

# LEARNING PROCESSES FOR PRODUCERS IN ASSESSING A NEW PRODUCT WITH PROTECTED DESIGNATION OF ORIGIN. THE CASE OF THE *PRISUTTU* OR DRY CURED HAM OF CORSICA

Oscar MAESTRINI <sup>1</sup>, Thomas MÜLLER <sup>1</sup>, François CASABIANCA <sup>1,2</sup>

## ABSTRACT

In order to protect Corsica as an origin for their production, some pig producers, generally practicing on-farm processing, created a syndicate for applying a Protected Designation of Origin (PDO) for the dry cured ham named “*prisuttu*”. Even if their actual practices are close to the rules included into the specification, some difficulties may appear for being in compliance with the whole code of practices of the future PDO. Anticipating the official registration, we explored the possibility of a “blank” assessment with a sample of 6 producers throughout 43 already registered in the syndicate. On several batches of slaughtered pigs, we implemented a fraction of the control plan foreseen for the future PDO. The controls operated in our work concern the operations around slaughtering, from the finishing pigs to be slaughtered till the end of the salting period of hams. The step from the farm breeding the pigs to the process into typical products must be considered as key in production chain. We present and discuss the results we obtained. They show that on some criteria, producers must conduct learning processes for increase their ability to make sure to be in compliance with the requirements of the future PDO.

**Key words:** protected designation of origin / quality control / Corsica / learning process / dry cured ham

## 1 INTRODUCTION

Dry cured products deriving from the extensive pig production in Corsica are benefiting of a great reputation. Such image allowed the small-scale producers in the inlands of the island to maintain the production, basing their activities on the *Nustrale* local pig breed and on the use of natural resources, such as pasturelands and fruits of chestnut-trees and oak-trees in a finishing period during autumn. This period is core in the production system as it confers particular characteristics to muscular and adipose tissues. The reputation attached to these productions and their relative scarcity lead to very high prices and selling practices outside of the formal market (direct selling, agritourism). Corsica being a touristic destination, tourists wish to taste such products. However, the volumes of authentic products are limited and seasonal, these products are very expensive and hard to find. In-

dustrial processors, mainly issued from local producers, chose to buy the raw material outside of Corsica in the great areas of intensive pig production, in order to process during all the year and at moderate prices. These industrial products are benefiting of the image of authentic products but without their real characteristics. A fraction of the extensive pig producers estimated that the legitimacy to claim for the exclusive use of the word “Corsica” on the labels must be linked to the local breeding. This is the reason why they decided to create a syndicate of defense in order to apply for a Protected Designation of Origin (PDO). National decision was made in 2011 and European Commission has recently (May 2013) proposed to register the PDO. Our work has been made in the middle of these two steps, after the national validation but before its effective implementation.

The objectives of our work: we proposed to a small group of farmers, at the same time breeders and on-farm

<sup>1</sup> INRA UR Laboratoire de Recherches sur le Développement de l'Élevage (LRDE), Quartier Grossetti, 20250 Corte, France

<sup>2</sup> Corresponding author, e-mail: fca@corse.inra.fr

processors, to set up a fraction of the control plan on their production of the winter 2011–2012. All of them were members of the syndicate applying for the PDO. Our proposal was to implement the conditions of the future PDO even before its official registration. Such anticipation fits with our wish to make an in-depth analysis of what could be a problem for the traditional producers, simulating the requirements of the future PDO. By this simulation, our objective was to identify those rules which could create effective difficulties and, that way, enable the learning processes needed for the producers. This knowledge may also help to evaluate the feasibility of the controls planned by the future PDO (Maestrini, 2007). Moreover, we assumed the intention to help the syndicate in facilitating the inscription of a maximum of producers, reducing the risks of exclusion by implementing the internal control they will be supposed to do. Finally, this work may contribute to tackle the question of traditional productions facing legal standards (Bérard and Marchenay, 2008) as well as voluntary standards (Casabianca and Sans, 2006), as it is the case.

