

## STUDIES ON MEAT SOURCES TO COVER PROCESSING, CONSUMPTION AND TRADE NEEDS IN ROMANIA

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### *Abstract*

*Meat processing is an important sector of the food industry, which has a special impact on increasing the competitiveness of the national economy, but also on ensuring the food security of Romania. The tradition of raising animals and the processing of agri-food raw materials can ensure the need for raw materials, satisfying the internal consumption, but also making income for the meat processing company in Romania. The meat market, at national level, is in deficit, being dependent on meat imports, while on the export live animals are valued, with a low added value. The purpose of this paper is to highlight the current situation in the meat processing sector in terms of production, consumption per capita and meat imports and exports, comparing with the number of meat processing units. The study highlights the decrease in domestic meat production of poultry, pigs and cattle, except for the production of sheep and goats that is increasing, between 2015 and 2017, where in beef production decreased by 18.99%, pork production decreased by 3.85%, poultry meat production decreased by 4.58%, and in sheep and goat meat production increased by 5.86%. Imports of meat from the analyzed species are increasing, also the consumption of meat per capita is increasing, but also the companies in the field of meat processing are increasing.*

**Key words:** meat production, meat processing, meat consumption, balance of meat, meat processing company

### INTRODUCTION

The evolution of the perception of romanian food has evolved rapidly in the last three decades, in response to the socio-economic changes. The generation of particular models of food consumption is due to the socio-economic status (SES) and the distribution of the settlement type of the population, because Romania is in a transition phase [8].

Romania faces certain vulnerabilities in terms of food security for the population, among these vulnerabilities is the lack of self-sufficiency of certain basic foods such as meat, fruit, sugar and fish, in which the systematic deficit is covered by imports [1].

Since the production of beef has decreased, imports have been made to cover the difference between production and consumption. The main cause is the decrease of the live stock of cattle, due to the high prices for agricultural inputs and the low price per kg of meat [9].

The pork sector in Romania has been and is still affected by African swine fever, with a significant loss, which takes several years to recover from this crisis. Pork is by far the one preferred by the Romanian consumer, this will increase the trade imbalance in the coming years, with a consequence on the prices on the position on the market of pork producers in Romania and the prices on the domestic market [2]. Pork production is influenced by many factors, among which consumer demand occupies an important place [11].

Romania ranks third in the EU28 in terms of sheep numbers (9.8 millions), having a self-sufficiency for sheep meat of 150 % and therefore exports are important at national level [4]. The Orthodox tradition during Easter is the reason why sheep and goat meat production has remained constant, with demand on the market [7].

Romania is an importing country of animal products, it is also not competitive with other EU countries in the animal production sector.

[5]. In order to avoid the dependence of Romania's agri-food market on imports and affecting local producers, a balance between animal production and crop production must be created in the future strategy [6].

Romania's potential for meat production for the domestic market and export is very high. In order to ensure high production and quality of sheep and goat carcasses, it is necessary to organize their breeding associations. Consistent aid for livestock breeders in this sector comes from national aid and coupled support [10].

## MATERIALS AND METHODS

In this paper, a study was carried out regarding the current situation in the meat industry from the perspective of the production, consumption per capita and of the imports and exports of meat, but also the

evolution of the number of meat processing units in Romania. The data were extracted by consulting the databases of the National Institute of Statistics and the Organization for Food and Agriculture, and were processed as interpreted in tabular and graphic form:

- (i) Meat production in Romania 2015-2017
- (ii) Trade balance of meat between 2015-2017
- (iii) Annual average consumption of meat per capita between 2015-2017
- (iv) The number of Romanian companies in the field of meat processing between 2015-2017

## RESULTS AND DISCUSSIONS

Situations regarding the perspective of the number of meat processing companies, meat production, meat consumption per capita, meat import and export are presented in the following tables.

Table 1. Meat production in Romania, 2015-2017 (Tonnes)

Animal species	2015	2016	2017	Total production	Dynamics (%)		
					2016/2015	2017/2016	2017/2015
Cattle	118,851	116,177	96,270	331,298	-2.24	-17.13	-18.99
Swine	470,055	500,777	451,940	1,422,772	6.53	-9.75	-3.85
Sheep and goats	79,623	87,024	84,288	250,935	9.29	-3.14	+5.85
Poultry	410,783	418,720	391,958	1,221,461	1.93	-6.39	-4.58
Total	1,079,312	1,122,698	1,024,456	3,226,466	4.01	-8.75	-5.08

Source: <http://www.fao.org/faostat/en/#data/QL>, Accessed on Sept.20, 2019 [3].

