

# MANAGING LOCAL BREED IS A HARD WAY TO FIND A COMPROMISE BETWEEN COLLECTIVE NEEDS AND INDIVIDUAL AIMS: THE CASE OF THE *NUSTRALE* PIG BREED

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## ABSTRACT

Most of the time the management of local breeds involve non territorial tools (designed to be used in whatever breed management situation), but also have to face stakes linked to a specific territory. Moreover, management of local breed is often organized at a collective level (the whole animal population) and individual breeders are the owners of the animals, each of them with his own expectations. Thanks to the case study of the *Nustrale* pig breed in Corsica, we show how those apparent contradictions are dealt with by both breeders and other stakeholders of the breeds' management, and what kind of tensions are still to overcome.

**Key words:** local breeds / Corsica / animal genetic resources / pig / conservation

## 1 INTRODUCTION

Local breeds are an important part of the heritage of a territory, and at the same time an animal genetic resource with potential interest for livestock farming systems, and more widely, a resource for a product from local livestock farming systems. Most of the time the management of those breeds, involve non territorial tools, designed to be used in whatever breed management situation, but also have to face stakes linked to a specific territory. That could be considered as a first apparent contradiction in local breeds' management. Moreover, management of local breed is often organized at a collective level (the whole animal population) and individual breeders are the owners of the animals, each of them with his own expectations. This tension between collective management and individual expectations could be considered as a second apparent contradiction in local breeds' management. How are those potential tensions expressed and overcome in concrete breed management set ups? We mobilize a concrete situation study to show how those apparent contradictions are dealt with by both

breeders and other stakeholders of the breeds' management, and what kind of tensions are still to overcome.

## 2 MATERIALS AND METHODS

The paper is based on a case study of the *Nustrale* pig breed raised in Corsica (Müller, 2011). A tool to manage the genetic diversity within the animal population has been established, classically based on sow families and boar lines. We studied how this tool was seen by the breeders, and what were their practices concerning management of the population (selection criteria for breeding animals, exchange of breeding animals between breeders). First we assessed the state of the population concerning families and lines thanks to an analysis of the pig herd book. Thus we conducted 19 interviews of breeders of the selection scheme (further addressed as selection breeders), 5 interviews of breeders having left the selection scheme, 7 phone interviews of farmers using animals from the selection scheme (further addressed as users farmers) and 6 interviews or phone interviews

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of stakeholders from research or extension services (in 2011). The themes of the interviews with selection breeders were the following: presentation of the breeder and his farm, management of the herd (including points on view on the local breed, renewal, selection criteria, families and lines), management of the territory, trajectory as selection breeder (motive, points of view on the collective, perception of the tools, points of view on adding value to products). After a quantitative assessment of the situation of families and lines, a qualitative analysis of the data collected through interviews was made. After a short presentation of the organization of the *Nustrale* Pig breed management we present the main results of the quantitative analysis and the qualitative analysis of interviews (mainly the part concerning selection criteria). Finally we discuss the question of combining the non territorial tools and territorial management of local breeds.

### 3 RESULTS

#### 3.1 THE ORGANIZATION OF THE *NUSTRALE* PIG BREED MANAGEMENT

In Corsica, pigs are raised in extensive farming systems based on a local breed, the *Nustrale* pig breed. Animals are raised on several types of rangelands with a fattening period with chestnuts and acorns during autumn. During the winter, pigs are slaughtered and processed into local products. Generally, farmers are at the same time breeders, fatteners, slaughterers, processors, ripeners and sellers (Lauvie *et al.*, 2013). An association for the local breed management has been recognized in 2006 by the French National Commission of Genetic Improvement. In parallel with the dynamics around the breed association, a regional syndicate was created to be an official applicant of a PDO for Corsican processed meat (for three products). In this new project, a code of practices defining rules of production has to be fixed. Within the application, the slow growth local breed is mobilized

(pure breed is mandatory which involve new stakes for the local breed). The PDO was obtained at national level in 2012 and recently at European level. Indeed, as the breed is included in the specification of the PDO production, the production of pure bred animals becomes a real challenge (Lauvie *et al.*, 2013).

