Meat Production and Market in Italy

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SUMMARY

Aim of this review was to describe the Italian meat production and market. The weight of Italian meat production in terms of the national agriculture gross domestic product (GDP) is around the 25%. The present review will analyze the market and the productive systems of the main types of meat sold in the Italian market focusing the attention on their strength and weakness points as well as the possible future developments. The final part of the article will evaluate the recent trends of consumptions for the different meat in Italy as well as the expectations of the Italian consumer when buying meat products.

KEY WORDS

livestock production, meat market, Italy

INTRODUCTION

The Italian meat production has a long history and tradition and its weight within the national agriculture gross domestic product (GDP) is around the 25%. Italy is not self-sufficient for the meat production and the import of meat and live animals represents two of the main negative voices of the agricultural deficit of the country (Table 1).

Table 1. Italian deficit for meat and live animals tradings (000 €) in the year 2002

	Import	Export	Balance (E–I)
Meat	3.086.250	950.850	–2.135.400
Live animals	1.357.080	27.343	–1.329.737

Istat, 2003.

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Light pigs	1006.2	87
Heavy pigs	11517.7	158

Istat, 2002.

CATTLE MEAT

Two main types of cattle meat are sold in Italy: veal and red meat from adult cattle as shown in Figure 1. The Italian supply of veal and red meat does not cover the national demand of both products (Table 2). However, in the last decade the percentage of self-supply has been increasing mainly due to the drop in consumption due to the outbreak of the mad cow disease.

Table 2. Italian consumption, domestic production and self-supply of cattle meat in the years 1991 and 2001

	1991	2001
Consumption, (000 t)	1441.7	1216.2
National production, (000 t)	889.8	906.7
Self–supply, %	61.4	74.6

Istat, 2001.

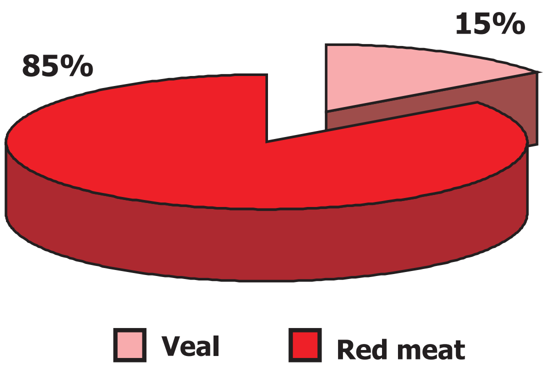

Figure 1. Market share for type of cattle meat in Italy.

Veal meat

Veal meat is produced by fattening milk suckling male calves of about 8-10 d of age to an average slaughter live weight of 240 kg (Table 3). Veal calves are kept in close barns for the whole fattening period and they receive a milk replacer diet to obtain a so-called "white meat" with a pale pink color due to a low content of myoglobin in the muscle tissue. The demand of veal meat in Italy is only partially covered by the internal production. The veal calves reared and slaughter in Italy represent 67.6% of the total demand while the remaining (32.4%) is covered by importing veal meat mainly from Holland and France. Calves reared for veal production are mainly Holstein or Brown males. Only one third of the animals slaughtered in Italy is born in the country (37%) while the imported calves (63%) mainly comes from Poland (28%), France (13%), Germany (9%), and Austria (8%).

Over the last two decades, there has been an increasing public concern for the production system of veal calves particularly from the animal welfare point of view. Criticism were centred on the small space allowance given to the calf, the lack of social contact for calves kept in individual crates, the denial of roughage and the low haemoglobin levels which are maintained to produce the white meat (Broom, 1991; Le Neindre, 1993). Regulations on the welfare of veal calves were adopted at EU level and from December 31st 2003 the 97/2/EC Directive by the Council of Europe (EU Council, 1997) will impose the adoption of the group housing and the provision of a small amount of roughage in the diet of the calf.

Since the traditional housing system of veal calf in Italy was the individual housing, the transition to the group housing represents the main concern for the veal producers. The group housing increasing the space allowance per calf will reduce the stocking rate per fattening unit. Moreover, its adoption implies a severe financial effort for the partial or complete replacement of the old housing structures and therefore a reduction in the total number of veal farms seems to be expected.