## 2 MATERIAL AND METHODS

A group of 6 producers accepted our proposal of “blank” control. All of them are extensive pig breeders and on-farm processors, as well as the members of the syndicate. As we had limited means, our aim was essentially methodological and we didn’t want to multiply the study cases. These producers represent a fraction of the most involved actors in the application and their information about the specification content is higher than the average of the syndicate members. Their farming system (areas available and number of slaughtered pigs by year) are slightly higher than the average but still within the regional dominant model. Their geographical repartition is in line with the reality of the pig breeders in Corsica, with 4 breeders in Southern Corsica in 2 micro-areas, and 2 breeders in Northern Corsica issued from 2 micro-areas. We asked them to choose a batch of pigs to be slaughtered for the future PDO, that is to say, according their opinion, pigs corresponding to the PDO rules. Thus we obtained a total of 28 pigs distributed in 6 batches in line with the traditional practices in Corsica. We simulated some mandatory controls such as: breed identification of the pigs, traceability between this identification and the slaughterhouse number, carcass weight, dorsal fat thickness (measured at the last rib), ham pH (measured in the *semi-membranosus*), fresh ham fat thickness, fresh ham weight (at the salting process), intra-muscular fat (in *Biceps Femoris*) and length of cut (distance between the ham end and the head of femur).

## 3 RESULTS

We organized the presentation of results according to the operations concerned.

### 3.1 ABOUT BREEDING AND SLAUGHTERING PRACTICES

Firstly, we observed a great difficulty to insure the breed identification of pigs. This is mandatory in the code of practices: every pig slaughtered for PDO must proceed from parents having an inscription in the Herd Book of the *Nustrale* pig breed. The 6 breeders are part of the association in charge of the management of the *Nustrale* breed and should have their animals declared in the herd book. However, only 2 of them had their declarations updated and their pigs were in compliance with this rule. Thus a first problem in implementing the PDO controls was identified. Breeders are not really planning a relationship between the decision of putting pigs in finishing period (another mandatory declaration) and the constitution of slaughtering batches of pigs. Apparently, breeders are picking among the pigs ready to be slaughtered all along the slaughtering season (from mid November up to end of March). Logically, they should give priority to the heavier pigs in order to begin their processing earlier and to let the available resources in the forest for the other pigs. Practically, half of slaughtering batches are not homogeneous with important discrepancy among pigs (more than 15 kg). Homogeneity of the slaughter batch is not compulsory but plays a role in the control of productions.

### 3.2 ABOUT CARCASSES TO BE PROCESSED

Carcass weights are regulated by the specification and are supposed to be comprised between 85 and 140 kg. We observed a mean of 94.9 kg and a standard deviation of 43.8 kg which is a huge dispersion linked to the heterogeneity mentioned above. Out of the 6 batches, 3 were totally in compliance with the specification, while in the other 3 some pigs were too light. One batch had all pigs under the minimum weight. Out of the 28 pigs, 8 were too light and none exceed the maximum weight (the heaviest pig reached 129 kg). Back fat thickness must be between 2.5 and 6 cm. We observed a mean of 4.19 cm with a standard deviation of 1.24. Out of the 6 batches, only 1 had a fat thickness higher than the authorized limit. So, only 6 pigs were not in compliance with the targeted values.

### 3.3 ON FRESH HAMS

Ultimate pH must be between 5.4 and 5.9 measured in *semi-membranosus* muscle. Out of 6, 2 breeders had no pH meter and no possibility to eliminate the hams with pH defect. This situation represents 8 pigs out of 28. For the other 20, all pigs were in compliance, with a mean of 5.6 and a standard deviation of 0.08. Such values confirm the excellent meat quality. Concerning the fresh ham weight, it is supposed to be comprised between 8 and 14 kg. We observed a mean of 9.2 kg and a SD of 1.11 with only 3 hams not in compliance as the fresh weight was under the minimum limit required. Fat thickness on the fresh ham is framed according to the ham weight: from 2.5 to 3.5 cm for 8 to 9 kg; from 3 to 4.5 cm for 9 to 12 kg; and from 4 to 5.5 cm for 12 to 14 kg. We observed a lot of non compliance for this criterion as 16 hams exceeded the targeted values. So, adiposity of pigs was often exceeding the values required for the PDO. Intra-muscular fat (IMF) in the fresh muscle must be higher than 6%. We observed also a great number of non-compliances as 18 hams showed IMF values under the threshold. The mean was 4.16% and SD 1.48. Last measurement concerns the shape of the hams, because the tradition of dry cured ham in Corsica, the «*prisuttu*» is “a long shape and is trimmed in the form of a racquet”. As indicated in the specification: “The exposed section of muscle and fat beyond the head of the femur at the lower end of the ham must be at least 14 cm long”. We checked this criterion of regional typicality and we observe that, out of 28, 7 hams were not in compliance with the rule, with values slightly under the threshold.

