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# Pig breeders in extensive systems based on local breeds: Stakes of their insertion in the development of the territories

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**Abstract.** Within the Mediterranean QUBIC project centered on innovations developing biodiversity, we approach the points of view of the pig breeders in extensive systems based on local breeds, on their insertion in the dynamics of territorial development. A questionnaire including 4 parts and 12 questions was managed towards 123 farmers carrying on their activities in the 5 areas interested by the project: Italy (Tuscany, Sicily and Emilia-Romagna), Greece (Thessaly) and France (Corsica). Data collected relate to (i) environmental problems, (ii) visions of the territory and local insertion of activities, (iii) local breed seen as a factor of anchorage of the activities, and (iv) professional identity of the stockbreeder of local breed. We carried out an analysis centered on the link between breeds and territory, in order to identify possible points of blocking and levers in the projects of development of these breeds. We identify common features but also marked differences: (i) established systems (Cinta Senese in Tuscany) where a lot of newcomers show some lack of technical culture; (ii) stabilizing systems (Nustrale in Corsica, Nero Siciliano in Sicily) with deep anchorage of activities but weak professional organization; and (iii) emerging systems (Greek in Thessaly, Nero di Parma or Romagnola in Emilia-Romagna) not yet insured in their territorial insertion. Such comparative study allows supplying useful elements for future exchanges at Mediterranean level.

**Keywords.** Pig – Breeders – Local development – Extensive systems.

## **Les éleveurs porcins en systèmes extensifs basés sur des races locales. Enjeux de leur insertion dans le développement des territoires**

**Résumé.** Dans le projet méditerranéen QUBIC centré sur les innovations valorisant la biodiversité, nous approchons les points de vue des éleveurs porcins en systèmes extensifs basés sur des races locales, sur leur insertion dans le développement territorial. Un questionnaire comprenant 4 parties et 12 questions est administré auprès de 123 éleveurs dans les 5 régions du projet : Italie (Toscane, Sicile, Emilie-Romagne), Grèce (Thessalie) et France (Corse). Les données recueillies portent sur (i) les problèmes environnementaux, (ii) les visions du territoire et de l'insertion locale, (iii) la race locale comme ancrage des activités et (iv) l'identité professionnelle de l'éleveur. Nous effectuons une analyse centrée sur le rapport des races au territoire afin d'identifier des points de blocage éventuels et des leviers dans les projets de développement territorial. Une analyse comparative dégage des traits communs mais aussi des différences marquées : (i) des systèmes établis (Cinta Senese en Toscane), où un grand nombre de nouveaux éleveurs montrent un manque de culture technique ; (ii) des systèmes en cours de stabilisation (Nustrale en Corse ou Nero Siciliano en Sicile), avec un fort ancrage territorial mais des faiblesses organisationnelles ; et (iii) des systèmes émergents (Grec en Thessalie et Nero di Parma ou Romagnola en Emilie-Romagne), dont l'insertion territoriale demeure très incertaine. De tels travaux permettent de disposer d'éléments utiles pour de futurs échanges au niveau méditerranéen.

**Mots-clés.** Porc – Éleveurs – Développement local – Systèmes extensifs.

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## **I – Introduction**

Give the floor to the breeders' voice, such intention is not so frequent in our scientific communities (Flamant *et al.*, 1994). What about the breeders' point of view on some main questions we, as scientists, are studying?

The work takes place within the framework of the Mediterranean project centered on the innovations to develop biodiversity (QUBIC): Animal breeding - Quality Biodiversity Innovation Competitiveness. Is that biodiversity good for the future of the production units as Iberian pig is demonstrating (López-Bote, 1998)? Is the local breed an asset at territorial level?

A questionnaire including 4 parts and 38 questions was managed towards 123 farmers carrying on their activities in the 5 areas interested by the project: Italy (Tuscany, Sicily and Emilia-Romagna), Greece (Thessaly) and France (Corsica). In each area, there is one local breed, excepted in Emilia-Romagna where there are two. So, local pig breeds considered in our study are :

- ✓ For Italy, in Tuscany the Cinta senese breed, in Sicily the Nero Siciliano breed, in Emilia-Romagna both the Mora Romagnola breed and the Nero di Parma breed.
- ✓ For Greece, in Thessaly, the Greek breed.
- ✓ For France, in Corsica, the Nustrale breed.

We decided to focus only on some of these data in order to present a more accurate analysis on the specific linkage between local breed and territory according to the breeders' point of view.

## II – Material and methods

### 1. Breeders sampling

As reported in Table 1, the sample of breeders interviewed is quite important with 123 farmers in 5 of the areas of the project.

So these 6 local pig breeds are comparable as census of animals is quite reduced and breeds are still located in the native area.