Adult cattle

The production of red meat from more adult animals represents the largest share of the Italian cattle meat (Figure 1). Several types of production can be found within this aggregate, as shown in Table 3. Beef bulls and heifers are slaughtered for the internal market while meat from culled and beef cows is mainly exported. Consistent with the veal production, the Italian self-supply of red meat in not sufficient to cover the national demand. About 30% of the market is covered by imported meat (mainly from France and Spain), while the animals fattened in Italy represent the remaining 70%. However, less than a half of them are born in Italy belonging to the Italian beef breeds (Piedmontese, Chianina, Romagnola, Marchigiana, Podolica, Maremmana), to dual purpose breeds (Pezzata Rossa Italiana, Valdostana, Grigia Alpina and Rendena), and to breed crosses between bulls of beef breed (Belgian Blue, Charolais and Limousin) and dairy cows. The other half of the animals are imported at about 12 months of age mainly form France (80%) or from Eastern European Countries to be finished within 6-10 months under intensive rearing conditions. The main features of the Italian beef farms are the high stocking rate and the loose housing on slatted floor indoors. The beef cattle in Italy does not graze and its feeding program is based on corn products (silage and meal), sugar beet pulps, soybean meal and cereals straw as fibrous source.

Due to the high stocking rate the Italian beef production system has been criticized for its environmental impact and so far, the Italian beef farmers have been penalized by the agricultural policy of the EU which subsidize primarily the more extensive systems of production adopted in France and Ireland. As regard to the welfare issue, there is

79.0
79.9

Table 3. Categories of beef cattle slaughtered in Italy in the year 2002.

	Heads (000)	Average live weight (kg)	Dressing percentage (%)
Veal calves	1.075	240	59.5
Beef bulls	2.017	563	58.1
Beef heifers	658	443	56.2
Culled and beef cows	548	565	46.2

Istat, 2002.

no regulation in force for the beef cattle in Europe likely because of the large differences existing among the fattening systems adopted by different Countries. However, when compared to the findings of the recent EU report on the welfare of cattle kept for beef production (SCAHAW, 2001), space allowance, type of floor and the space/animal at manger of many Italian beef farms seems below the threshold of acceptance (Gottardo et al., 2003).

The market and the Italian producers of beef meat are still struggling with the consequences of the BSE crisis. The drop of beef consumption observed right after the detection of the first positive case in Italy was never recovered.

The future prospects of the whole compartment of cattle meat remain uncertain. The insufficient self-supply, the intensive production system and its relevant environmental impact, and the decreasing demand of product by the consumer are the main critical factors of these type of meat.

PORK MEAT

The swine production is one of the compartments of the Italian animal husbandry which has shown a continuous positive trend in the last decade (Table 4). The driving force of this development was the increased demand of pork meat and pork products which was not affected either by the BSE facts.

The increased consumption of pork meat supported the growth of the national production which in a relative short period of time turned from a traditional to an industrial integrated system. However, this growth of the internal production never fulfilled the gap with the total demand and the self-supply of pork meat remains quite stable (Table 4).

Table 4. Italian consumption, domestic production and self-supply of pork meat in the years 1991 and 2001.

	1991	2001
Consumption, (000 t)	1509.8	1743.2
National production, (000 t)	992.2	1137.5
Self–supply, %	65.7	65.3

Istat, 2001.

The Italian swine industry is mainly oriented towards the production of heavy pigs which represent more of the 86% of the total number of animals slaughtered in the Country (Table 5). Heavy pig supplies the hind legs used for the production of "Prosciutto crudo" the dry cured ham the most valuable product of the pig industry in Italy.

The import of swine product is mainly addressed towards the fresh or frozen meat from light pigs (661.000 t in 2002) while the import of live animals in the same year was below the 900.000 heads. The Netherlands (34%), Germany (19%), Denmark (17%) and France (14%) are the main Countries which supply pig meat and live animals to the Italian market.

About 70% of the Italian pig production is located in the Po Valley and the sole Lombardia region counts for about one third of the entire national swine population. In these areas, the pig units are big in size (from 5.000 up to 40.000 pigs/unit) and adopt intensive systems of production along with modern strategies of management. Similarly, in the Veneto region, the pig farms with more than 1.000 pigs represent less than 2% of the entire regional pig farm population but they concentrate 80% of the 700.000 animals (Veneto Agricoltura, 2003).

