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# Interactions between management of local breeds and valorization of products,

## Exemples of French cattle breeds

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## A synthesis based on our two PhD thesis

- ❑ **Lauvie, A., 2007**

- **codirection E.Verrier, A.Audiot**

- ❑ AgroParisTech/INRA, UMR GABI

- ❑ INRA UMR AGIR

- ❑ **Lambert-Derkimba, 2007**

- **codirection E.Verrier, F.Casabianca**

- ❑ AgroParisTech/INRA, UMR GABI

- ❑ INRA UR LRDE

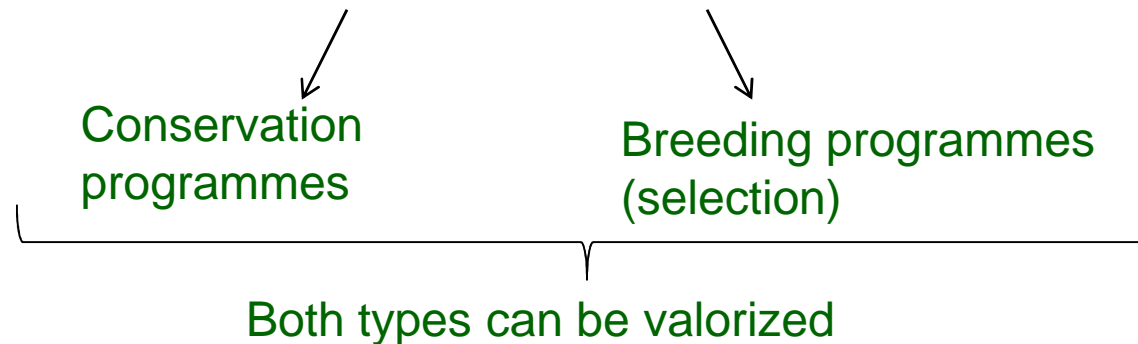
Data come from our  
field works made  
between 2004 and  
2007.



## Local breeds and valorization

### Local breeds: what do we talk about?

- Local breeds are breeds linked to a specific territory but there is not a single and shared definition of « local breeds »
- **Definition of local breeds:** in France official definition refers to *a breed in majority linked by its origin, its place and type of livestock farming system to a given territory*
- Local breeds can be either rare breeds or breeds of wider extension





## Why development of local breeds?

To maintain genetic diversity

To preserve breeding local practices and know how

To maintain farmers in harsh conditions areas

Ect.

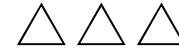


## How to develop local breeds?

Supporting local breeds breeders

Using valorization (and in particular economic valorization)

