

Effect of the Resting Time Prior to Slaughter on the Quality of Pork

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Abstract: Meat quality is in function of diverse factors as its value nutritious, hygienic sanitarium, breed and type of feeding of the animal, as well as the previous handling and during the slaughter which affects the meat quality directly, due to the phenomena biochemical postmortem, particularly the glycols that accelerates the fall of the pH, increases the capacity of water retention and the capacity of absorption of salts, as well as it determines its color. The meat is classified in three categories: Pale Soft and exudative (PSE), Dark, Firm and Dries off (DFN) and Red, Firm and Non exudative (RFN). The objective of the present study is to evaluate the effect that has the time of previous rest to the sacrifice about the quality of the pork Three groups of 9 animals were used each one with an age average from 5 to 6 months. These groups underwent different previous periods of time of rest to the sacrifice; the group A, with a time of 5 days; the group B, 24 h. and the group C, 15 min. The groups A and B was subjected to 24 h. of fast with water to previous free access to the sacrifice, while the group C, only underwent 24 h. of I help previous to the sacrifice. The results were: group A, 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 and 22.22 meat% RFN and 0 meat% DFN respectively. In conclusion the resting time to the slaughter in the animals it influences directly about the quality of the pork.

Key words: Resting time prior to sacrifice, pork quality, slaughter

INTRODUCTION

Meat quality is defined as the group of positive qualities that constitute its sensorial, nutritious value and its sanitary hygienic qualities^[1]. Other parameters similar to composition of the body condition and economic production can also be included. Variations exist between breeds and genetic lines, breeds 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 softness and better flavor. Breeds as the Hampshire and Pietrain, are characterized produce harder meat, with better juiciness and flavor^[2].

The meat can be classified in three categories, the PSE (Pale, Soft and Oxidative) DFN (Dark, Firm and he/she Dries 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; it diminishes 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 to the moment of the sacrifice, by reason of the stress, it contains a low quantity of glycogen, insufficient to assure an acceptable final pH. Under these conditions the pH can be inferior at 6.2^[3]. The absence of the glycogen in the surface of the meats DFD allows to the micro flora to attack and to degrade before to the free amino acids, giving place to made up of intense scent in the process of deterioration^[4]. 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 pork quality.

MATERIALS AND METHODS

Were formed three groups of nine pigs each one with an age average from 5 to 6 months. The group A, 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 h in fast and with water to free access and for I finish the group C, he/she only had 15 min of rest with fast and without access to water. Later on, the previous handling was observed and 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 (4 min), the texture was valued based on the following ranges.

- Range 1: Very soft and humid. The product 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 he/she dries off. It doesn't exhibit any type of fluid in the surface.

RESULTS AND DISCUSSION

In the Table 1, the obtained results of the type of meat of the different groups are shown. In the Table 2, the obtained results of those the different types of meat of the obtained samples are shown.

Meat quality 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 hidrica 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 he/she Dries off (DFN) and Red, Firm and Non Oxidative (RFN)^[1].

Table 1: Meat Types and their characteristics

Group	No. Animal	Color	Ranges				Type 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

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 no oxidative. PSE: pale, soft and oxidative. DFN: dark, firm oxidative

The results were: group A, 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 and 22.22 meat% RFN and 0 meat% DFN, respectively. This shows that the time of rest if it influences directly about the quality of the pig meat, this agrees with they Remain silent 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^[3] they indicated that the stress caused by the wrong handling, independent at the different times of rest, it causes a low quantity of glycogen, originating pig meat DFN. This differs with 0 obtained % of pig meat DFN in the three valued groups, because these they were subjected to constant stress.

CONCLUSION

The speed in which the pig reaches the good proportion of growth and weight depends on the genetic potential of the same one, of the sex and of its interaction with the environment. One of the most important stages in the handling of the pigs is those that are carried out since before the sacrifice they are factors estresantes which influence excess directly the quality of the. It is important that one has a previous appropriate handling and during the slaughter to improve the quality of the meat.

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