#### 3.2 THE DYNAMICS OF FAMILY AND LINES

In order to manage and maintain the diversity of the animal population, the extension services, and in particular the national technical institute for pig production (IFIP) have established a tool of management through female families and male lines. Each female owns to a family and each male to a line. Each female descendant is attributed to her mother's family and each male descendant is attributed to his father's line. The aim is to maintain an equilibrated animal number in all the families and lines and to avoid disappearance of a family or a line. The analysis of the pig herd book has allowed assessing the situation of the lines and families (Fig. 1 and 2). We can see that there is no equilibrium between the different families and lines and some have disappeared or are at risk of disappearance while others are overrepresented.

#### 3.3 THE SELECTION CRITERIA: BETWEEN COLLECTIVE ORGANIZATION AND INDIVIDUAL REPRESENTATIONS

Among the selection breeders, the selection criteria are diverse. For instance some prefer to aim at having homogeneous color in their herds whereas others prefer to aim at homogeneity. This diversity of points of view is not necessarily a problem as it can allow maintaining a diversity within the population. However this diversity of individual expectations can sometimes be in tension with collective aims. Concerning the renewal for female, learning process of the territory from moth-

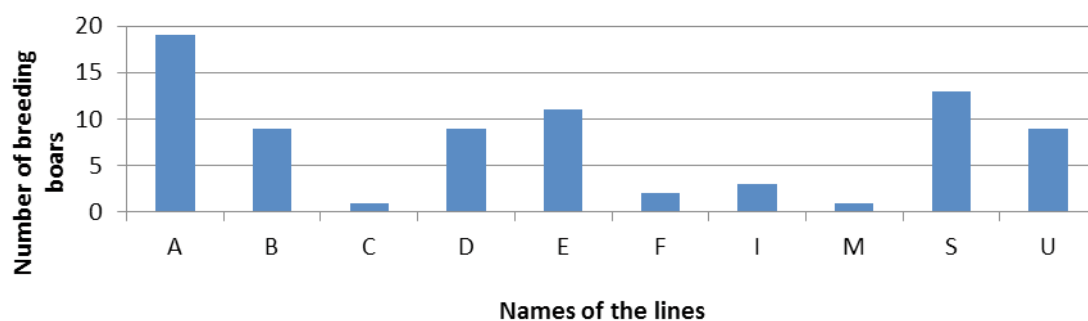
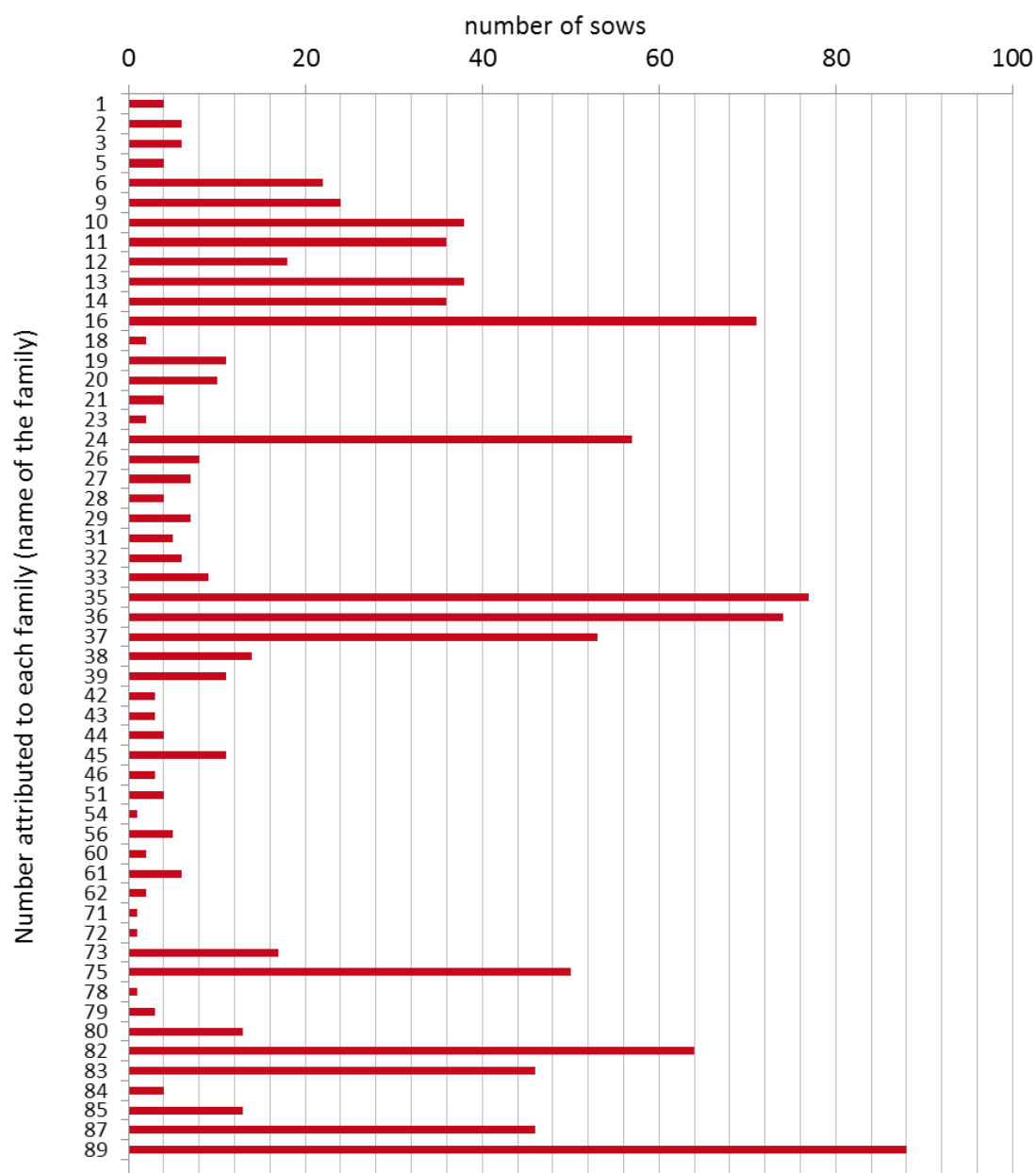