The high stocking rate of these production units is responsible for the increased N and P excretion which nowadays represents the main weakness factor of the Italian pig industry. The EU regulations for the management of animal manure will force many of these farms to invest large capitals towards solutions capable to reduce their environmental impact.

On the other hand, the main strength factor of the Italian pig industry is represented by the top quality

Table 5. Categories of pigs slaughtered in Italy in the year 2002.

	Heads (000)	Average live weight (kg)	Dressing percentage (%)
Piglets	742.9	17	79.7
Light pigs	1006.2	87	79.0
Heavy pigs	11517.7	158	79.9

Istat, 2002.

of its production. Along with the two worldwide known products like the “Prosciutto di San Daniele” and “Prosciutto di Parma” more than 20 other pork products have been labeled with the a PDO (Protected Designation of Origin) or PGI (Protected Geographical Indication) marks (EU, 2003).

POULTRY MEAT

Poultry meat is the only category of meat for which Italy is self-sufficient (Table 6). In the last decade consumption and domestic production have shown a continuous positive trend particularly after the outbreak of the mad cow disease. The domestic production of the poultry industry is mainly oriented towards two products: broiler (56.0% of the total production) and turkey (30.2%), while hens and the other domestic fowls play a more marginal role (7.4% and 6.4% respectively) as shown in Figure 2.

Similarly to the swine compartment, poultry farms operate according to an industrial philosophy with high concentration of animals and modern strategies of management. In many productive units, the financial control of the farm is taken over either by food or feed supply companies, which provide animals, feedstuffs, and technical and veterinary support. In this situations, the farmer is rewarded for his labour and for the use of the farm structures. This integrated system of production is one of the strength points of the Italian poultry industry allowing to better overcome the periodic crisis due to overproduction or to the outbreak of diseases such as the avian flue.

Up-to-date, the main weakness factors of the poultry industry are the environmental impact of the farms and the control of the diseases. Despite the high number of farms operating in the poultry compartment, the Italian production is concentrated in a limited number of producers. Data in Table 7 show that 96% of the total production of broilers is obtained with the contribution of 538 farms which represent only 1.5% of the total number of the producers. The high stocking rate of many of these large productive units raise the problem of the management of the poultry manure produced by the farm. The severe regulations to prevent N and P pollution do not allow the land distribution of all this material requiring the adoption of expensive solutions for their recycling. The high concentration of birds/farm requires also a strict hygienic and sanitary control to avoid the dramatic production losses due to the spreading of diseases. The sole avian flue has brought to the stamping out from the Italian poultry farms of 3.5 million turkeys and 1.3 million laying hens during the period October 2002 – April 2003 (CREV, 2003).

RABBIT MEAT

Italy is the European and world leader for the rabbit production with a domestic production of almost 250 t (Table 8). However, this production do not cover the domestic demand of this type of meat which has been increasing in the last decade.
There is a geographic effect on the type of product found in the Italian market. The average live weight of the rabbit at the end of the fattening period is 2.6-2.8 kg in the Northern regions with the exception of the Piemonte region where it reaches 3.0 kg. The live weight decreases to 2.4 – 2.5 kg in the Center while in the South of the peninsula it is around 2.0 kg. This changes are mainly due to a climatic factor.

Rabbit farms adopt intensive rearing systems and modern strategies of management. Often the farms are managed by food or feed supply companies which provide animals, feedstuffs, and technical and veterinary support. Likewise the poultry farms, the number of animals per productive unit is high and often this parameter is associated to a high stocking rate. Therefore, the environmental impact and the sanitary problems are the main weakness points of the compartment. Calculations about the total

Table 6. Italian consumption, domestic production and self-supply of poultry meat in the years 1991 and 2001

	1991	2001
Consumption, (000 t)	1068.4	1181.6
National production, (000 t)	1051.6	1247.6
Self–supply, %	98.4	105.6

Istat, 2001.