Table 2. Trade balance of meat between 2015-2017 (tonnes)

Animal species				Total import				Total export
	2015	2016	2017		2015	2016	2017	
Cattle	4,468	5,018	2,708	12,194	873	3,134	5,163	9,170
Swine	88,934	88,891	77,693	255,518	9,944	8,353	19,226	37,523
Sheep and goats	381	350	380	1,111	3,623	6,795	5,395	15,813
Poultry	90,836	100,412	107,825	299,073	56,341	63,092	63,229	182,662
Total	184,619	194,671	188,606	567,896	70,781	81,374	93,013	245,168

Source: <http://www.fao.org/faostat/en/#data/TP>, Accessed on Sept.20, 2019 [3].

As shown in Table 1, the sheep and goat meat industry is the most dynamic field in meat production, where it registered a growth of 5.85% in 2017 compared to 2015. In 2016 it increased by 9.29% compared to 2015, and in the following year, 2017, production decreased by 3.14% compared to 2016. Beef production has a decrease of 18.99% in 2017 compared to the production of 2015.

In the case of pigs, there is a 6.53% increase in meat production in 2016, compared to 2015, and then, in 2017, the production variation registered a decrease of 3.85% compared to 2015. Poultry recorded a slight increase of 1.93% in 2016 compared to 2015, followed by 2017 having a deficit of 4.58% compared to 2015.

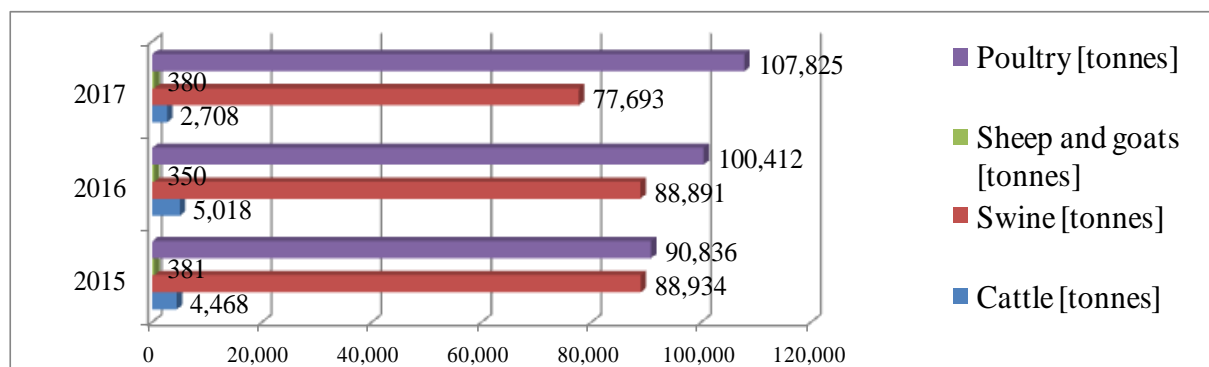


Fig. 1. Evolution of meat imports between 2015-2017  
 Source: Processed by the author based on the data FAO (2019) [3].

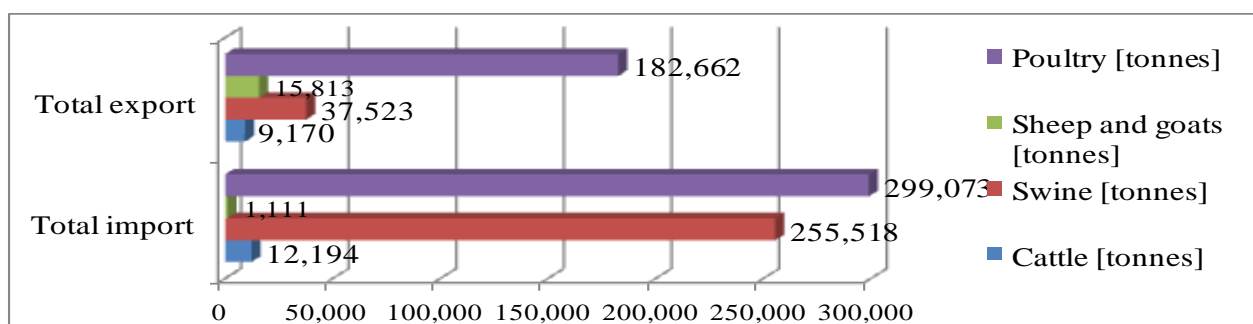


Fig. 2. Evolution of meat exports between 2015-2017  
 Source: Processed by the author based on the data FAO (2019) [3].

