

## Interdisciplinary project Pasto: How to transfer sustainable and acceptable practices?

---



Valérie Miéville-Ott  
Marco Meisser  
André Chassot

 Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra  
  
Département fédéral de l'économie DFE  
Station de recherche  
Agroscope Changins-Wädenswil ACW

 Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra  
  
Département fédéral de l'économie DFE  
Station de recherche  
Agroscope Liebefeld-Posieux ALP  
Haras national suisse HNS



07.10.2009

## Summary

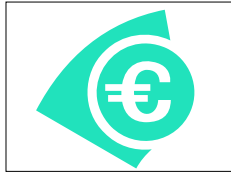
---

1. Presentation of the project
2. Main results
3. Implementation and construction of a realistic scenario

07.10.2009

## Context

Search for viable economic alternatives



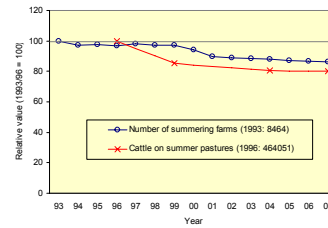
Various social demands

**Mountain pastures  
face many  
challenges**

Diminishing number of animals and farms



Natural reforestation



Sources: FOAG (number of farms) and FOS (cattle on summer pastures).

07.10.2009

## Experimental sites



Main farm, 1200 m, 34 ha  
Jura mountains



Summer pasture, 1700-2000 m, 26 ha  
Alps in central Valais  
Undergrazed pasture with reforestation

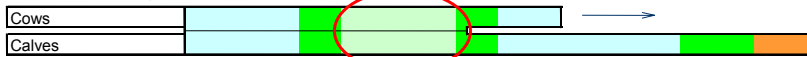
07.10.2009

## The production systems

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12

### System 1 Dual-purpose: Meat + Landscape

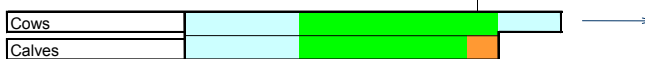
#### With summering of the calves



#### Without summering of the calves



### System 2 One-purpose: Meat (conventional)



Local cattle breed: Hérens (suckler herd)

07.10.2009

## The Hérens cows

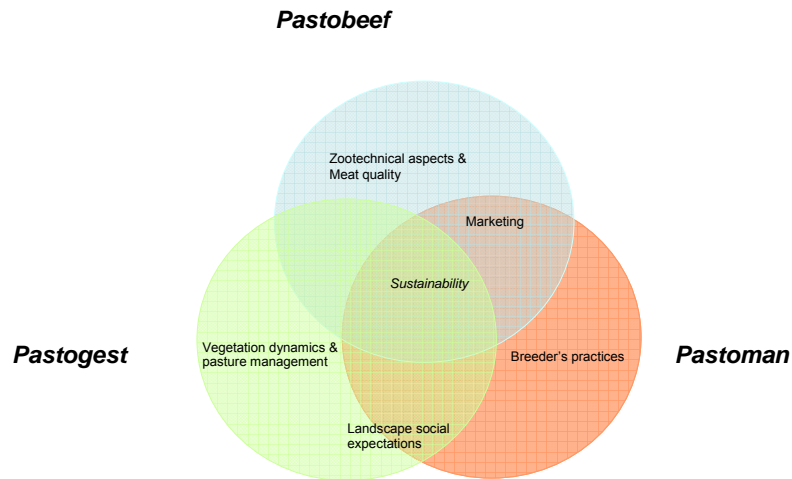
- The Hérens cows are well appreciated for their "fighting spirit"
- They don't produce a lot of milk (< 4000 kg·year<sup>-1</sup>)
- They are usually not kept with their calf for meat production
- Tradition and social consideration are very important



07.10.2009

## An interdisciplinary partnership

---



07.10.2009

## Main results (marketing and sociological data)

---

### *Marketing and supply chain organisation*

- o High demand and insufficient offer
- o About 50% of the volume is sold through direct sales or used for home consumption
- o High potential for market growth

### *Sociological enquiries*

- o Different practices and different value systems
- o Four main types of breeders were identified, according to the importance they give to economic objectives and/or «fighting cows» competition
- o The enquiry showed that there are certain brakes for the implementing of the new system

07.10.2009

## **Main results (vegetation dynamic and pasture management)**

---

### *Vegetation dynamics*

- o There is a close relationship between the evolution of the stoking rate during the last 30 years and the age of the young trees
- o Plant species richness is highest on open areas and decreases by 25% as tree cover increased from 6 to 65%

### *Pasture management*

- o GPS monitoring of cattle showed that animals roamed all areas of the plot
- o The suckler cows browse willingly young green branches of *Alnus viridis*, which helps to prevent its expansion
- o Plant selection by the animals is important

07.10.2009

## **Main results (zootechnics and meat quality)**

---

### *Zootechnics (→ Larzey, S2Fo-late weaning system)*

- o The rate of calf growth was relatively high during the first three months of grazing; it decreased in the late summer
- o The body condition score of the suckler cows remained at low level during all grazing season

