

## Classification of Pig Carcasses in Romania between 2007-2008

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### Abstract

The classification of pig carcasses aims at a correct payment for big breeders, depending on carcass weight and quality, and standardization, the common language of the international meat trade. The European Union set uniform procedures of quality assessment (the EUROP system), defined by the same parameters in the entire continent. The pig livestock whose carcasses were classified in 2008 was almost 2.5 million, compared to the value below 2 million carcasses classified in 2007. Of the total livestock, in 2008, about 98% could be classified in the superior quality classes E and U. In the previous year, only 94% of the classified carcasses could be introduced into these superior quality classes. The increase of 4%, related to the number of 2.5 millions corresponding to 2008, represent more than 97.000 pigs whose carcasses belong to the superior classes, compared with the previous year.

**Keywords:** carcass, classification, pig, Romania

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### 1. Introduction

Until now, price negotiation between farmers and slaughterhouse animals is related criteria, based on live weight and the approximate evaluation of the quality of pigs before slaughter.

EUROP carcass classification system revolutionizes the relationship farmer-slaughter, price based on weight and carcass quality. Specifically, the cutting end of the line, when weighing the carcass measured classifier (with semi-automatic devices or manual method) the proportion of meat in the carcass, carcass falls into one of the 5 classes, marks the passing percentage of carcass and meat and carcass weight in classification report. Copies of the report are presented owner of the animals and the slaughterhouse, pigs payment being made on the basis of the report classification.

Carcass classification committee set out certain rules that apply to all slaughterhouses bound classification is made.

A) Expression of the percentage of steps (steps): due to major price fluctuations animals, both at home and global scale percentage is better than the absolute amount;

B) Reference level of 50% meat content in carcass: as it emerged from measurements made on the 7000 frames, the average is at 51%. Since the sample contains predominant specialized pig farms, the Commission considers that 50% is realistic reference level for the current strength;

C) Carcass weight must fall between 65 and 95 kg: Given the market demand (industry, consumers) and the effective costs of farmers, carcasses under 65 kg and over 95 kg are depointed with 5% of the resulting following classification. However, being a debut year in 2006 does not apply to this penalty.

D) The scale of prices should be symmetrical (mirror) and reflect current needs and the following period: since the main purpose of the EUROP system is correct payment of farmers and

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thereby improve the quality of slaughter animals were considered 2 major objectives: 1. Stimulating carcasses share of Class E, because it means more meat to the population and, secondly, the maximum efficiency of recovery feed for farmers. Therefore, the rate of increase in class E is 2%, from 1.5% in class 2 U. Bringing peasant households in commercial production by early replacement of pigs carcasses giving class A and P (predominant in this sector) with higher animals. Therefore, a depointed class A and P is higher than that of class R.

E) Key Price: system Europe is paid to farmers according to the quality of animals, that live pay is replaced by payment for the class of its carcass (meat content) and weight. What will negotiate with the owner of slaughterhouse pigs carcass is the price level, which was established by the Commission on 50% (carcass meat content). Any additional percentage from 50% to reward with a fixed percentage in all slaughterhouses, as any percentage below 50% is punishable by a fixed percentage deduction in all slaughterhouses [1].

## 2. Materials and methods

The introduction in our country EUROP system is a safe and fast way to improve animal breeds and breeding animals stimulation to improve meat quality, in terms of the ratio meat / fat in carcass. Payment system linked with quality guarantees fair payment to livestock farmers and at the same time, improves activity of meat processors in the recovery obtained in the country.

Creating the legal framework for implementation of the system involves a first stage, the establishment of classification by setting bodies concerned and some basic rules, which will allow then develop detailed rules for each species separately: pigs, cattle and sheep [2].

By this approach we identified carcasses classified in 2007 and 2008 by specifying the classes in which they fall.

## 3. Results and discussion

The EUROP system of pig carcass classification has five quality classes, corresponding to a percentage interval of muscle tissue. In order to study the evolution of the qualitative carcass level in Romania, we compared the results of the classifications during the last two years, respectively the results of classifications from 2008 and 2007.

So, the pig livestock whose carcasses were classified in 2008 was almost 2.5 million, compared to the value below 2 million carcasses classified in 2007. Of the total livestock, in 2008, about 98% could be classified in the superior quality classes E and U. In the previous year, only 94% of the classified carcasses could be introduced into these superior quality classes. The increase of 4%, related to the number of 2.5 millions corresponding to 2008, represent more than 97.000 pigs whose carcasses belong to the superior classes, compared with the previous year. For an accurate presentation of the classification results, we analyzed the evolution of carcass percentage in the medium class R and in the inferior classes O and P as well. In this viewpoint, the percentage of carcasses belonging to the medium quality class R decreased from 4.92% in 2007, to 1.81% in 2008. The inferior classes included, in 2008, only 0.30% of total carcasses, compared with 1.06% in 2007. Table 2

**Table 1.** EUROP system for pig carcass classification

Class	% muscle tissue of carcass weight
E	>55 %
U	50%-55 %
R	45%-50 %
O	40%-45 %
P	< 40 %

