

VALUE OF CUBAN HOG CARCASSES

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SUMMARY: The score method was applied to a sample hog carcass grid of 16 cells which included percentage of lean and fat in primal cuts as the basis to determine the coefficients required to account for variation in prices. The percentage of meat was assigned a score of 90, fat received 10, in accordance to an acceptable economic stimulus. An increase of one percent in lean resulted in a price 0,03 pesos higher, yet at equal lean one percent more in fat increased the price in only 0,01 pesos.

INTRODUCTION: Pork plays an important role in the industry and in the market as a fresh product. An improvement in quality can only be achieved by leaner carcasses which report higher values. At present many countries are arriving at the commercial value of hogs through carcass grading. The grades are defined by backfat thickness and carcass weight.

In our country much research has been done on the value of Cuban hog carcasses in order to study its variation and the influence of lean and fat in the total value (Prieto et al. 1986, 1987, 1988).

This paper offers the result of the score method applied to a sample hog carcass grid and the coefficients obtained to account for variation in prices bearing, in accordance with Krostev (1986), the fundamental property of the product as the guideline of prices.

MATERIALS AND METHODS: Data regarding percentage of lean and fat in primal cuts of a previous experiment with a population of 475 hogs, representative of our market population, slaughtered and dissected at the same packing plant (Cruz-Bustillo et al. 1988), were sorted in a 12 and 16 cell sample grid according to weight and fat depth. The number of cells was previously determined by a close study of the percentage of carcasses in different weight and fat classes. The standard carcass was determined (Judokormov, 1983) and in accordance to the score method the percentage of lean in primal cuts received 90 points, while fat received 10. The price for this cell was calculated in correspondence with the current price.

For each cell a coefficient or index was calculated always considering as starting point the score assigned to the standard carcass with a coefficient of 1,00. If a change of price occurs the new price can be calculated through the coefficient.

RESULTS AND DISCUSSION: The number of cells in the grid is of paramount importance when dealing with commercial value, therefore, two of the many possible percentage distributions of the sample are shown in Table 1.

Table 1.- Percentage distribution of carcasses

CARCASS WEIGHT kg	NUMBER OF CARCASSES	%	BACKFAT THICKNESS mm	NUMBER OF CARCASSES	%
below 50	74	16	below 22	148	31
50,0-70,0	338	71	22 - 26	156	33
over 70	63	13	over 26	171	36
below 50	74	16	below 21	117	24
50,0-60,0	184	39	21 - 25	156	33
60,1-70,0	154	32	26 - 30	127	27
over 70	63	13	over 30	75	16

If the carcasses of the sample are distributed in three class weights 71% fall in the weight range of 50,0 - 70,0 kgs. This is unacceptable for a pricing mechanism that aims economic incentive for product improvement. In order to obtain a more balanced grid the carcasses were distributed in four weight ranges and four fat classes. Here the percentages are acceptable for our objective. A difference of five kilograms in the range was also studied but the results are not considered in this paper.

Table 2 shows the percentage of lean and fat in primal cuts for each cell of the grid. Although the grid is not complete, it gives us a general idea of the commercial value of our carcasses through the coefficient. In the same weight range the coefficient diminishes as the backfat thickness increases. In the same fat measurement there is a decrease in the coefficient for carcasses below 50 kg and over 70 kg. This is determined by the avoidance of stimulus in these carcasses as interest of our trade. It is evident that future studies are required to complete the grid.

Table 2. Preliminary grid for prices of commercial swine carcasses

Backfat thickness mm	Hot carcass weight			
	<50 kg	50,0-60,0 kg	60,1-70,0 kg	>70 kg
under 21	n=48 %L=62 %F=20 k=1,011	n=54 %L=63 %F=21 k=1,032	n=14 %L=63 %F=22 k=1,038	n=1 %L=58 %F=24 k=0,968
21 - 25	n=18 %L=60 %F=23 k=0,995	n=79 %L=60 %F=24 k=1,00	n=55 %L=60 %F=24 k=1,00	n=4 %L=58 %F=25 k=0,973
26 - 30	n=8 %L=58 %F=26 k=0,978	n=36 %L=58 %F=26 k=0,978	n=56 %L=59 %F=26 k=0,995	n=27 %L=58 %F=27 k=0,984
over 30		n=15 %L=57 %F=28 k=0,973	n=29 %L=57 %F=28 k=0,973	n=31 %L=56 %F=30 k=0,962

n=sample size
k=coefficient

%L=percentage of lean %F=percentage of fat

Table 3.-Score Method

	STANDARD CARCASS					
	spcf	score	spcf	score	spcf	score
% of lean in primal cuts	60	90	63	94,5	58	87,0
% of fat in primal cuts	24	10	21	8,75	26	10,83
price per kg	1,86		1,92		1,82	
Calculus of coefficient k						
63			58			
-- . 90 = 94,5			-- . 90 = 87,0			
60			60			
21	8,75		26	10,83		
-- . 10 = -----			-- . 10 = -----			
24	103,25		24	97,83		
103,25 : 100 = 1,0325			97,83 : 100 = 0,9783			
1,86 . 1,0325 = 1.92			1,86 . 0,9783 = 1,82			

spcf: specifications

Table 3 explains the score method, it includes how to calculate the coefficient in accordance with the points assigned 90 to 60% of lean and 10 to 24% of fat. These percentages define the standard quality (Judokormov, 1983). Maslarov (1979) and Komin (1985) stated that differences in price should account for the variation in the main characteristics, in our case, percentage of lean and fat. When the coefficients are applied to the price of the standard cell the differences are similar to those in the Canadian Grid (Canada Agricultural Products Standards, 1987).

CONCLUSIONS: The score method meets the requirements to calculate different prices in accordance to a defined quality in swine carcasses.

The former method gave a difference of price of 0,14 pesos between the utmost values. An increase of one percent in lean resulted in a price 0,03 pesos higher per carcass.

Future inclusion of data in the grid is recommended to obtain the necessary information for each cell.

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