

Profit in slaughterhouses of the use of vaccinated pigs – part one

by Antonio Rouco Yáñez, Professor of Agricultural Economics, Department of Animal Production, Faculty of Veterinary Medicine, University of Murcia, Spain.

Recent published studies have shown the efficacy on farms of the use of vaccinated pigs in all aspects: efficiency in growth due to improvements in food conversion ratio, average daily gain, lower mortality, less fighting in the pens and less skin damage.

These studies have been carried out in a detailed way in field tests on the five continents, in over 60 countries.

This study aims to show that the benefits of vaccination are also transferred to the slaughterhouse and the cutting room.

Cuts

The data regarding the cuts percentage per pig is based on the IRTA trial run on 92kg pigs (Gispert M. et al., 2010).

The first thing we find is that both the vaccinated and the castrated males have a higher yield than entire animals primal cuts and in turn the vaccinated animals have a somewhat higher lean meat than the castrated animals in the boning.

The entire males have lower yields in hams, loins and bellies compared to the castrated ones, albeit slightly higher in shoulders and heads.

Prices

Prices have been obtained on the basis of the averages of the quotes for the various cuts at the Barcelona Meat Market in 2011, with a differential in ham and shoulder being

Table 1. Prices based on an average of quotes for various cuts at the Barcelona Meat Market in 2011.

Cuts	Entires (€/kg)	Castrated (€/kg)	Vaccinated (€/kg)
Ham	2.56	2.61	2.61
Shoulder	1.63	1.63	1.63
Loin	3.52	3.52	3.52
Belly	1.85	1.90	1.90
Head	2.79	2.79	2.79

Cuts	Entires (€/kg)		Castrated (€/kg)		Vaccinated (€/kg)	
	Yield (kg)	Income (€)	Yield (kg)	Income (€)	Yield (kg)	Income (€)
Ham	22.75	58.24	23.00	58.88	23.57	60.34
Shoulder	13.22	21.55	12.57	20.49	12.57	20.49
Loin	16.12	56.74	17.52	61.67	17.20	60.54
Belly	7.58	14.02	8.06	14.91	8.06	14.91
Head	8.79	24.51	8.23	22.96	8.23	22.96
Total		175.06		178.91		179.24

Table 2. Summary of income per pig.

Slaughterhouse	Entires (€)	Castrated (€)	Vaccinated (€)
Medium	113,789	116,291.5	116,506

Table 3. Income from a medium sized slaughterhouse.

applied for both the vaccinated and castrated (Table 1). This differential is due to their intended industrial use.

Costs

In the slaughterhouse the costs are practically constant, regardless of whether or not the male is castrated, and they may include the following:

- Purchase of the male: €103.4, resulting from taking into consideration an average quote of €1.12/kg (average quote of the Lleida Meat Market in 2010).
- Slaughter: €5/pig.
- Cutting: €15/pig.
- Total: €123.4/pig.

Results

We will now compare the income and costs (in order to calculate the profit) that arise in the slaughterhouse considering three different situations.

In this, the first of two articles, we investi-

gate the difference in the cuts of meats with the same price. In the second article, we will compare the same cuts that have differences in price, as well as comparisons for differences in cuts and price.

In all cases we have to take into account some slaughterhouse costs, which are fairly constant, and that we can calculate at €20, itemised as: €5 for the slaughter and €15 for the cutting, in both cases per pig.

Income

Table 2 gives a summary of the income obtained per pig, with a positive differential found for the set of cuts studied favourable to vaccinated males of: €4.18 compared to the entire animals and €0.33 compared to the physically castrated animals.

If we take into account the slaughter rates in a medium sized slaughterhouse (650 pigs/hour), the income would be as shown in Table 3.

This concept is defined as the difference between total income and total costs ($P = TI - TC$). Thus the profit per pig will be:

- Entire males:
 $175.06 - 123.4 = €51.66/\text{pig}$.
- Physically castrated males:
 $178.91 - 123.4 = €55.51/\text{pig}$.
- Vaccinated males:
 $179.24 - 123.4 = €55.84/\text{pig}$.

There is a positive differential of €0.33 for vaccinated pigs compared to physically castrated pigs and €4.18 for vaccinated pigs compared to entire pigs. ■