

## Mirandesa meat PDO: The strategies of family-farm systems for their governance.

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### Abstract

*Mirandesa Meat has been a PDO since 1995, which originated from a small area in the northeast of Portugal, far away from the large consumption centers. It involves 316 producers, from which 180 are organized in a cooperative that manages the PDO. All producers practise small scale family-farm systems. The majority of the producers of Mirandesa Meat are already retired or benefit from multiple sources of income, and only have a small number of cows (average of 8 cows) in a policulture production system.*

*More than 90% of the Mirandesa meat production is sold in large population centers, with a higher social stratification, located more than 250 km away from the production region. The spatial separation between production and consumers forced the Mirandesa meat producers to adopt three main governance strategies: interactive communication with the consumers through promotion and direct sales in fairs, progression in the value chain via product differentiation and the valuation of the certified dimension of the PDO, and the recognition of Mirandesa meat derivatives like Mirandesa sausage, a Slowfood Presidium.*

*The interactive communication between producers and consumers, in this context, becomes vital since, due to distance, the consumers lose direct control in the production and the sale of meat. For small producers, the utilization of different kinds of certification is crucial, because through its utilization they have the possibility to positively stand out in the market.*

*The Mirandesa Meat PDO's production has been sold out every year since 1998. In the year 2010 it sold 268 t of meat, from 1960 carcasses. On a national scale it is the meat PDO that provides the highest prices to producers (5.25€/Kg). In the production region, non-PDO carcasses of the same type command an average price of only 4€/Kg (a 31% difference).*

### Introduction

Portugal has fifteen local cattle breeds, most of them classified as endangered. The meat produced in the region of origin of nine of these cattle breeds can benefit from a PDO label; six IGP are approved for five of these breeds. In the last 15 years the use of the protected designations has constituted the main conservation instrument of endangered Portuguese cattle breeds, and of the production systems they integrate. The use of protected designations for bovine meat in the year 2007 represented 2.3% of the total meat produced in the country. In the last decade, the production of the PDO's achieved an annual average growth of 5%, while the global production of bovine meat has stagnated (Eurostat, 2009; GPP, 2007).

The Mirandesa breed was classified as endangered in 1994, and the Mirandesa Meat PDO was approved in 1995. The Mirandesa Meat PDO originates from a small area in the northeast of Portugal, contiguous to the Spanish border. In 2007, it ranked as the second Portuguese PDO in commercialized meat volume, with 13% of the market share (254t). In the production region of the Mirandesa Meat PDO there are 316 producers. 180 of them are organized in a cooperative that manages the PDO. All producers practise small scale family-farm systems. The majority of the producers of Mirandesa Meat are already retired or benefit from multiple sources of income, and only have a small number of cows (average of 8 cows) in policulture production systems (Sousa, 1992; Fragata & Sousa, 1997). The production system aims to sell calves at weaning that occurs between 5 and 8 months of age (Sousa & Sánchez, 2009).

In this work we explore the governance strategy pursued by PDO Mirandesa Meat producers. Besides having obtained an increase in the value of the raw material above inflation, and secured the marketing of the total production since 1998, this producers PDO group is the one in Portugal that pays the highest price to producers (5.25€/kg carcass). In the production region, the carcasses of the same type that aren't PDO, are paid an average price of 4€/Kg, a 31% difference.

### Material and methods

This paper explores the Mirandesa Meat PDO study case focusing on the strategies adopted by the producers on commercialization and communication during the period 1998 to 2010.

### Results and Discussion

Before, Mirandesa Meat PDO producers sold their calves destined for slaughter direct from their farms. The buyers were in general local butchers (Sousa, 1992). The Mirandesa calves present a lower growth rate and a poor conformation, when compared to cross-breed calves, or calves from breeds specialized for meat production. The meat of Mirandesa calves, nowadays appreciated for its organoleptic characteristics, was poorly valued because of its poor carcass cuts. For this reason, a significant part of the carcasses used to be consumed *in loco* (Sousa, 1992).