**Table 1. Sample of breeders according to the country, the region and the breed**

Country	Italy	Italy	Italy	Greece	France
Region	Tuscany	Sicily	Emilia-Romagna	Thessaly	Corsica
Name of the breed	Cinta Senese	Nero Siciliano	Mora Romagnola and Nero di Parma	Greek	Nustrale
Number of interviewed breeders	35	36	19	10	23

### 2. Data recollected

A questionnaire including 4 parts and 38 questions was managed towards the 123 farmers on the following fields:

- Part 1: Environmental problems and the way the farmers face them.  
With a total of 8 questions, only 3 questions are presented.
- Part 2: Visions of the territory and the insertion of breeding activities in the local dynamics.  
A total of 10 questions and 2 questions presented.

- Part 3: The local breed seen as a factor of anchorage of the activities.  
On 10 questions, 5 questions are presented.

- Part 4: The professional identity of the stockbreeder of local breed in the evolutions of the sector.  
Among 10 questions, 3 questions are presented.

Results are expressed as % of YES according to the question.

### III – Results

According to answers, we carried out an analysis field by field. Such analysis is centered on the link between the breeds and their territory within these various located systems, in order to identify possible points of blocking and levers in the projects of territorial development of these breeds.

#### 1. Environmental problems

In the first part of our enquiry, we are dealing with environmental problems and the way the farmers face them. In particular, questions of pollution and sanitary risks of the animals in free range.

*Q 1 – Are you facing some environmental problems in your livestock farming? Which ones? (For example water pollution, soil erosion, plants and trees destruction, animal divagation)*

*Q 2 – What kinds of disease are present?*

*Q 3 – Due to extensive livestock system, are you obliged to consider wild animal diseases in your prevention plan?*

**Table 2. Answers from the breeders about environmental problems**

Answers from the breeders	Cinta Senese	Nero Siciliano	Mora Romagnola Nero di Parma	Greek	Nustrale
Q1	60	0	58	0	56
Q2	Pneumony, Parasites	Parasites	None	None	Aujeszký
Q3	18	0	5	10	0

The grazing in forest seems to be commonly used and almost a great part of the pigs' life is outdoors. Nevertheless, a majority of the breeders are declaring no environmental problems, but we notice great differences between the various situations.

Parasites are clearly the main kind of disease as mentioned in the answers.

Soil erosion and some trees destruction are also evoked but breeders are complaining to the obligation to put nose ring for avoiding such problems.

And very few breeders have consciousness of the questions of contamination from the wild animals (especially from the wild boars).

As major issue, we can see that the great part of breeders is not aware of environmental problems.

## 2. Insertion within the territory

In the second part of our enquiry, we are looking for the visions of the territory expressed by the breeders and the insertion of their activities in the local dynamics. In particular, we try to approach organizational aspects of the breeds' management and of the product valorization in the territory and the factors of specificity of the extensive breeding in the offer of regional products.

*Q 4 – Do you think breed goodwill and territory linkages represent added value for you?*

*Q 5 – Is the breed well known in the territory and do you use the image of the breed and/or of the territory to sell your products?*

**Table 3. Answers from the breeders about their insertion within the territory**

Answers from the breeders	Cinta Senese	Nero Siciliano	Mora Romagnola Nero di Parma	Greek	Nustrale
Q4	100	100	95	60	100
Q5	95	100	74	70	74

This second part of enquiry is giving less contrast between the various situations.

In general, the local breed is conferring good insertion to the breeder and positive image for its activity.

In addition, some lack of recognition at social level is mentioned by breeders (excepted in Sicily) and the local breed is no sufficient to insure a good position in the local society.

In Corsica, breeders are also mentioning risks of confusion at market level, as products deriving from the local breed have no special identification at the moment.

As main issue, we can assume that the image of the breed is adding value on an effective way. And the breeders are using this image for commercial purposes.

## 3. The local breed as an asset

This third part of the enquiry deals with the local breed seen as a factor of anchorage of the activities. The adequacy of the animals to the systems of breeding and the collective management of the breed are the principal points as well as the question of the possible crossbreeding with other selected races.

*Q 6 - Do you feel that the local breed is insuring you a deep anchorage in the territory?*

*Q 7 - Do you consider the local breed as fully adapted to the local farming system?*

*Q 8 - Do you establish a link between the "good breeder" and the "beautiful animal"?*

*Q 9 - Have you effective practices of crossbreeding?*

In this third part, we can see a real consensus for the questions 6 and 7 as quite all the breeders are considering deep anchorage provided by the local breed and also a good adaptation of their animals to the local farming system.

For the questions 8 and 9, we notice great contrasts among the various situations.

For Cinta senese and Mora Romagnola / Nero di Parma, the crossbreeding is an ancient practice and breeders are considering it without any problem. A special name is given for crossbred animals in Emilia-Romagna. In Greece, as recovering of black pigs is still in progress,

crossbred animals are quite the normal situation. In the other areas, such as Sicily and Corsica, this practice is disappearing moving to the pure local breed as a main stream.

**Table 4. Answers from the breeders about the local breed and the crossbreeding**

Answers from the breeders	Cinta Senese	Nero Siciliano	Mora Romagnola and Nero di Parma	Greek	Nustrale
Q6	100	95	74	60	83
Q7	100	95	90	100	74
Q8	90	10	79	100	17
Q9	36	26	55	50	21
Main issues	Crossbreeding as ancient practice	Rejection of "good breeder"	Crossbreeding = "Borghigiano"	Crossbreeding considered as normal	Rejection of "good breeder"

For Corsican and Sicilian breeders, they reject the notion of "good breeder" and they consider that local breed animals can be diverse according to the breeders' preferences. They assume an internal diversity as breed collective identity.