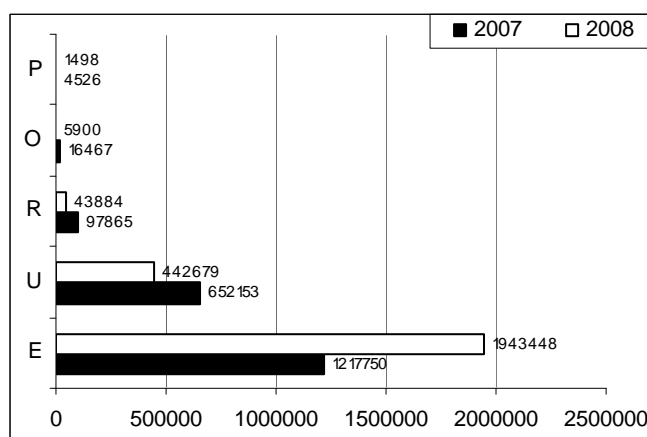


Figure 1. Pig livestock classified in 2007 and 2008 per classes of quality

Table 2. Pig livestock classified in 2007 and 2008 and percentages per classes of quality

QUALITY CLASS	CARCASS NUMBER		% OF TOTAL	
	2007	2008	2007	2008
E	1.217.750	1.943.448	61.23	79.66
U	652.183	442.679	32.79	18.23
R	97.865	43.884	4.92	1.81
O	16.467	5.900	0.83	0.24
P	4.526	1.498	0.23	0.06
TOTAL	1.988.791	2.428.409	100.00	100.00

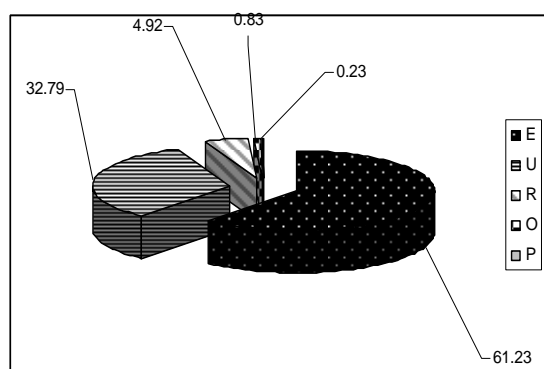


Figure 2. Percentages per classes of quality in 2007

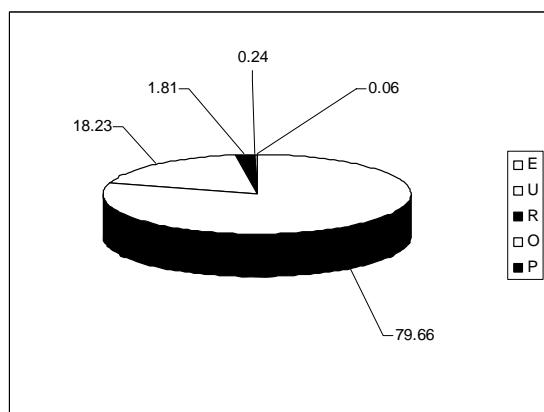


Figure 3. Percentages per classes of quality in 2008

Regarding the evolution of the muscle tissue obtained in this pig livestock in 2008 compared with 2009, it had a significant increase, too, in almost all quality classes excepting the medium class R, slightly decreased (Table 3).

Table 3. Percentages of muscle tissue per classes of quality in 2007 and 2008 [3]

QUALITY CLASS	% MUSCLE TISSUE	
	2007	2008
E	57.40	58.90
U	52.50	52.80
R	47.70	47.90
O	42.60	42.80
P	35.80	36.10
TOTAL	55.10	57.50

The only qualitative carcass parameter that decreased in 2008 compared with the previous year is represented by carcass weight, and this situation is available in all quality classes.

**Table 4.** Carcass weight per classes of quality in 2007 and 2008 [3]

QUALITY CLASS	HOT WEIGHT -2%	
	2007	2008
<b>E</b>	77.40	75.90
<b>U</b>	80.60	79.20
<b>R</b>	83.50	81.30
<b>O</b>	84.70	79.70
<b>P</b>	85.80	77.80
<b>TOTAL</b>	78.80	76.60

The carcass weight presented in Table 4 is calculated as the weight at the moment of classification minus 2% according to legal stipulations.

Pig carcass classification, according to the EUROP system, has generated in Romania, in just a few years, remarkable results in the increase of carcass quality.

This evolution is evident in 2008, too, compared with 2007. During this period, the carcass qualitative parameters have been improved in concordance with the EUROP system, in terms of percentage in classes of quality, and percentage of muscle tissue within each quality group.

The carcass weight parameter is an exception from this qualitative growth. This fact represents a significant problem, because the economic efficiency of carcass processing through carving depends on weight. So, the bigger the carcass weight is, the bigger the economic efficiency of the carving activity will be.

In our case, the mean weight decrease of the carcasses classified in 2008, compared with 2007,

of 2.2 kg represents a regress of carcass quality at national level, although we may consider the increase of the other parameters as a positive one.

#### 4. Conclusions

The implementation of the EUROP system for pig carcass classification in Romania has generated largely the expected results. From one year to another, pig carcasses are better and better in Romania.

However, the fact that the mean pig carcass weight decreased with over 2 kg in 2008, generating certain economic losses that affected the secondary processors (carving units), indicates a lack of fat deposition stability over the carcass weight limit of 78 kg. We may also observe this in the fact that carcass weight in the superior class E was only 75.9 kg, so that in Romania only carcasses having their weights below the mean weight could be classified in superior classes of quality.

The results achieved by the Romanian pig breeders are remarkable, superior compared with the previous years, but they present deficiencies regarding the stability of carcass weight increase.

#### References

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