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**The « breed »:  
A management category with  
strong social dimension**

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# The « breed » category

## A central category for local genetic resources management

- Breed → term to name the biological category to be managed: the animal population
- Breed → an organisational category: decisions for conservation, genetic variability management or collective breeding objectives are taken at this scale

In France: example of the *Organismes de Sélection*.

Collective organisation for animal breeding: most of them for one breed

- Several qualifications for several types of breeds

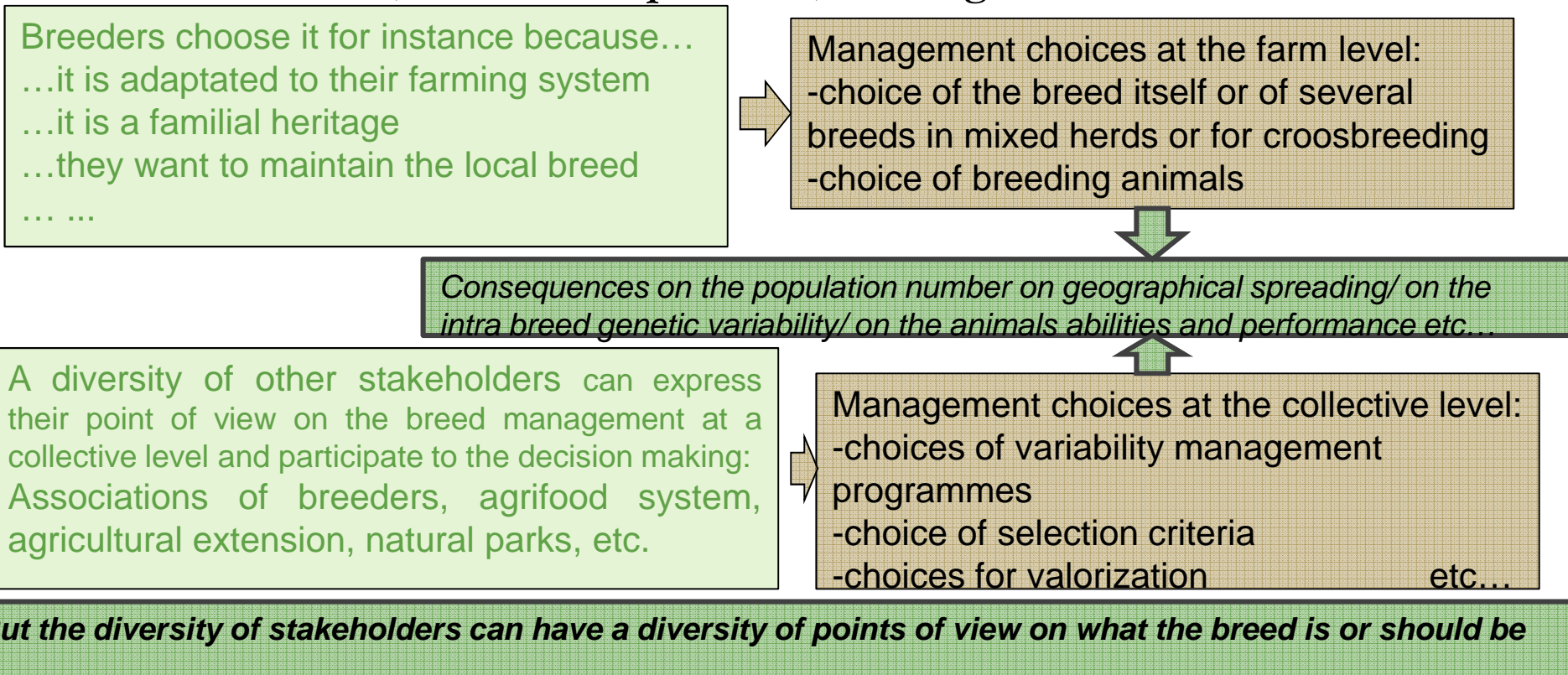


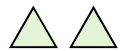


# The social dimension of the « breed »

## Importance for genetic resources management

- Social dimension of the « breed » category: a group of stakeholders that designs a definition of the breed, decides for its genetic management, uses it in various LFS, valorises its products, its image...





