CHARACTERIZATION OF PRODUCTION SYSTEMS AND MARKETING STRATEGIES OF IBERIAN PIG FARMS IN SW SPAIN

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INTRODUCTION

Extensive Iberian pig farms in Spain are located in rangelands called "dehesas". These dehesas are agrofoestry ecosystems characterized by a combination of grazing, woodland and cropping land where different livestock species are raised at the same time. Dehesas are the most representative grasslands for the southwest quadrant of the Iberian Peninsula and the Iberian pig sector is one of the most important livestock systems for all this area. It is localized in the SW quadrant occupying a total surface area of 5.8 million ha in Spain and 0.5 million ha in Portugal (Joffre et al., 1999).

For the study of extensive production systems of Iberian pigs in Dehesas we must take in account that there are several ways of farming according to the intensification degree and the species raised. The farms can be run with a combination of pig and sheep, pig and cattle or even pigs, sheep and cattle. Just in a few cases, swine is raised by its own. The feedstuffs supplied for pig fattening is the other main difference that we can find in the different farms. Depending on the type of feedstuff used in this period and the age of the animal when is sold for slaughter the products marketed may vary. It will make a difference in the commercial name of the product (officially regulated by law in Spain) and it is linked to the quality of the product and the final price of the meat.

The aim of this study is to broaden and deepen the knowledge about pig farms located in the Spanish region of Extremadura (SW Spain) by using the multivariate statistical techniques that allow the identification of the best strategies adopted by the farmers to adapt them to the present market situation.

MATERIAL AND METHODS

The data were obtained from survey questionnaires conducted in 2011 of sample of 55 representative dehesa farms in Extremadura (SW Spain).

The questionnaire comprised a technical part to gather descriptive data on the area, infrastructure, livestock management and livestock species raised and an economic part to collect related to costs, output generated and income in the system including marketing information. The surveys were conducted on site, and the interviewee was generally the farm's owner or manager.

The multivariate statistical techniques used were: in the first stage, principal component analysis (PCA), a technique based on the elimination of the redundancy involved in dealing with many variables; and in the second stage, cluster analysis to classify the farms into homogeneous segments.

Finally, we calculated the values of the original variables for each group and subjected to Kruskal-Wallis contrast in order to analyze the possible significant differences of each variable for each group and describe each cluster. The statistical package SPSS (vn. 19.0) was used to perform the analyses.

RESULTS

Four types of farms with different production strategies have been identified and are described below:

Type 1: Cattle-pig farms oriented towards acorn pig production: these are mixed farms (they represent the 41.82% of the sample) and the production and sales strategies focus mainly on sales of acorn fattened pigs and also fattened calves and outdoor fattened pigs (without acorn, only with fodder) . Its main cost is pig's feedstuff. The suckler cows are used for grazing during the period when there is no acorn. These farms also receive benefits from cattle subsidies.

Type 2: Sheep and swine farms: these farms (29, 09% of the sample) have benefits below the average of all types. They seem to have the worst production strategy since they have fattening lambs feeding costs too high that are not compensated by sheep subsidies. Although some acorn fattened pigs are sold in these farms costs are not compensated.

Type3: Semi-extensive pig farms: these farms are the most intensified that's why they present highest feedstuffs costs (mainly feedstuff for fattening pigs). This type only represents the 7.27% of the sample and its main production strategy is the production of outdoor fattened pigs without having revenues from other livestock sales. The production of acorn fattened pigs is very low.

Type 4: Farms fattening acorn pigs and non-acorn outdoor pigs: this type of farm (21.82% of the sample) is the one that obtain higher gross margin mainly due to the reduced pig feedstuffs costs. The production strategy is the fattening of acorn fattened pigs and outdoor fattened pigs, similar to type 1, but in this case, farms do not breed sows. They buy piglets from other farms prior to the final phase to finish them.

Figures 1 to 4 show thee main variables used to explain the four types of farms

CONCLUSIONS

This study shows that best strategies for extensive pig farms in dehesa rangelands are based on the production of acorn fattened pigs. The classification has also contributed to our understanding of both the behavior of dehesa farms, and the land holders' management strategies deciding the type of fattened pig sold.