## 4 DISCUSSION

Our simulation of the controls planned for the future PDO shows that only 2 hams out of 28 were in total compliance with the criteria. In our opinion, such result has not to be emphasized a lot, because a large part of the identified problems seems easy to solve. In particular, the declaration of the animals in the Herd Book of the *Nustrale* breed may be corrected with an enforcement of the breed management by the association in charge. Moreover, no crossbreeding practices are observed within the herds. In the same view, we could suggest that some pH meters could be bought easily and the syndicate could help the farmers in using them correctly. Likewise, the shaping of the ham should be easy to adjust for processors used to the typical ham shape.

The real problems are the pigs themselves. Concerning the heterogeneity of the slaughtering batches,

it must be interpreted as a lack of control of the fattening of their pigs by the breeders during the finishing period. Such defect leads to further difficulties i.e. with slaughter weight and the fat thickness (back fat and fresh hams fat as well). The extreme precision on this criterion (ham fatness according to the ham weight) is contrasting with the ability of the farmers to pilot their animals towards the targeted values. The lack of technical ability in animal husbandry is also responsible for the problems concerning the IMF, criterion being one of the main characteristics of the local breed and one of the justifications of the PDO registration.

So, the main learning processes to be conducted by the farmers concerns the finishing period, which should be better controlled in order to allow pigs making enough compensatory growth for accumulating IMF without excessive carcass adiposity. And the constitution of slaughter batches selecting the pigs within the herd seems to be a major improvement in the farmers' management for PDO and, by the way, a key competency to increase in the next future.

## 5 CONCLUSION

The question of control plan must be articulated with the evolution of practices at farmer level (Prache *et al.*, 2008). Dry cured hams are totally dependent on the pig rearing, in particular during the finishing period. Our results identify a major stake for the success of the future PDO: help traditional farmers to be in compliance with the rules they conceived together.

Obviously our analysis has to be completed on the whole production system and on a greater number of farmers. Finally, a need for learning process concerns syndicate agents in charge of the internal controls, the agents of the certification body in charge of the external control, as well as the extension services and the researchers themselves.

## 6 REFERENCES

- Bérard L., Marchenay Ph. 2008. Hygiene standards challenge traditional food production. *Economie et sociétés*, 47, 11–12: 2273–2283
- Casabianca F., Sans P. 2006. Les jambons secs comme produits marqueurs de l'identité méditerranéenne. Une analyse croisée des conditions de leurs protections officielles en France et en Espagne. In: *Mediterranean livestock production: uncertainties and opportunities*, Olaizola A., Boutonnet J.P., Bernués A. (eds.), Zaragoza: CIHEAM / CITA / CITA, 2006. p. 313–318 (Options Méditerranéennes: Série A. Séminaires Méditerranéens; n. 78)

- Maestrini O. 2007. Vers une appellation d'origine contrôlée des charcuteries de Corse. Construction du cahier des charges et des moyens de contrôle interne. Cahier des Techniques INRA. Numéro spécial "Techniques et pratiques de recueil de données "in situ": 151–158
- Prache S., Casabianca F., Micol D. 2008. Authentification, contrôle et traçabilité des produits d'origine. In: Produits agricoles et alimentaires d'origine: enjeux et acquis scientifiques. Sylvander F., Casabianca F., Roncin F. (eds.). Paris, France, INRA: 88–96