European Regional Conference on Goats

Debrecen - Hungary
Oradea - Romania
2014

**INRA**
SCIENCE & IMPACT

**ORGANIZATION AND SHIFTS IN GENETIC SELECTION AND BREEDING OF GOATS TO FACE CURRENT ENVIRONMENTAL ISSUES IN LIVESTOCK ACTIVITIES**

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02/04/2014

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## Introduction

Livestock is highly affected by the world systemic crisis.

Environmental issues are an important part of these issues

How to use less non renewable resources, How to preserve biodiversity, How to limit the Green house gaz emission, How to be more resilient to face climate changing

*ERCG , Budapest, 2014,  April, 7th – 11st*

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## Introduction

The WINNING CARDS OF GOATS !!

How to connect these environmental issues with genetic  selection  and breeding of GOATS,

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**General data about the goat sector:**

2013 in France : Average lactation goat milk production is 915 kg for Alpine and 1000 kg for Saanen (+ 2% per year)
Few dominant selected breeds
From 136 identified breeds , few have a selection scheme
Few rare breeds with a conservation selection scheme
The most growing livestock populations are goats (+66% in 20 years)
80% are in low income countries

- 5% of milk and meat are traded, the remaining is auto consumed

-- To develop low input systems for small holders with the application of agro ecological principles

# Recent advances in Research on goat selection

The goat genome has been sequenced in 2010
-> Genetic control of the Casein composition
-> Genetic control of the milking speed
->Genetic control of the Scrapie
-> Identification of a large number of markers

BUT most researches on few breeds and minority intensified livestock systems
Still few environmental applications

# Recent advances in Research on goat selection

Only 18 to 22% of publications on goats on marketing production systems, managements

Too few multi and trans disciplinary researches linking bBo sciences and Social sciences

## To take in account the charactheristics of goats

Integration of goats into complex and multifunctionnal lively hood systems
High capacity of local rustic breeds to valorize low value forage
High rusticity to use rangelands

All characteristics to be enhanced and developed by genetic

## What Selection and innovations to improve the environmental performances of goats

From the individual selection to the herd selection of more adapted animals

Selection of local breeds based on the adap^tation capacities of animal to changing conditions
All characteristics to be enhanced and developed by genetic

## Non genetic innovations to enhance

Developing tools to help the breeders to manage pasture and grazing
Decrease and suppression of hormonal treatments
Control of parasitism by alternative natural treatments
Development of electronic tools to monitor better the behavior of animal in non pastoral systems
And more Research in Social Science to support public policies and collective organizations to favor innovation

## Conclusion

- Transition toward new paradigms are needed

- Much lock in to limit this orientation