# The *Manech Tête Noire* example

## Cooperation crisis in the breeding program

- In the Western Pyrenees: three local sheep breeds → Ossau Iraty cheese (PDO)
- The *Manech Tête Noire*: the most important breed until the late 80's → important decline
- Slow but steady withdrawal of breeders from the breeding program despite its efficiency
  - To change toward more productive breeds (MTR or Lacaune)
  - Or to stick with the MTN but outside of the breeding program because of disagreement on breeding objectives (“too much oriented toward only production criteria”, “not taking into account local specificities of mountainous areas”, etc.) and on breed’s standard



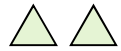
|      | Manech Tête Noire | Manech Tête Rouse |
|------|-------------------|-------------------|
| 1980 | 200 000           | 120 000           |
| 1988 | 122 000           | 214 000           |
| 2003 | 115 000           | 275 000           |

The « breed » category

The *Manech Tête Noire* example

The *Rouge Flamande* example

conclusion



# The *Manech Tête Noire* example

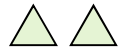
## Illustration: the market of breeding animals

|             | <i>Breeding program</i> |               | <i>Non breeding program (Manex Red Face)</i> | <i>Non breeding program (Manex Black Face)</i> |
|-------------|-------------------------|---------------|--|--|
|             | <i>AI</i>               | <i>Not AI</i> |  |  |
| <i>Lamb</i> | 125 to 200 €            | 70 to 100 €   |  | 150 €  |
| <i>Rams</i> | 120 to 400 €            |               | 150 to 350 €                                 | 700 to 1000 €                                  |



Lauvie and





# The *Manech Tête Noire* example

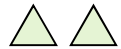
## Qualifying the breed: a core element for cooperation

- Problem: two opposed devices for the qualification of animals

### The qualification in the Breeding Program

- Official (recognized by the French government)
- Regulated by scientific instruments (genetic indexes)
- No formalized qualification grid





# The *Manech Tête Noire* example

## Qualifying the breed: a core element for cooperation

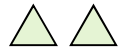
- Problem: two opposed devices for the qualification of animals



### Animal competitions organized by valleys

- Unofficial but locally recognized and legitimized
- Refusing scientific instruments (genetic indexes)
- Rules and use of a qualification grid

- Consequences:
- Animals from the breeding program are sometimes considered as a « different breed »
  - The sustainability of the breeding program is at stake
  - A work has been started on the definition of a shared standard for the breed



## The *Rouge Flamande* Example

# Crossbreeding in the history of the breed

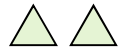
- French cattle breed (mainly for dairy production) from the northern part of France



Photo A.LAUVIE

- Strong decrease in the animal population number after the II<sup>nd</sup>WW
- End of the 1950's and beginning of the 1960's: crossbreeding with Danish Red breed and Belgian Red breed
- First conservation programme for the « pure » breed at the end of the 1970's (mating plan abandoned because considered as a constraint and adapted to breed in conservation but not in production)
- Nowadays, there are nearly no more « Belgian Red » genes in the population and the global % of « Danish Red » genes is stabilised in the population but there are not anymore alive animals without « Danish Red » genes



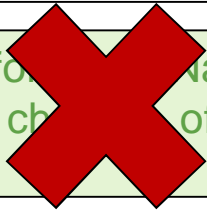


# The *Rouge Flamande* Example

## Controversies between stakeholders

Map of the controversies made thanks to information gathered during semi structured interviews made in 2005 (see Lauvie 2007, PhD thesis)

The agent for the National Breeding Institute in charge of cattle breeds conservation



Only the animal with less than 1/8 Danish Red genes can be considered as the « *originelle* » *Rouge Flamande*. A specific conservation plan should be settled for this breed

The CRRG (Regional center of genetic resources management)



Compromise: use of breeding animals with great proportion of Danish Red genes should be avoided



The UPRA (selection organisation)

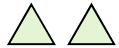


The breed is not in conservation but in production and the fact that crossbred animals are kept for reproduction is not a problem. Crossbred animals are part of the breed

The breeders



Don't seem to consider the crossbreeding as a problem/ as a controversy

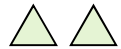


## The *Rouge Flamande* Example

### Which definitions of the breed and which consequences on management?

- Crossbred animals are part of the breed → Present official definition of the breed (breed code)
  - Breed involved in several valorization processes
- Crossbred animals aren't part of the breed
  - Breed nearly disappeared

The « breed » category



The *Manech Tête Rousse* example



The *Rouge Flamande* example



conclusion

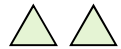


## Conclusion

### When boundaries of the breed categories are discussed, which consequences for management and LFS?

- Those two examples show how boundaries on a breed category can be discussed and that it can have consequences:
  - By the way of exclusion of stakeholders from the management
  - On the decision making for the orientation of the appearance, abilities and performance of the breed
  - On the potentialities for valorization (type of products/ type of LFS that mobilizes the breed)
  - By the way of potential constitution of several sub populations

The « breed » category



The *Manech Tête Rousse* example



The *Rouge Flamande* example



conclusion



## Conclusion

### The importance of considering management categories

- Importance of understanding the social construction of the breed and potential controversies to understand its management
- The breed: a part of the coherence of a system at the farm scale but a category that depends on decision making at a much larger scale than the farm.... And a lot more than a biological object
- New potential categories with the new tools of genomics: the breed won't be a central management category anymore??
  - Importance to understand changes in organisation of animal genetic resources management involved by those new tools
  - Importance to analyse the new potential categories of management that could emerge