The constitution of a producers group, and the obtainment of a PDO for Mirandesa meat were decisive for its differentiation in the market, and created a new opportunity of marketing and value-adding for the product. The number of family farms in north-eastern Portugal has been decreasing since 1996. However, the success of the commercialization of the Mirandesa meat has been contributing for an increase in the number of cows per farm, and explains why the loss of individuals of this breed was controlled in the last decade (Figure 1)

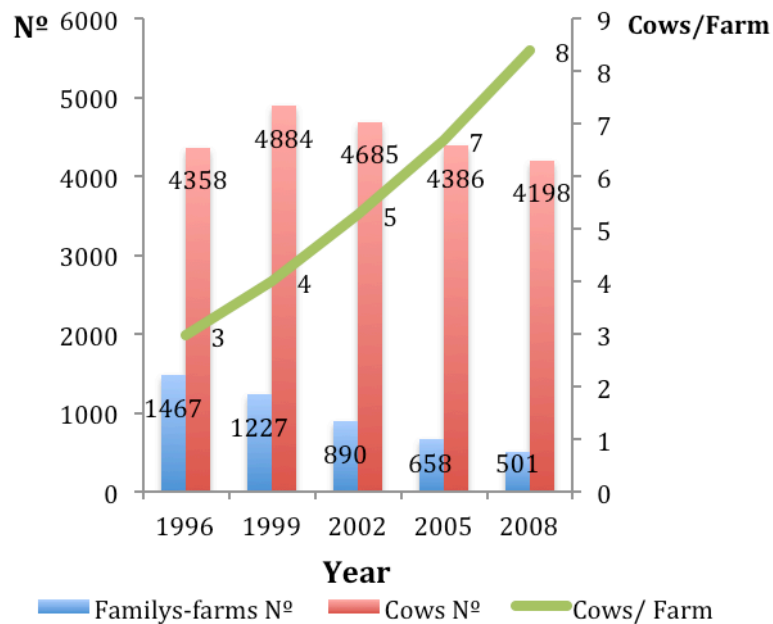


Figure 1 - Evolution of the number of farms with the Mirandesa breed and the average number of cows per farm.

In the period 1998-2004, the production/commercialization of the PDO Mirandesa Meat saw a meaningful increase, in average 7.5%/year, as a result of a progression in the value chain and a diversification of the commercialization channels. The decrease in sales volume, which occurred in the next six year period (2004-2010), can be partly explained by a significant decrease in farm numbers due to population erosion in rural Portugal. However, between 1998 and 2010, the PDO Mirandesa Meat had a increase in its unit value of 42%, that corresponds to a 3.46% annual average increase (Table 1).

Table 1 – Sales volume evolution of the PDO Mirandesa Meat in quantity and value, total and unitary.

Year	1998	2000	2002	2004	2006	2008	2010
Mirandesa meat (t)	127	160	208	311	297	281	268
Mirandesa meat (1000€)	639	871	1.235	2.008	1.960	2.005	1.909
Average unit price (€/Kg)	5.03	5.44	5.93	6.45	6.59	7.15	7.12

In the same period, Portugal registered an average annual rate of inflation of 2.45% (INE, 2011), whereby the PDO Mirandesa Meat provided to the group producers a net annual value of 1%. This fact assumes a particular importance when considering that the PDO producers group have sold all of its production since 1998 and that the beef (bovine meat) is a commodity subject to strong competition from similar products.

