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The pig sector in Spain: characterization, production, trade and derived environmental problems

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ARTICLE SECTION

The pig sector in Spain: characterization, production, trade and derived environmental problems

Abstract: Spanish pork production has not stopped growing in recent years. Sacrifices in Spain account for 21,5 % of the total in the EU. This development is due to the good growth rate of exports. The objective of this paper is to explore the recent evolution of the livestock sector in Spain. Indicators such as the census of animals and their typology, the evolution of producing farms, the mode of exploitation, their spatial distribution, as well as the production and marketing of derived products are analyzed. Spain is the fourth largest producer in the world, after China, the US and Germany, while at the European level it occupies the second place in production, with 19 % of the tons of meat produced, and the first place in the census, with about 21 % of community pigs. However, pig production is considered one of the livestock activities with the greatest environmental impact.

Key words: livestock, pig sector, marketing, consumption.

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IDEAS CLAVE / HIGHLIGHTS / IDEES CLAU

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| <ol style="list-style-type: none">1. España se ha convertido en un país de referencia mundial en la producción de ganado porcino.2. El impacto económico y medioambiental de esta actividad ganadera cuenta con la legislación necesaria y actualizada.3. El volumen y la capacidad productiva de la cabaña de ganado porcino española la sitúa en los primeros puestos a nivel mundial.4. Cataluña y Aragón acumulan la mitad del censo de ganado porcino español.5. Las exportaciones de carne y productos derivados del cerdo explican el crecimiento de la explotación del ganado porcino en España. | <ol style="list-style-type: none">1. Spain has become a world reference country in pig production.2. The economic and environmental impact of this livestock activity has the necessary and updated legislation.3. The volume and production capacity of the Spanish pig herd places it at the top of the world ranking.4. Catalonia and Aragon account for half of the Spanish pig herd.5. Exports of meat and pork products account for the growth of pig farming in Spain. | <ol style="list-style-type: none">1. Espanya s'ha convertit en un país de referència mundial en la producció de bestiar porcí.2. L'impacte econòmic i mediambiental d'aquesta activitat ramadera compta amb la legislació necessària i actualitzada.3. El volum i la capacitat productiva de la cabanya de bestiar porcí espanyola la situa en els primers llocs a nivell mundial.4. Catalunya i Aragó acumulen la meitat del cens de bestiar porcí espanyol.5. Les exportacions de carn i productes derivats del porc expliquen el creixement de l'explotació del bestiar porcí a Espanya. |
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EXTENDED ABSTRACT¹

Introduction

The notable consumption of food products derived from pork since the end of the last century has boosted the demand for meat from this animal, stimulating and intensifying its production in Spain.

The main change in the swine sector has consisted in the transition from a multifunctional livestock, typical of an organic-based livestock activity, to an intensive livestock model, specialized in meat production. In this sense, different changes are being experienced in the means of pig breeding and commercialization, whose examination is necessary.

With this paper we try to show the recent evolution of this livestock sector in Spain, and see its relevance within the European and global context. For this, indicators such as the census of animals, their typology and state of development, the proliferation and evolution of producing farms, the type of exploitation carried out in each of them, their distribution in the national territory and gross production and marketing (tons of meat and thousands of euros), indicating the main importing countries of goods derived from pig farming, are analyzed.

Data and Methodology

The methodology followed to carry out this study is based on the collection, treatment, analysis, contrast and interpretation of the various data obtained from different sources (statistics and documentaries) relating to both national and international pig farming, as well as any other related issue that has been necessary for the structuring, argumentation and development of the paper. For example, the latest Royal Decrees that regulate the pig farming sector in Spain, and which have been published in the Official State Gazette.

The main data used has been collected from the official statistical office of the European Union (EUROSTAT) and from the different reports on the pig sector issued by the Ministry of Agriculture, Fisheries and Food (MAPA) of the Government of Spain.

Results

Relevance of Spanish pig farming on the international scale

The marked development of the Spanish pig sector is clearly reflected in the portion that it constitutes within the total European census (first position, followed by Germany). The percentage that the Spanish pig census represents in the intra-community framework has steadily increased, with a proportion of pigs that has gone from 16 % in 1983 to more than 21 % today (31.2 million). Likewise, sacrifices in Spain have gone from representing 16.3 % of the total of the European Union in 2007, to 21.5 % in 2019. Germany (in first position) and Spain accumulate about half of the animals slaughtered in the European community level. To some extent, the number of animals slaughtered reflects the amount of meat produced by each country. In this sense, Germany is again in first place, followed by Spain, with a pig production figure of over 5 million tons (2019). Spain contributes about a fifth of all the pig product obtained in Europe as a whole (23.7 million tons).

Germany and Spain make up, respectively, the third and fourth nation with the highest production derived from pork on the planet. Both countries, together, contribute about 10 % of all the pig production obtained in the world; although this value remains below that

¹ Traducción exclusiva de los autores / Authors' exclusive translation.

of the United States, which is the second largest producer in the world (11.8 %), and far from the world leader, which is China, and which accounts for almost half of all world production (43.8 % of the 106.1 million total tons).