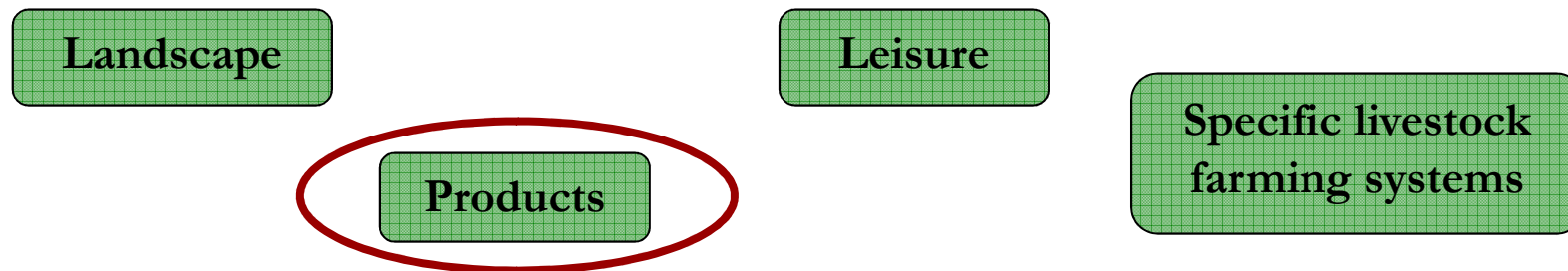




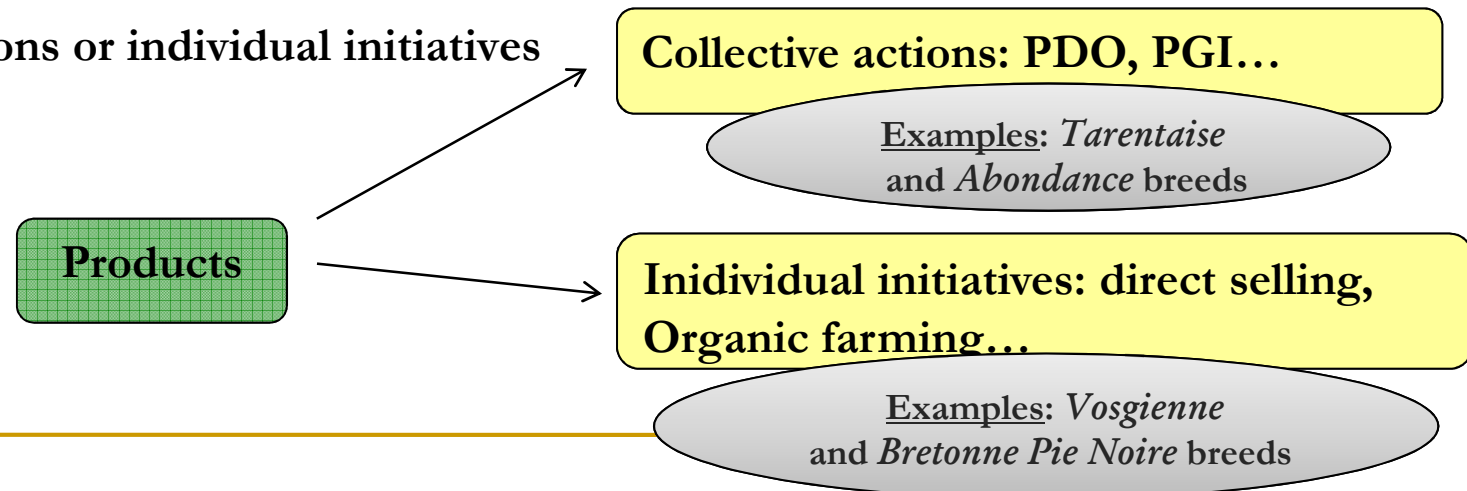
# The valorization through products:

## collective actions or individual initiatives

### ■ Various forms of valorization



### ■ Collective actions or individual initiatives





## Questions raised by valorization and aim of the communication

- Valorization raises questions because it can have an impact on the genetic management.
- Our aim is to detail those questions raised, illustrating with examples of French cattle breeds.
- We will consider:
  - breeds with collective actions for valorization (PDO...)
  - breed with individual initiatives for valorization (Organic...)

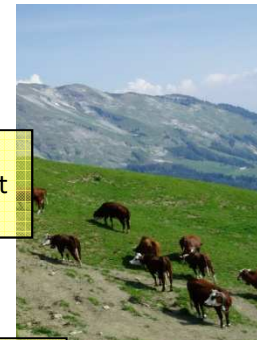
Our hypothesis is:

Whatever the type of valorization, it questions genetic management



# New points of view For the Abondance breed...

## Collective action



### Milk production

- farmers in plain or favourable areas
- farmers with technicians abilities

### Production limit

- Beaufort and Tome des Bauges **PDO** : production limit
- Beaufort **PDO** : Holstein genes exclusion

### Size

- tall cows in plain areas
- small cows in mountain areas



## Several point of view for the Abondance breed and its future...

### Rusticity and walking ability

- transhumance, summer calving
- spread pastures

### Phenotypes

- image for **PDO**
- breed enthusiasts



### Milk quality

- on farm processing: product quality
- **PDO** dairy farms: price for quality milk



# For the Bretonne Pie Noire breed

## Individual dynamics

New ways to valorise the breed  
(Organic farming, direct selling...)