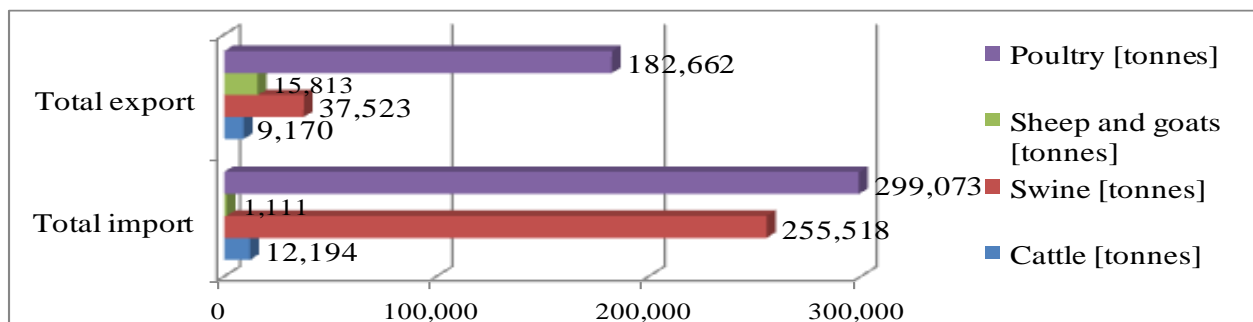


Fig. 3. Trade balance between 2015-2017  
 Source: Processed by the author based on the data FAO (2019) [3].

Figure 1 shows the data from Table 2 on the situation of meat imports in the period 2015-2017. The poultry meat has a constant evolution regarding the situation of the imports having a value of 90836 tonnes in 2015, 100,000 tonnes in 2016, respectively in 2017 reaching 107825 imported poultry meat. Import of sheep and goat meat remained approximately constant in this period, in 2015 381 tonnes were imported, in 2016 it decreased to 350 tonnes, and in 2017 reaching 380 tonnes. Pork has decreased in import, reaching from 88,934 tonnes in 2015 to

77,693 tonnes in 2017. As regards the import of cattle, it has decreased during this period, with a value of 4,468 tonnes in the year 2015, and in the year 2017 having a value of 2,708 tons.

Figure 2 shows the data from Table 2 on the situation of meat exports for the period 2015-2017. Poultry meat registered the highest value of exports, rising from 56,341 tonnes in 2015 to 63,229 tonnes in 2017. Sheep and goat meat has a positive evolution, with a value of 3,623 tonnes in 2015, and in 2017 it reaches the value of 5,395 tonnes. Also, the

pig meat has a positive evolution regarding the export with a value of 9,944 tonnes in 2015 and reaching 19,226 tonnes in 2017.

Beef has evolved with an export value of 873 tonnes in 2015 and reached 5,163 tonnes in 2017.

Figure 3 shows the total imports and exports of meat between 2015-2017. The poultry meat registered a total import of 299,073 tonnes, well above its export which had a value of 182,662 tonnes. The meat of sheep and goats has a total export greater than its import, which has a value of 15,815 tonnes, respectively 1,111 tonnes. The total import of pigs has a value of 255,518 tons, as well as over its export, which has a value of 37,523 tons.

Table 3. Average annual consumption of meat per capita (kg / capita)

Animal species	2015	2016	2017
Cattle	6.3	6.1	4.9
Swine	31.3	32.9	36.1
Sheep and goats	2.2	2.3	2.3
Poultry	23	24.1	24.9
Total	<b>62.8</b>	<b>65.4</b>	<b>68.9</b>

Source: <http://statistici.insse.ro:8077/tempo-online/#/pages/tables/insse-table>, Accessed on Sept.20, 2019 [12].

The beef has a total import of 12,194 tons, and its total export has a value of 9,170 tons.

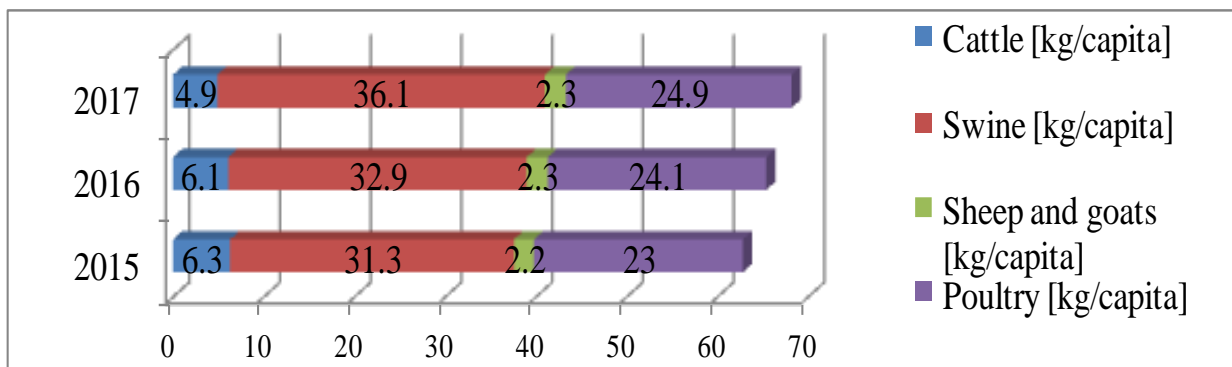


Fig. 4. The situation of the average annual consumption per capita (kg / capita), in Romania, between 2015-2017  
Source: Processed by the author based on the data INS (Tempo online, 2019) [12].