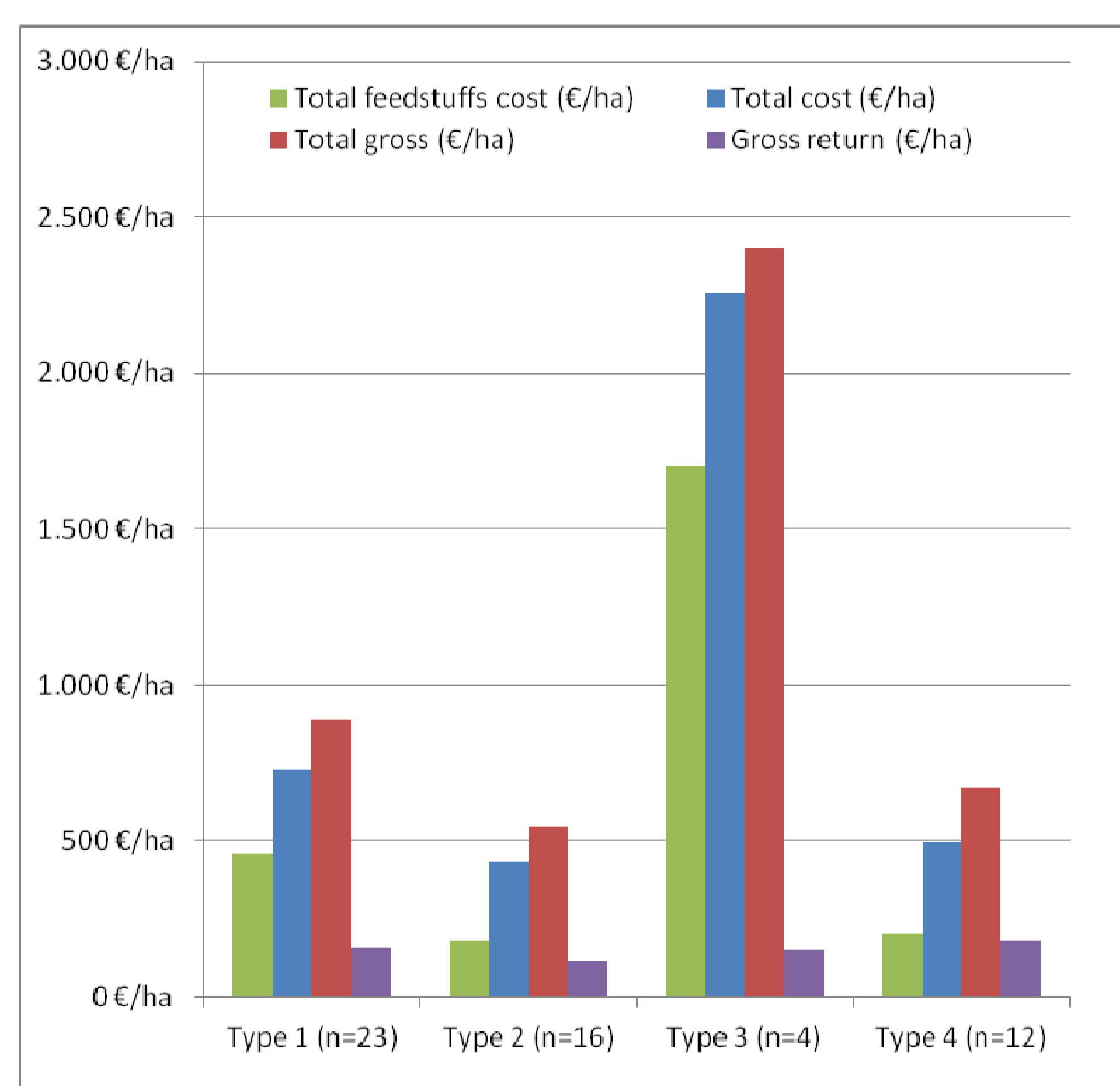Figure 1: Economic