Characterization of the pig cattle census in Spain

As is logical, pigs on fattening are the ones that predominate and those that have increased the most since the beginning of the 21st century. In 2019, this group of fattening animals accounted for 42.50 % of the entire pig census. Among the animals destined for procreation, the breeding sows stand out. The number of females used in fertilization, despite having been significantly reduced, has not fallen as dramatically as that of stallions.

The distribution of the Spanish pig herd among its Autonomous Communities has in two of them the highest volume of heads (Aragon and Catalonia). Together, both territories account for more than 50 % of the Spanish pig farming (around eight million head in each case). With half the number of animals (four million), Castilla y León is consolidated as the third pig region in Spain (14%), followed by Andalusia (8%) and Region of Murcia (6 %).

Currently, just over a tenth of the total pig livestock census is made up of the Iberian breed (the most emblematic in Spain). A variety of pork that has been produced for centuries using traditional techniques of extensive regimen, and that with industrialization and livestock intensification has been losing relevance in favor of the various types of white pig. Despite this, in recent years, several programs have been put into operation for the genetic improvement and conservation of the Iberian pig that are maintaining this species.

Evolution and distribution of pig farms according to type

The farms have undergone changes in orientation and production volume, which has caused a reduction in breeding facilities and a notable increase in their capacity. The intensification and concentration of all the productive phases in the same center is one of the factors that, to a greater extent, conditions the regression of the number of pig facilities. Around 80 % of farms perform intensive activity. However, during the last decade, a slight recovery of extensive and mixed facilities has also been observed, driven by the various programs for the conservation of traditional breeds and improvement of food quality.

The location of these pig farms in Spain shows a distribution and concentration that, to a certain extent, does not correspond to the distribution of the census of this cattle. Thus, with only 4.33 % of the pigs counted in Spain, Galicia is the autonomous community with the highest number of pig farms (29,072) in 2019. The region with the highest pig census in Spain is Aragon, but it only hosts 5 % of all national farms (4,555), with an average record of around 1,800 pigs per facility, which highlights the volume and degree of intensification of the same. The community of Madrid is the area with the least amount of pig production facilities in Spain, which is explained by the incompatibility of the development of this productive livestock activity with the proximity of large population centers or spaces occupied by activities in the industrial and of the service sector.

Analysis of production and trade derived from the Spanish pig sector

Almost 95 % of the pigs are slaughtered for food purposes (fattening pigs). This group, produced for its meat use, has increased the number of its slaughters by 33.64 % during the last decade.

The amount of pig products exported by Spain is much higher than that imported. Currently, the quantity exported by Spain is close to two million five hundred thousand tons. One of the reasons for the increase in exports lies in the international opening of the Spanish market beyond European borders, especially due to the high purchases of pork products by China. The Asian giant is the main Spanish customer, accounting for 60 % of the food sales derived from pork that Spain ships outside the EU.

The balance of meat exported within the EU has been losing strength in favor of that marketed outside of it. At the end of the first decade of the 21st century, about nine out of every ten tons exported by Spain had a destination within the same European region. This figure has been falling over the years to almost equate, at present, to that of extra-community billings. The sale of pork products within the EU is directed mainly to countries in the South: France, Italy and Portugal.

The monetary value of total exports is 12 times higher than that of imports (6.231 million euros compared to 506 million euros). However, the economic amount represented by purchases derived from pork has doubled in the last decade, with a figure that has gone from 253 million euros in 2009 to 506 million euros in 2019.

Swine meat consumption in Spain

The amount of tons of pork consumed in Spain has decreased by around 10 % in the last decade (1.07 million tons in 2009 vs 0.97 million tons in 2019). Even so, its consumption is practically double that of products from veal and poultry. The average intake of pork per person is above 20 kg. The type of swine meat most consumed in Spanish households is the one that has already been transformed. In 2019, this product with previous preparation registers a consumption of 526,382 tons (11.17 kg / person). The demand for fresh meat has fallen three times higher than that of processed meat. Among the factors that explain the decrease in the consumption of pig meat are the aging of the population and its lower need for animal protein, as well as the increase in healthy diets.

Conclusions

According to information from the Ministry of Agriculture, Fisheries and Food, the Spanish pig sector is of key importance in the Spanish economy, since it accounts for around 16 % of Final Agricultural Production. Within livestock production, the pig sector ranks first in terms of its economic importance, reaching 42 % of Final Livestock Production. In recent years, the pig sector has grown notably, both in production, as in censuses and in the number of farms, thanks to the push from foreign markets. With a very positive trade balance, Spain has established itself as the second largest exporter of pork in the EU, only behind Germany, dramatically increasing exports to third countries, especially China and other Southeast Asian countries.

However, pig production is considered one of the livestock activities that has the greatest effect on the environment due to the type and concentrations of waste (feces, urine and slurry) that are generated.