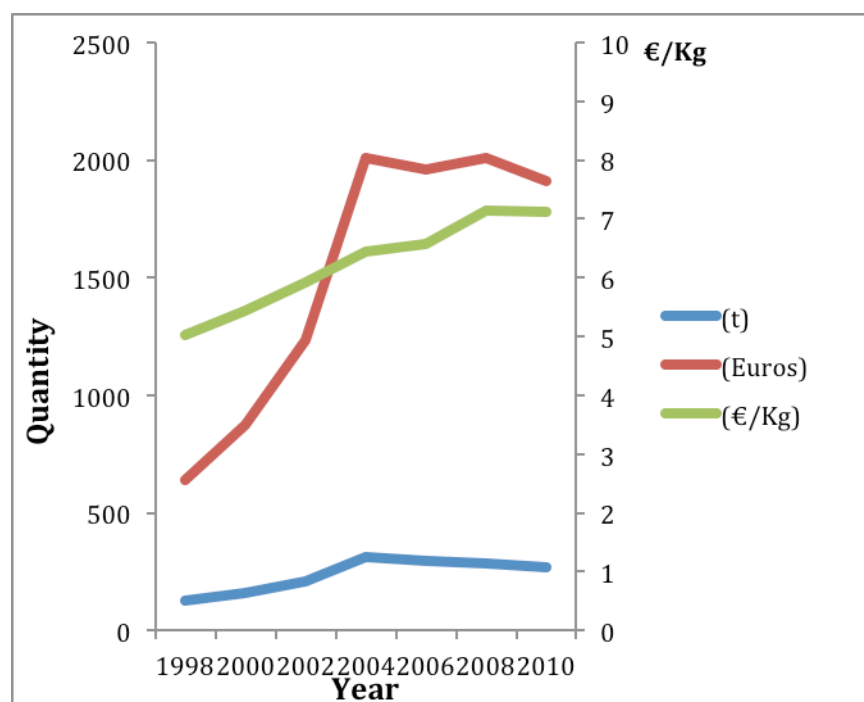


Figure 2 – Evolution of sales volume in quantity and value, total and unitary, of the PDO Mirandesa Meat.

Sustaining this progress underlies a governance strategy conducted by the PDO Mirandesa Meat producers group which is based on three fundamental pillars, interconnected with each other.

### Grouping of supply and diversification of commercial circuits.

Depopulation in rural communities and the concentration of populations in cities have increased the distance between producers and consumers. Simultaneously, food conservation technology has improved food life and enhanced the preservation of food sensory characteristics. In addition, the costs associated with merchandise transportation have been reduced. In this context, family farms have faced increased difficulties in accessing the markets once the demand became concentrated in large distribution chains. The PDO producers group faced a second challenge: production normalization. A huge number of farms, each one with a small number of cows and facing variable combinations of factors that affect quality, generate a significant heterogeneity on carcasses and meat characteristics.

After having succeeded in bringing together the production of a significant number of small producers, the PDO producers group attained a production volume that allowed them the access to markets with a higher purchasing power. Today the PDO Mirandesa Meat puts 90% of the production in large urban centres of the country, markets that are 250 km to 800 km away from the production region. From the remaining production, 8% is commercialized in the region of origin, and 2% is exported, mainly to France (Paris).

The solution to the previously identified challenges involved two determinant action lines: the diversification of commercial circuits, and the primary progression in the value chain. The figure 3 shows the explored commercial circuits, as well as the meat volume placed in each one. 45% of the production goes to general distribution, but 25% is consumed by the catering sector. Another important commercial circuit is the contracts made with a significant number of entities where carcass pieces with less commercial value are placed, and also where part of the production is transformed and sold as products with higher added value. A bovine carcass has a significant number of cuts that have a diversified value and culinary use. Initially the PDO producers group commercialized the whole production as veal carcasses, and placed them in the large distribution chains. The development of the commercial activity led them to exploring new commercial circuits, innovating by exploring alternative cuts taken from the carcass. More than 50% of the production is commercialized in the form of meat pieces, instead of whole carcass sale.

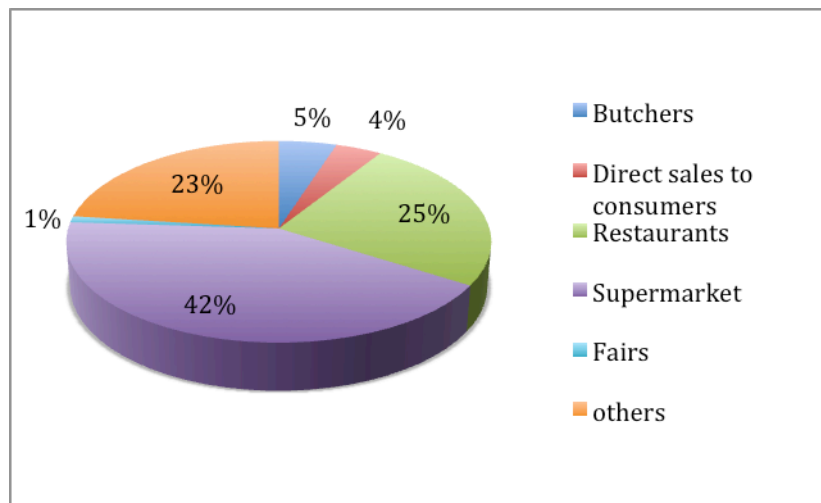


Figure 3 - Market share of different commercial circuits for PDO Mirandesa Meat, in 2009.