### *Meat quality*

- o The meat produced at 1800 m was less tender than the lowland meat
- o The feeding based on grass altered the fatty acid composition of the meat and improved its nutritional quality
- o The fatty acids might be excellent «terroir» biomarkers, usable for the analytical traceability

07.10.2009

## Global balance of the tested system

---

### Strengths

- The cattle had a good impact on bushy pastures and preservation of biodiversity
- The open landscapes are appreciated by the land users
- The image of the mountain dairy and meat products is very good; high demand
- The image of the Hérens breed is very positive

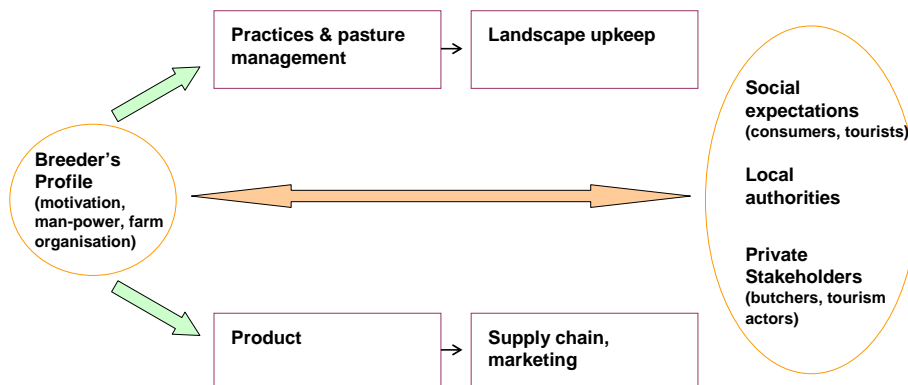
### Weaknesses

- The tested practices often don't fit with the different objectives of the breeders
- Great diversity of breeders and farm organisation
- Without increase in the feeding intensity, it is difficult to obtain the suited carcass quality
- The body condition of our suckler cows was low

07.10.2009

## Implementation

---



07.10.2009

## Construction of a realistic scenario

---

- o The objective of the scenario was to design a set of realistic technical practices
- o The different aspects of the system were weighed up in order to define a global system that would be feasible, profitable and socially acceptable
- o The key points that had to be considered were as follows:
  - o Volume of meat?
  - o Duration of the fattening period?
  - o Implications in terms of cattle housing in winter?
  - o Marketing (labelled chain)?
  - o Management of the supplementary livestock?
  - o How to use the complementarity between the different breeder's profiles?

07.10.2009

## Construction of a realistic scenario

---

<i>Main criteria</i>	<i>Indicator values</i>	<i>Remarks</i>
Volume of meat in the supply chain	300 to	o Estimation from enquiries
Duration of the fattening period	22 to 24 months	o Better impact on vegetation o Taste and flavour of the meat
Feeding	Carcass quality (conformation)	o Higher feeding intensity is necessary during the finishing period
Stables	Capacity of the stables	o Grouping of the animals during the second winter
Use of marginal surfaces	600 ha	o Spring/autumn and summer pastures
Grazing pressure	80 LU·d/ha	o Good impact on the vegetation
Size of the herds	At least 15 heads	o Better impact on the vegetation

07.10.2009

## Conclusions (I)

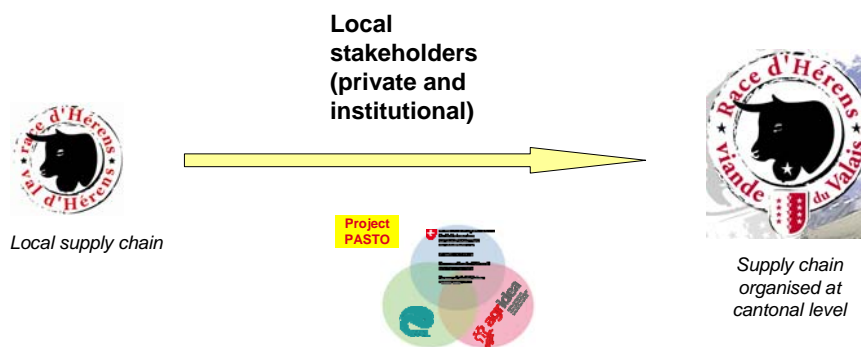
---

- o With the tested system, it is difficult to conciliate production of bovine meat on summer pastures and landscape upkeep
- o Social prestige and social representations still play a strong role in central Valais
- o The consumer's willingness to pay (for the mountain bovine meat) should firstly be based on the support of a certain image of agriculture, less than on the quality of the product
- o The development of an integrative scenario enables good team work and constitutes a helpful tool for the transfer of sustainable practices

07.10.2009

## Conclusions (II)

---



07.10.2009

*Thank you for  
your attention!*

*Thank to...*

*F. Freléchoux*

*P.-A. Dufey*

*Y. Linder-Berrebi*

*K. A. Deslandes*

*O. Roque*

*R. Hermier*

*M. Martinez*

*L. Stévenin*

*M. Tarery*

*J. Troxler*

*M. Viret*

*J.-L. Favre*

*P. Tornay*

*07.10.2009*