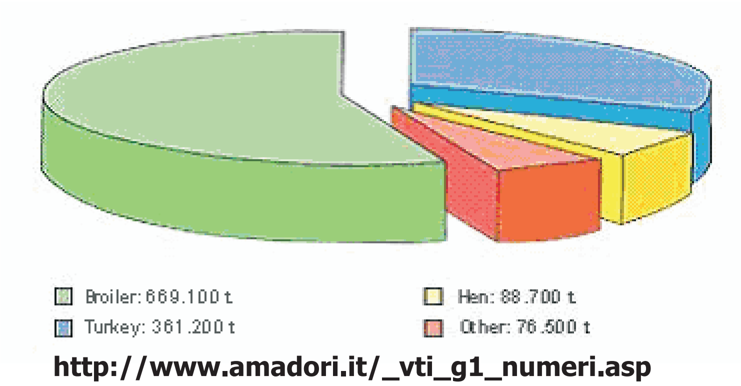

Figure 2.
Market share for type of poultry meat in Italy (year 2001)

Table 7. Partition of the Italian broiler farms according to the number of animals and relative contribution to the total number of animal raised in the year 2000.

Animals/farm	Broiler farms number	Broiler farms %	Heads number	Heads %
< 100	35380	96.9	637592	2.3
100 – 1000	504	1.4	83705	0.3
1000 – 10000	97	0.3	427437	1.5
> 10000	538	1.5	26893018	95.9
Total	36519	100.0	28041752	100.0

Veneto Agricoltura, 2003.

Table 8. Italian consumption, domestic production and self-supply of poultry meat in the years 1991 and 2001.

	1991	2001
Consumption, (000 t)	238.4	260.6
National production, (000 t)	216.3	249.9
Self–supply, %	91.3	95.9

Istat, 2001.

Table 9. Italian consumption, domestic production and self-supply of sheep and goat meat in the years 1991 and 2001.

	1991	2001
Consumption, (000 t)	85.1	81.1
National production, (000 t)	96.6	45.3
Self–supply, %	65.3	55.9

Istat, 2001.

production cost of the rabbit in Italy have shown an increase of the incidence of medical prophylaxis and treatments from 2.7 to 4.5% in the last 7 years (Coniglionline, 2003)

SHEEP AND GOATS MEAT

The consumption of meat from sheep and goats is very limited in Italy and it has shown a negative trend in the last decade. In the same period, also the domestic production is decreased lowering to 56% the self-supply (Table 9). The Italian market of sheep and goats meat shows some peculiar characteristics. First of all it is mainly oriented towards the consumption of suckling lamb which represents 58% of the total meat slaughtered in the Country in the year 2002 (Table 10). A second aspect regards

Table 11. Partition of the import of sheep and goats meat in the year 2000.

Country	Percentage of the total import
Hungary	41.1
Macedonia	9.7
Rumania	5.7
Poland	5.7
Bulgaria	4.3
Others	33.3

INEA, 2000.

the seasonal trend of the demand (ISMEA, 1992). A survey on the consumption of small ruminants meat by the Italian consumer has shown the clear prevalence of those who buy this food product on the occasion of the main Christian festivities (75.2%). Sixty-two percent of the interviewees indicated Easter as the only time of year when they buy sheep and goat meat (lambs and kids in particular) followed Christmas time (28%). This behaviour is particularly marked in the Northern part of the Country, while in the South and the main islands there is an increase of the consumption at Christmas time and some meat (mainly heavy lambs and adult sheep) is consumed in the town celebration during the summer time. The deficit of the domestic production is mainly covered by the import of live animals from Eastern Europe and from Hungary in particular (Table 11).

THE CONSUMER PERCEPTION

In the recent years, the Italian consumer has shown an increased lack of confidence toward the consumption of meat products and particularly towards the meat

Table 10. Categories of sheep and goat slaughtered in Italy in the year 2002.

	Heads (000)	Average live weight (kg)	Dressing percentage (%)
Suckling lambs	5021.6	13	58.1
Heavy lambs	699.6	25	52.0
Adult sheep	608.4	42	48.7
Kids	500.2	10	61.2
Others	105.4	—	—

Istat, 2002.

Table 12. Italian per capita meat consumption in the years 1991 and 2001.

	Per capita consumption (kg) 1991	2001	2001/1991 (%)
Total meat	84.3	81.7	–3.1
Cattle	26.4	22.4	–16.2
Pork	27.4	28.7	+4.7
Poultry	19.7	20.5	+4.1
Rabbit	4.0	4.3	+7.5
Sheep and goats	1.7	1.2	–29.5

Istat, 2002.