As main issue, local breed insures deep anchorage to the territory and seems to be well adapted.

#### 4. The local breed as a professional identity basis

In the last part of interviews, we emphasize the professional identity of the stockbreeder of local breed in the evolutions of the sector. Information is in particular collected on the anteriority of the breeding activity, their vision of their trend compared with other types of breeding, as well as the pride to be a producer of local breed.

*Q 10 – Are you claiming to be considered as a distinguished activity compared to exogenous breed farmers?*

*Q 11 – Is the local breed a familial heritage transmitted by the previous generations (not something completely new)?*

*Q 12 – Are you feeling proud to be a local breed promoter?*

**Table 5. Answers from the breeders on the professional identity**

Answers from the breeders	Cinta Senese	Nero Siciliano	Mora Romagnola and Nero di Parma	Greek	Nustrale
Q10	100	100	84	30	30
Q11	14	100	10	40	87
Q12	100	95	68	70	74

Professional identity of the breeders seems to be a crucial point for their territorial insertion. As a majority of breeders is claiming to be differentiated from the exogenous breed farmers, the national situation must be taken into consideration: in Italy, the local pig breeds are giving a strong identity to the farmers.

We notice a lot of newcomers, in Cinta Senese, Mora Romagnola and Nero di Parma, and quite important in Greek. At the contrary, Corsican and Sicilian seems to have mainly familial heritage.

Quite all the breeders are associating pride and local breed activity. This point is very important to be underlined because the future of the local breeds could be facilitated by such a feeling.

As main issue, major part of breeders are proud, but are also claiming to be better recognized.

## IV – Discussion

A comparative analysis makes it possible to identify common features but also marked differences.

As common features, we can identify a low perception of environmental problems by quite all the breeders. Even if the risk of damage to the natural resources is obvious, it seems to be of minor interest in breeders' point of view. This point must become a priority for the extension services in order to avoid further disqualification of outdoor systems for pig production.

The local breed is conferring a deep anchorage to farmers and animals are considered as well adapted to the way of rearing. The image of the local breed is giving some advantage to the breeders and they use such image when marketing the products (Casabianca and Fallola, 1994). All the breeders seem to be proud to be local breed promoters but they are claiming for a better recognition at social level.

As main contrasts, we must distinguish the trajectory of each situation. The evolution of the breed is giving an orientation to the whole sector. We identify:

(i) Established systems such as *Cinta Senese* in Tuscany. With a PDO already recognized at national level, the breed seems to be clearly stabilized. But we notice a lot of newcomers attracted by the reputation of the breed and a lack of knowledge and technical culture in the management of outdoor systems.

(ii) Stabilizing systems as the *Nustrale* in Corsica or the *Nero Siciliano* in Sicily. Both of them are deeply rooted in local culture and applying for a PDO inducing some new questions (Lambert-Derkimba *et al.*, 2011). Breeders show a family heritage and the technical culture is enforced by generations.

(iii) Emerging systems as the *Greek pig* in Thessaly and the *Nero di Parma* or the *Mora Romagnola* in Emilia-Romagna. In such situations, professional organizations are still lacking to ensure the future of the breed.

This type of interviews analysis, mixing qualitative and quantitative data, is useful to identify key topics and stakes for the breeders themselves and for territorial management of local breeds. This type of analysis also allows wide comparative study at a Mediterranean scale.

Those key topics should be further studied thanks to a more qualitative analysis, using for instance semi structured interviews. Such a qualitative analysis should allow gathering breeders' discourse trying to minimize the influence on the orientation of the answers, without a pre-construction of the themes. It could allow understanding better the dynamics of territorial management for local breeds and the stakes on different territories, and complementing usefully this first comparative approach.

## V – Conclusion

According the differences we identified, we carried out a “gap analysis” centered on the link between the breeds and their territory within the various systems, in order to identify possible points of blocking and levers in the projects of territorial development of these breeds.

Some clear conclusions can be provided for each type of situation and breed.

*For Cinta Senese* : The situation is characterized by a lot of newcomers without experience, and some environmental problems not really taken into account by the PDO specification. The processed products should be protected in addition of fresh meat, because of risks of confusion at market level. It should be interesting to compare this situation to the Iberian pig situation where PDO is obtained for a long time.

*For Nero Siciliano and Nustrale* : Some similarities are observed between the two islands as this activity is rooted in the local culture. But farmers seem to face great difficulties to innovate and to organize. Environmental issues should be emphasized and PDO protection should be completed.

*For Mora Romagnola, Nero di Parma and Greek* : The three breeds are not really ensured till now. Breeders show a weak situation to be reinforced mainly at organizational level.

Such comparative studies based upon breeders view points are supplying useful elements for future exchanges at Mediterranean level.

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