performance indicators
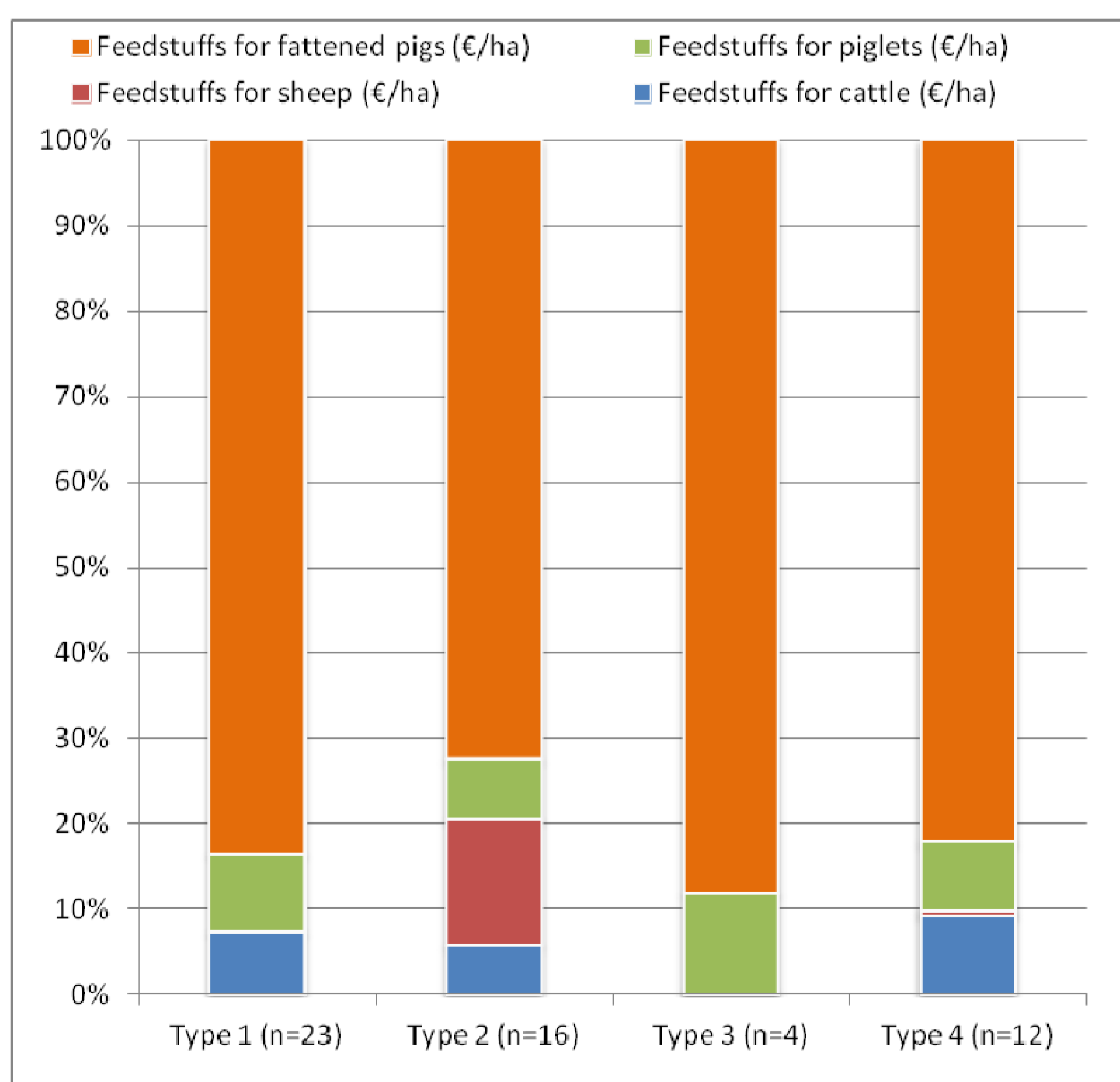

