EFFECT OF THE RESTING TIME PRIOR TO SLAUGHTER ON THE QUALITY OF PORK

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Introduction

The quality of the meat is defined as the group of positive qualities, which constitute its sensorial, nutritious value and its sanitary hygienic qualities (Male, 2000). Other parameters similar to composition of the channel and economic production can be also included. Variations exist between races and genetic lines, the races of quick growth as the Duroc, produce channels with bigger quantity of dorsal fat and intramuscular, this last one increases the quality, because it produces juicier meat, with more terneza (softness) and better flavor. The races that are characterized by their channels rashers, as the Hamphshire and Pietrain, produce harder meat, with better juiciness and flavor (Herrera, 2002).

The meat can be classified in three categories, the PSE (Pale, Soft and Oxidative) DFN (Dark, Firm and Dried off) and the RFN (Red, Firm and Non oxidative). The meat PSE is the result of a quick glycols and decline of the pH (5.3 - 5.5) in the muscle combined with high temperatures, it causes the denaturalization of muscular proteins and due to the decline of the excessive pH; diminishing the bacterial growth. The meat occurrence PSE is undoubtedly related with certain genotypes of the stress (positive halothane and negative halothane). The stress caused by the previous handling to the slaughter is factors predisponentes in the meat development PSE. The meat DFD is obtained of animals in whose muscles in the moment of the sacrifice, by reason of the stress, contains a low quantity of glycogen, insufficient to assure an acceptable final pH. Under these conditions the pH can be inferior at 6.2 (Dellaredova and Rogen, 2004). The absence of the glycogen in the surface of the meats DFD allows microflora to attack and degrade before the free amino acids giving place to made up the intense scent in the process of deterioration (Núñez, 2003). The meat RFN is the ideal for

the consumer, the muscle it should be free of fluids in the surface extra muscular and it should be strong to the tact.

The objective of the present work is to evaluate the effect that has the time of previous rest to the sacrifice about the quality of the pig meat.

Material and methods

They were formed three groups of nine pigs each one with an age average from 5 to 6 months. The pigs in group TO had a time of rest of 5 days. During this lapse they were in fast with water to free access. The group B, rested during 24 hours in fast and with water to free access and for finish the group C had only 15 minutes of rest with fast and without access to water. Later on, the previous handling was observed during the slaughter process. As well as they took samples of meat of the channels of pigs in which the color was observed. Finally by means of cooking (4min.), the texture was valued based on the following ranges.

Range 1: Very soft and humid. The product will have little juice after having cooked.

Range 2: Soft and humid.

Range 3: Not very firm and juicy.

Range 4: Firm and moderately dry.

Range 5: Very firm and dries off. It doesn't exhibit any type of fluid in the surface.

Results

In the table 1, the obtained results of the type of meat of the different groups are shown.

Table 1. Meat types and their characteristics.

Group	No. Animal	Color	Ranges				Tipe of meat
			1	2	3	4	
A	A1	Pale	-	+	-	-	PSE
	A2	Reddish	-	-	+	-	RFN
	A3	Reddish	-	-	+	-	RFN
	A4	Rosa	-	+	-	-	PSE
	A5	Pale	-	+	-	-	PSE
	A6	Pale	-	+	-	-	PSE
	A7	Rojiza	-	+	-	-	PSE
	A8	Rojiza	-	+	-	-	PSE
	A9	Rosa	-	+	-	-	PSE

RFN, Red, Firm and Non Oxidative.

PSE, Pale, Soft and Oxidative.

DFN, Dark, Firm Oxidative.

In the table 2, the obtained results of samples of different types of meat are shown.

Table 2. Percentage of the meats RFN, PSE and obtained DFN of the different groups.

GROUP	RFN %	PSE %	DFN %
A	22.22	77. 78	0
B	44.44	55.56	0
C	22.22	77. 78	0

RFN, Red, Firm and Non Oxidative.

PSE, Pale, Soft and Oxidative.

DFN, Dark, Firm Oxidative.

Discussion

The quality of the meat is in function of diverse such factors as its value nutritious, hygienic sanitarium, race and type of feeding of the animal, as well as the previous handling and during the sacrifice which affects the quality of the pig meat directly, due to the phenomena biochemical postmortem, particularly the glycols that accelerates the fall of the pH, increases the capacity of retention hídrica and the capacity of absorption of salts, as well as it determines its color. Based on the above-mentioned the meat is classified in three categories: Pale Soft and Oxidative (PSE), Dark, Firm and Dries off (DFN) and Red, Firm and Non Oxidative (RFN) (Male, 2000).

The results were: group TO - 77.78 meat% PSE, 22.22 meat% RFN and 0 meat% DFN; the group B - 55.56 meat% PSE, 44.44 meat% RFN and 0 meat% DFN and the group C - 77.77 % meat PSE, 22.22 meat% RFN and 0 meat% DFN respectively. This shows that the time of rest influences directly on the quality of the pig's meat. This agree with Remain (1997) who published that long periods of rest cause the meat appearance PSE, however, short periods of time of rest also cause meat PSE because the discharge of the truck produces maximum stress on the animals.

Dellaredova and Rogen (2004) indicated that the stress caused by the wrong handling, independent at the different times of rest, causes a low quantity of glycogen, originating pig's meat DFN. This differs with 0 % obtained of pig's meat DFN in the three valued groups, because they were subjected to constant stress.

In conclusion, the speed in which the pig reaches the good proportion of growth and weight depends on their genetic potential, of the sex and interaction with the environment. One of the most important stages in the handling of the pigs is activity before the sacrifice. These are factors connecting with stress, which directly influence on the quality of the meat. It is important that previous appropriate handling and the slaughter could improve the quality of the meat.

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