Figure 4 shows that the trend of meat consumption is constantly increasing, except for the consumption of beef where in 2015 it had a value of 6.3 kg / capita and in 2017 it decreased to 4.9 kg / capita. Pork was the first ranking in consumer preferences, rising from 31.3 kg/capita (2015) to 36.1 kg/capita (2017).

Then comes the poultry meat with a consumption of 23 kg/capita in 2015, reaching 24.9 kg/capita in 2017.

The sheep and goat meat is the last place with a consumption of 2.2 kg/capita in 2015 and reaching 2.3 kg. per capita in 2017.

The situation of the meat processing companies, in Romania, between 2015-2017 is presented in Table 4.

Table 4. The situation of the meat processing companies, in Romania, between 2015-2017

Domain of activity of the company	Number of companies in Romania		
	2015	2016	2017
1011 - Meat production and preservation	448	453	476
1012 - Processing and preserving of poultry meat	50	51	66
1013 - Manufacture of meat products (including poultry products)	349	349	394

Source: <http://statistici.insse.ro:8077/tempo-online/#/pages/tables/insse-table>, [12].

Figure 5 shows an increase in the number of companies in the field of meat processing, between 2015-2017, in Romania. At Activity 1013 - Manufacture of meat products (including poultry products) in 2015, there were 349 companies, and in 2017 the number increased to 394 companies with this activity.

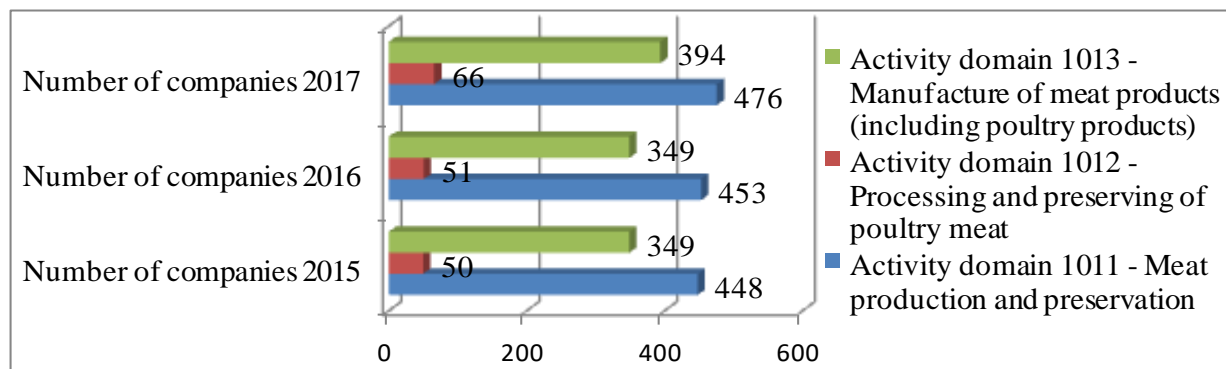


Fig. 5. The situation of the meat processing companies, in Romania, between 2015-2017

Source: Processed by the author based on the data INS (Tempo online, 2019), [12].

Regarding Activity domain 1012 - Processing and preserving of poultry meat, in 2015 there were 50 companies, and in 2017 the number increased to 66 companies. In the case of Activity Area 1011 - Meat production and preservation, if in 2015 there were only 448 companies, in 2017 their number increased to 476 companies with this activity.

## CONCLUSIONS

It is concluded that, in the period 2015-2017, in Romania, the domestic production of sheep and goat meat is increasing, while the domestic production of pigs, poultry and cattle is decreasing. During this time, sheep and goat meat production increased by 5.86%, poultry production fell by 4.58%, beef production fell by 18.99%, and pork production decreased by 3.85%.

Total meat imports are very high compared to total meat exports, with the exception of sheep and goat meat, which has increased.

The total meat consumption of the analyzed species is constantly increasing, in 2015 there was a consumption of 62.8 kg/capita, in 2016 there was a consumption of 65.4 kg/capita, and in 2017 it reached 68.9 kg/capita. Also, the number of meat processing companies is constantly increasing between 2015 and 2017.

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