New breeders can be involved in the  
genetic management of the breed

Bretonne Pie Noire  
rare breed



New breeders interested  
in new ways to valorize  
the breed



Influence on the  
development of the breed

### Catégories

Professionnal breeders	Mostly BPN	Dairy	Farm processing	24
			Dairy selling	2
		meat		37
	Mostly others breeds	Dairy	Farm processing	3
			Dairy selling	35
		meat		33
« Hobby » breeders				183
Others (parks, associations etc.)				21

Breeders typology in the breed association in 2005 (from Quéméré, 2006, La Bretonne Pie Noir)



year	1976	2005
Number of breeders	46	340
Number of cows	277	977

Population number evolution (from Quéméré, 2006, La Bretonne Pie Noir)





# When new point of view can be expressed ?

## Lessons to be drawn from Abondance breed

**Collective action**

Depend of the interactions

between the valorization project and the decision board of the breed

- *Official representation*
- *Crossed representations (informal)*
- *Financial support of the breed association by the valorization project*

Depend of the repartition of the breed population  
within the valorization projects

Filière	PDO				Other products	Total (RGA 2000)
	Reblochon	Beaufort	Abondance	Tome des Bauges		
Number of cows	14 257	5 286	1 183	343	33 706	54 775
Pourcentage of the breed	26,0%	9,7%	2,1%	0,6%	61,5%	100,0%



## Impacts on selection criteria

# From the product to the breed

### *Specific products*

- New process
- Specific environment and farming system



*Can require*

### *New aptitudes for the breed*

- Milk production
- Adaptability to the system

*Can have*

### *Impact on the selection*

- Dairy characteres
- Functional characteres





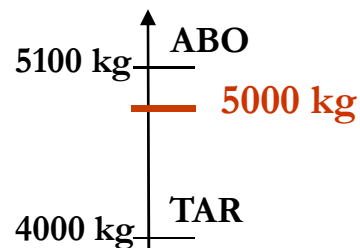
# Example of the Tarentaise breed

**Collective action**

ISU = synthetic index UPRA

Hierarchy between the characteres (dairy and fonctionnal)

Beaufort PDO

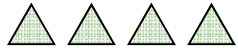


**Tarentaise breed**  
Take into account  
the production limit



$$\text{ISU} = 0,45 \text{ (dairy characteres)} \\ + 0,55 \text{ (fonctionnal characteres)}$$

Tarentaise breed is **the only breed** with a part of INEL minor to 0.5



## Exemple of the Vosgienne breed

### Individual dynamics

#### Conservation programme:

Animal population  
organized in 13 families  
that have to be maintained



#### Farms sustainability:

Aim to  
maintain the farmers incomes

One family considered having bad production results



#### A compromise had to be found:

A single family abandoned but the family system maintained (12 families)





## Possible controversies

# Several projects for the same breed

- The breed can be involved in several projects

See above and next the Abondance example



See also the Vosgienne example



- If the aims of the projects are different, it can lead to controversies

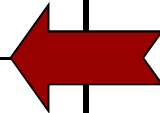


## Exemple of the Abondance breed

Abondance PDO/Abondance breed  
Increasing the population number

**Collective action**

% of the breed in the PDO	Abondance PDO
Abondance	35 %
Montbéliarde	64 %
Tarentaise	1 %



Obligation for the PDO managers:

**Abondance breed has to be in majority in this PDO  
(because of the PDO name)**

Necessity of increasing the population number of the Abondance breed

-Some farmers want a % by farm

-Some farmers want a % for the whole PDO area

Compromise over 15 years:

- it will be for the whole area of the Abondance PDO
- in case of a non respect of the regulation, it will become by farm



## Solving the controversies

### ■ Controversies can be solved:

- *Choosing one among several projects*

- *Finding a compromise*

- *Excluding a stakeholder*

- *Dividing the animal population among the projects*

**Our cases studies illustrate  
that it can depend on the  
constitution of the decision  
board of the breed**



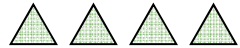


## Conclusion

If valorization is a good way to develop local breeds...

- there is a wide diversity in products valorization types, from individual to collective dynamics
  - and there can be several projects in tensions that influence the dynamics
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## New tracks for research

- Going further on the study of individual valorization when they are generalized in a given breed
  - What about breeds « delocalised » by valorization?  
(Simmental breed and Laguiole PDO)
  - Analysing other dynamics: other species, other kind of valorization
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