Recently published information allows a comparison of PDO Mirandesa Meat with other Portuguese PDO's. Figure 4 shows that in 2006 and 2007 Mirandesa Meat was the second PDO in commercialized meat volume (GPP, 2007). The comparisons between the commercial circuits used by the first, Alentejana Meat, and the third, Barrosã Meat, reveals that, contrary to Mirandesa Meat, they concentrate 95% and 76%, respectively, of their production in the large distribution (Figure 4).

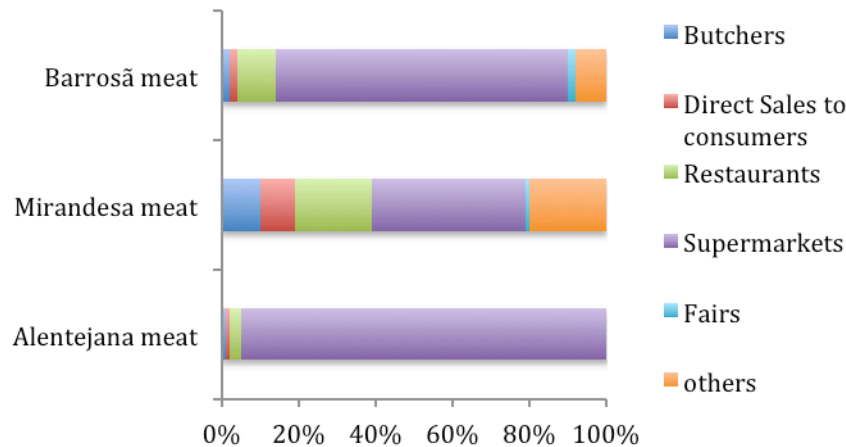


Figure 4 — Commercial channels explored by the PDO's of bovine meat with higher sales volume in the year 2007 (GPP, 2007)

The Mirandesa Meat producers group diversified the commercial circuits, took advantage of a progression in the chain of primary value (cutting and selling meat pieces) and managed to create product sub levels with adequate quality homogeneity, a higher stability in sales, and a real added value of the raw material.

#### Exploration and valorisation of communication in the chain

Globalization and the concentration of commercialization in large distribution chains that develop their own brands, increases the importance of interactive communication through the chain, with special importance on direct communication between producers and consumers, aiming at the competitiveness of the first and assuring continuing demand from the second.

Portugal was one of the EU countries where BSE had a major impact in meat consumption. Traceability of bovine meat was fundamental in the reestablishment of consumer's confidence. The logistic traceability is important in the locating processes and in market retreat of raw material and products (Reg. (CE) N°178/2002). However, the traceability of the product also assumes an enormous importance in the quality management and competitiveness of products (Green & Hy, 2003).

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The management of a PDO with widely dispersed production centres is a collective responsibility that results from the aggregation of individual responsibilities of all producers. For the producers

group it is important to know the consumers qualitative appreciation of the meat of each producer. This process creates an opportunity to develop strategies for producers' qualification. Producers are receptive to training and in tune with the aim of the PDO when producers feel individually responsible for the quality of the product that they offer.

Consumers that buy this Mirandesa Meat tend to belong to social classes with higher purchasing power, so intangible characteristics of the meat, highlighting food security, tractability from pasture to plate and good production practice, assumes particular relevance (Fearn & Bates, 2000). These consumers need to access information that allows them to know where and how the meat was produced (Buhr, 2003). Since the beginning, the Mirandesa Meat PDO producers group has established a communication channel between producers and consumers: all portions of meat sold, in addition to animal identification, also include the producers identification, farm location and feed characteristics.



