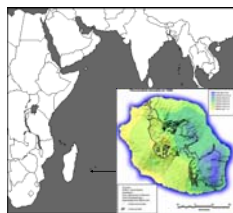
## Development of breeding schemes in overseas regions: the case of goats for meat production in the Reunion Island



**Fontaine O<sup>1</sup>, Darregret M<sup>1</sup>, Maillot P<sup>1</sup>, Choisis JP<sup>2</sup>,**

(1) CIRAD, UMR Selmet, Pôle Elevage, 7 chemin de l'Irat, Ligne Paradis, 97410 Saint-Pierre  
 (2) INRA, UMR 1201 DYNAFOR, 31326 Castanet Tolosan  
 (2) Corresponding author. E-mail: oliviafontaine@cirad.fr

### CONTEXT OF GOAT BREEDING IN REUNION ISLAND



In the French island of Reunion goat is reared mainly for meat production  
  
800 tons of meat are imported each year

The herds are genetically very heterogeneous and derive from crossbreeding between land race goat (Cabri Pêi), endangered species, and exotic races (Saanen, Boer, Alpine)

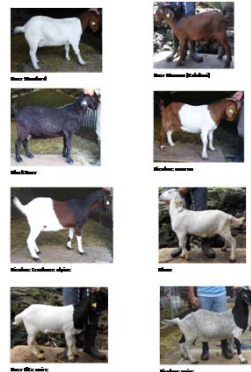


To increase local meat production, breeders are primarily oriented to the Boer goat. But any importation of ruminants is however forbidden for health reasons. So, Farmers decide to develop a breeding scheme based on artificial insemination.

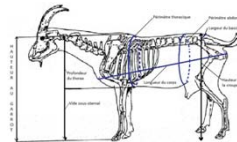
### OBJECTIVE - MATERIAL AND METHODS

Research, development and selection institutions work with breeders to define Boer dom's standard. We create a photographic database of individual animals. We use it for the definition of the standard of the breed. Females are artificially inseminated with boer goat semen produced by Capgènes. Insemination protocols are tested and validated over a period of three years.

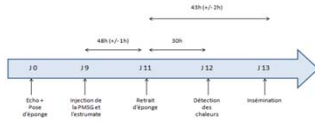
**Phénotype**



Evaluation of the animals is based on a grid. The assessment skills are suitable both for males and females and give a judgment on the characters of race (9 positions) and functional (11 positions). At the same time 8 morpho biometric measurements are performed to characterize the goats that will form part of the basis for selection. The objective is to characterize 1400 goats to select 1000 for the basis of selection.



- ✓ 15 breeders use artificial insemination
- ✓ 356 she-goats are evaluated
- ✓ A performance testing for goat meat production is improved



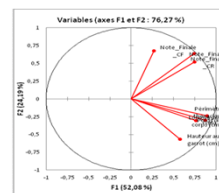
- To improve our evaluation tools we study correlations
- ✓ Between grid and morphobiometric measurements
  - ✓ Between all the morphobiometric measurements

### RESULTS

- ✓ **Artificial Insemination**,  
The first results give 96% of female with ovulation and 60% of birth. they responded well to hormone therapy synchronization. We have 2 kids by birth. There is no effect of PMSG dose on the response of female ovulation or fertility to insemination.
- ✓ **Livestock judging**  
Race characters therefore account for 75% of the final score. The bridge of nose note seems very highly correlated to the final note of the race characters (0,908). There is no correlation between the scoring grid and the measurements. So we need the both tools to selection boer goat.
- ✓ **Bodyweight and linear body measurement (cm), n=356.**

Variable	Mean	Standard deviation
Weight(kg)	51.14	11.26
Withers height (cm)	69.27	4.20
Chest depth	32.17	3.47
Heart girth (cm)	80.06	6.44
Body length (cm)	81.18	7.49
Rump height (cm)	71.49	4.45
Paunch girth (cm)	81.42	11.74

Standard deviation is more important for live weight and paunch girth. The both measurements depend on the level of animal feed



Perhaps we overvalue the racial characteristics today. But it was necessary to recognize the Boer goat breed in France

high correlations exist between body weight, height at withers, heart girth, and body length. So goats can also be classified according to these selection criteria.

### CONCLUSION

In Reunion, all farmers express interests for genetic improvement. They have chosen the boer goat to increase meat performance. So we have developed tools to enable the implementation of the schema of the Boer Dom selection. The independence between the measurements and notes score also shows that the scorecard does absolutely not assess the butcher animals and therefore, other means must be used to approach them. Scores and measurements are complementary. However we must still specify measurable and quantifiable objectives of selection. We need to find how to estimate goat for slaughter. In the same time we have to save our land race goat cabri péi.

Thank you to all our partners for their support



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