Figure 2: Livestock Sales comparison

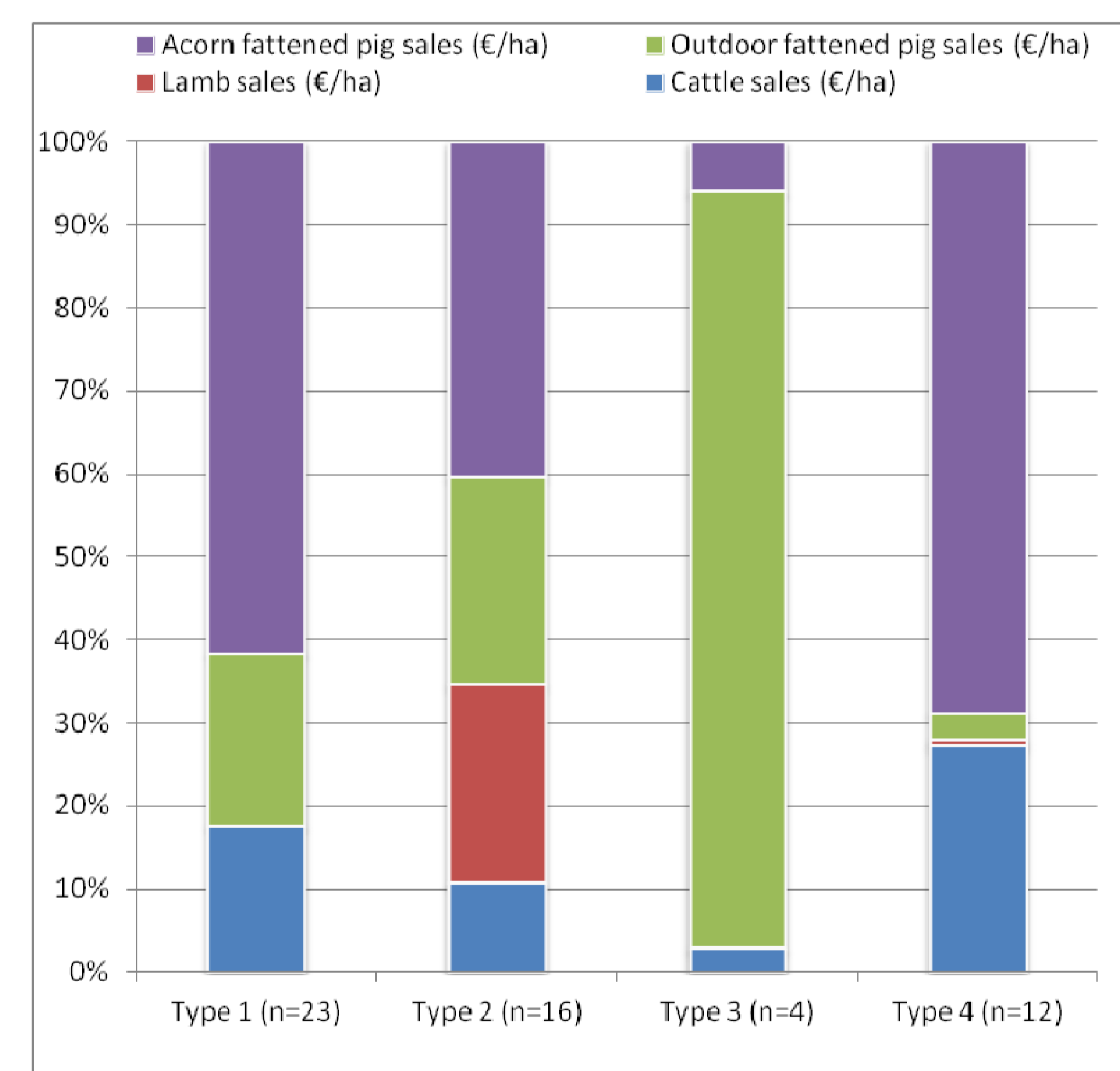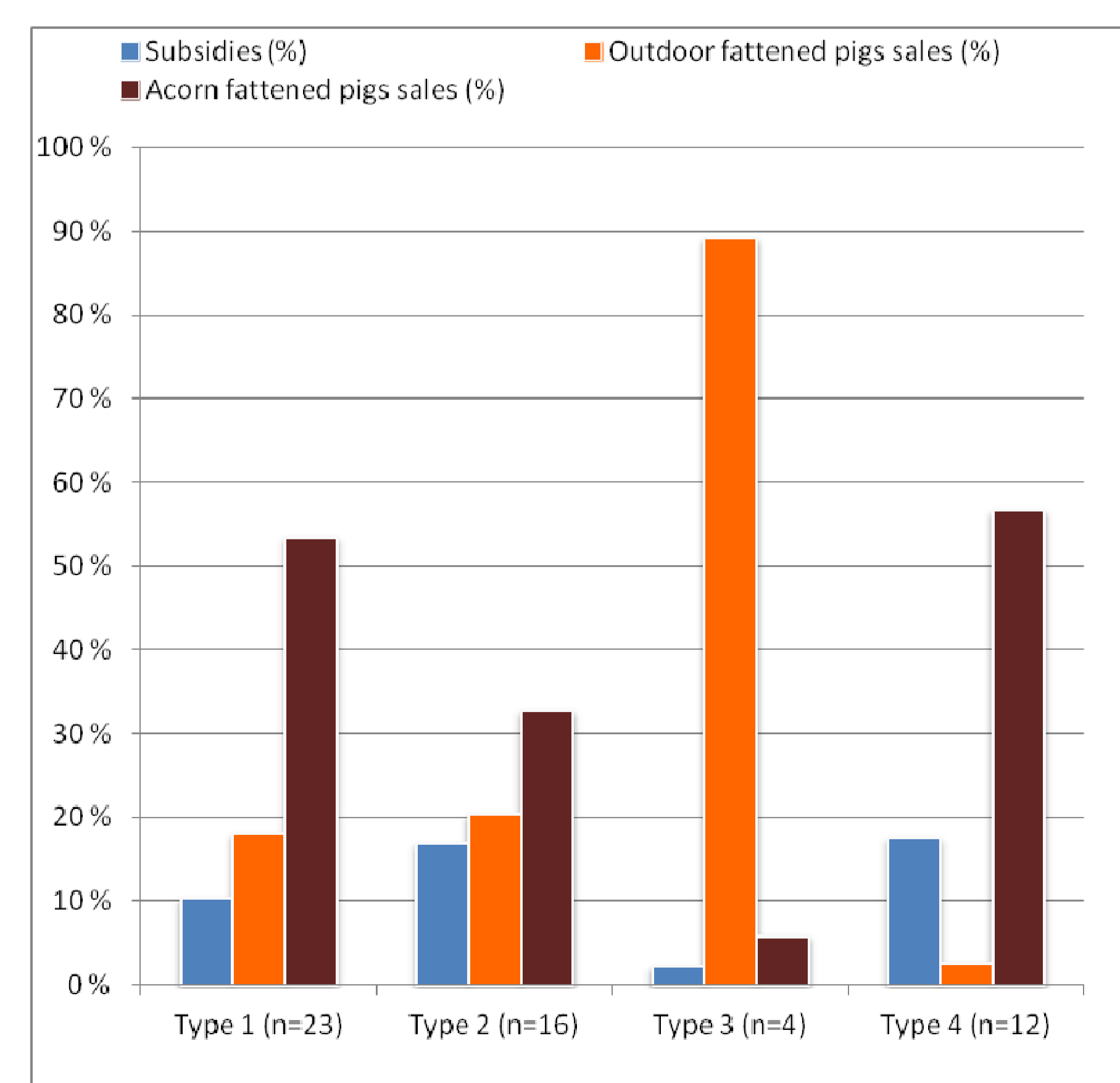Figure 3: Feedstuffs costs comparison

Figure 4: Income

REFERENCES

Joffre, R.S., Rambal, S., Rattet, J.P., 1999. The dehesa system of southern Spain and Portugal as a natural ecosystem mimic. Agroforest.Syst. 45, 57–79.