Figure 1: Number of breeding boars per line in the pig herd book (in march 2011)



**Figure 2:** Number of sows per family in the pig herd book (in march 2011)

er to offspring is very important. However the establishment of the collective management of the breed and the PDO project can direct breeders to change strategies and for instance buy females from other breeders and families included in the pig herd book when some of their own sows are not included in the herd book (and as a consequence can't be valorized under the PDO). However breeders may wish to keep families even if not included in the pig herd book because they are the result of a long-lasting selection process, in this case they will have to manage them in a separated herd not the

one destined to the PDO. Concerning the exchanges of breeding animal several types of breeders could be distinguished: i) a small group of breeders consider their own autonomous choices as a priority over collective rules; ii) a second one of about ten breeders are involved in the management of the collective association, they consider the collective rules as important but keep a part of autonomous decision making; iii) the last group is constituted of new or less active breeders that follow more easily and completely the collective rules.

#### 4 DISCUSSION AND CONCLUSION: NON TERRITORIAL TOOLS AND TERRITORIAL MANAGEMENT OF LOCAL BREEDS

Non territorial tools for management are often considered as neutral but in fact they are not (Labatut, 2009). Involving them in territorial management can lead to tensions, as we have seen, or can lead to problems (Lauvie *et al.*, 2012). Need those tools be adapted to local conditions and expectations? Is it preferable to imagine processes to design new tools adapted to expectations in a territory? Such processes would mix “generic” knowledge and local knowledge as well as scientific and other stakeholders’ knowledge. However this case study shows that, even at the scale of a territory, the expectations can be diverse and it may be difficult to take into account the diversity of points of view among local stakeholders. That diversity of points of view should be considered in a process of design for building up a kind of compromise.

#### 5 ACKNOWLEDGEMENT

We thank the breeders and the other stakeholders who accepted to be interviewed. This study has taken place in the project Marittimo VAGAL (interviews and

their analysis). The second step analysis, about non territorial tools in the territorial management of local breeds took place in the project ANR 09 STRA 09 O2LA.

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