Figure 5 – Facsimile of a Mirandesa Meat PDO label.

Through the animal's identification, the consumers are able to access further information details on an internet site. This way, the consumers have an opportunity to interact directly with the producers. Producers appreciate feedback and simultaneously became aware of their responsibility in the meat chain. This long and deep traceability promotes identification between the consumers and the producers, builds empathy and contributes to consumer's loyalty.

The PDO producers group, annually, is present at more than 25 fairs of agriculture and food, gastronomy, arts and craft, and others. In these fairs, the producers group carry out paid tastings, and, when appropriate, show animals. In addition to the producer's group technicians, producers and restaurant partners also participate in these fairs, interacting with consumers satisfying their curiosity and giving them information about the PDO Mirandesa Meat.

### **Innovation and qualification of the products**

The third pillar of the PDO Mirandesa Meat governance strategy lies in products qualification, through the use of certification processes, and the progression of value chain. Consumers need to feel confidence about the information provided by the producers, more than ever when production and consumption centres are so far apart. In these conditions, the accredited dimension of the products assumes a particularly relevance. The PDO is very comforting for Mirandesa Meat producers because it gives a dimension of national and community accreditation. The process of progression in the value chain has been focused on the encouragement to

develop and recover products and productive processes that have fallen into disuse. From this approach, there has resulted the recovering of a sausage made with a mixture of bovine and pork meat, using raw material from two endangered breeds, the Miradesa Cattle and the Bisaro Pig. The Mirandês Sausage has helped the producers group to value some pieces of meat with low market value and has transformed it into a product with an immense success, being currently the most expensive product that the producers group sells. In 2004 the Slowfood Foundation recognized it as a Presidium. Since then, producers of this sausage have participated at events organized by this foundation, and there has emerged the possibility for exportation of this product. In parallel, it has been proved that the skin (leather) of the slaughtered calves between 8 and 9 months old have a superior quality in traction resistance that improved the sale and value for the clothing industry (Sousa & Sánchez, 2009).

### **Conclusions**

The study of the PDO Mirandesa Meat case, provides a good example of how family-farm systems often orientated to production of goods for auto consumption and the sale of small productions, when organized and using appropriate governance strategies can access distant markets and add value to their production.

Interactive communication through the chain eases relations between all actors with special relevance to the producers and consumers by allowing to the first a fair valuation of the product, and to the latter more information and greater security of choice.

### **Bibliography**

- Buhr, B.L. (2003). Traceability and Information Technology in the Meat Supply Chain: Implications for Firm Organization and Market Structure. *Journal of Food Distribution Research* 34 (3)
- Eurostat. (2011) Production of meat: cattle.  
(<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tag00044&plugin=1>)
- Fearne, A., Bates, S. (2000) Cooperative Milk Marketing, Imperial College at Wye, University of London, London p. 119.
- Fragata A., Sousa F., (1997). Mirandesa cattle breed: Farm structure, management and marketing. In: *Livestock farming systems. More than food production*. Ed. Jan Tind Sorensen, Wageningen Pers, Wageningen, 212-216.
- GPP, (2007). Inquérito aos agrupamentos gestores de produtos com nomes protegidos DOP/IGP/ETG. Gabinete de Planeamento e Políticas, Ministério da Agricultura do Desenvolvimento Rural e Pescas, p. 46.
- Green, R. et Hy, M. (2003). *Securite Alimentaire et Traçabilite*. Cahier du Loria nº 2003-01
- INE, (2011) *Variação anual do índice harmonizado de preços no consumidor, média anual*, Instituto Nacional de Estatística ([www.ine.pt](http://www.ine.pt)).
- Sousa, F. (1992). *Sistemas Agrários e Melhoramento dos Bovinos de raça Mirandesa, O Caso da Freguesia de Paçó*, Tese de Mestrado em Extensão e Desenvolvimento Rural, UTAD, Vila Real.
- Sousa, F.; García, L.S. (2009). *Mirandesa*. Ed. Associação dos Criadores de Bovinos de Raça Mirandesa.