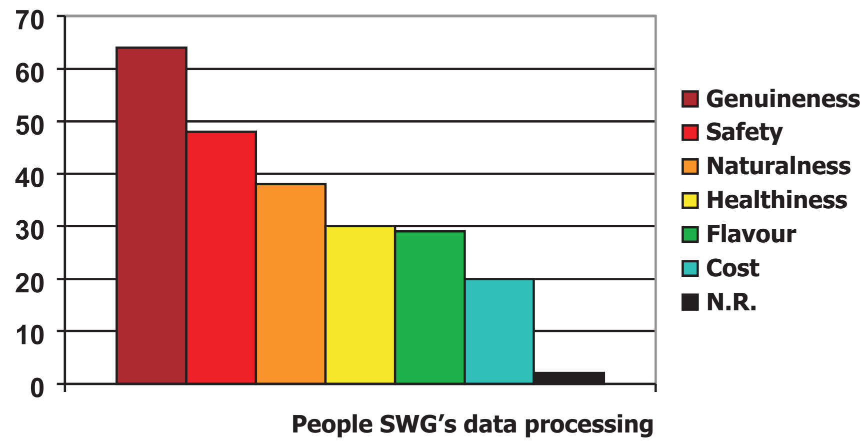

Figure 3.
The main meaning of food quality for the Italian consumer (%).

of ruminant animals (Table 12). The main reasons of this negative trend are:

- The new food habits of the young generations;
- The negative impact of the food scandals involving meat products;
- The progressive decline of the organoleptic traits of the meat.

As in many other North European Countries, Italy is showing a continuous increase in the number of vegetarians particularly among the young generations. Support to this trend comes by the progressive concern of the people about the "animal rights" and the rearing conditions of the farm animals which has led to the issue of several EU regulations in the matter of animal welfare (EU, 2003).

Food scandals like the BSE or the dioxin-contaminated poultry in Belgium have created a negative shadow on the safety and genuineness of meat products. In April 2000, the Italian Institute of Food Research and Nutrition (INRAN, 2000) carried out an opinion poll on what Italian consumers thought about the food safety at that time. Virtually, every Italian had heard about the BSE problem. People were also very much aware of the cases of food-born botulism and salmonella that occurred in Italy shortly before the poll as well as the discovery of dioxin-contaminated poultry and eggs in Belgium. Therefore, it was not surprising that they rated meat and eggs to be unsafe foods. Data from ISMEA (2001), showed that during the period of the BSE crisis (November 2000 – November 2001) the Italian consumer decrease of about 5% the total consumption of meat. The drop was dramatic for cattle meat (-28%) involving either the red one (-30%) or the veal (-25%) and it was only partially compensated by the increase in pork (+18%), poultry (+14%) and rabbit meat (+5%).

A recent poll carried out to understand the consumer perception of food quality by the Italian consumer has rated in the top positions factors such as genuineness and safety leaving flavor and cost behind (Figure 3).

The general decline observed in the organoleptic traits of the meat has arisen from several reasons. In the case of red meat the loss of taste and flavour can be mainly related to the reduced marbling since the lipid fraction plays a key role in the determination of these traits (Kerry et al., 2002). Moreover, the reduced intramuscular fat deposition has a negative effect on meat tenderness which in cattle has also been worsened by the progressive reduction in the time of muscle tissue maturation after slaughtering (Seideman et al., 1987).

CONCLUSIONS

The future of the meat market in Italy is strictly dependent on the recover of the consumer thrust particularly from the food safety point of view. This implies a strong effort by the entire productive chain towards the adoption of clear and transparent management strategies to reach the complete traceability along the chain itself.

Regardless of the type of meat, the maintenance of the domestic production will require the adoption of effective solutions capable to reduce the environmental impact of the animal husbandry which nowadays appears as the main weakness factor. Following the positive results obtained by the swine compartment, support to the domestic meat production will come from the labeling of specific products with geographical indications and designations of origin (PDO, PGI marks) promoting, in a rural development context, the diversification of the agricultural productions.

A positive consequence on the consumer's acceptance is also expected from the adoption of "welfare friendly" production systems by the conventional farms as well as from the growth of the organic farming.

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