ANALYSIS OF PIG CARCASSES IN OLTENIA

Florica COLĂ[1], **M. COLĂ**[1]
1 University from Craiova
e-mail: colamugurel@yahoo.com

The quality of the 138 analyzed carcasses has varied from 35% to 60% CM, with a caloric mean of 51% CM. this variation of the muscular mass does not comply with EU market. The average quality of EU carcasses is over 56% CM. The average quality difference of autochthonous pig carcasses, compared to EU standards, is a least 4% CM and corresponds to a value of 12-15 euro /carcass. This can be determining for profit or loss in production, starting from the premise that the manufacturer receives this sum at sale. The average mass of slaughtered carcasses according to EU standards, was 74 kg, with a variation between 55 and 120 kg [Zaneci, N. and co., 2002].

***Key words**: lean meat, output, carcass, muscular tissue*

Romanian pork production has to compete with the current requirements of the European Union. Quality criteria, if considered, sometimes apply subjectively, from various reasons. Romania's accession to the European Union as well as the outlet requires a neutral and objective appreciation of carcasses quality [Dinescu S., 2001, 2002].

The main qualitative aspects of a carcass are:

• hygiene, veterinary findings, respectively;

• organoleptic value of meat;

• lean meat ratio expressed in muscular tissue percentages (% CM) from the total weight of the carcass;

The current analysis refers to the qualitative aspect of carcasses, especially to the "lean meat ratio".

The bigger the lean meat quantity in the carcass, the higher its economic value, because:

1. the quantity if meat is bigger (1% CM in the carcass corresponds to 0.9 kg meat and has a price of 3-3.5 Euro);

2. valuable pieces are better represented (size, form) and can be traded more easily.

Production costs for pigs with high content of fat, in conditions of compliance with production technologies compliant with EU regulations. Because highly qualitative industrial pigs have a higher selling price, a related payment is required, made based on a neutral and objective determination of carcasses quality.

MATERIAL AND METHOD

Researches were performed in 10 slaughter houses in the region of Oltenia, where 138 pig coming from various areas of this region carcasses were classified between March and July 2007. We can say that this relatively representative sample of 138 carcasses reflects to a certain extent the quality of current internal production of pork in the South-West of the country.

In 2003 an optoelectronic well was officially certified and approved in Romania, allowing to determine the quantity of meat in the carcass, depending on its muscular tissue content, based on EU specialty regulations.

Analyzed carcasses were selected through a poll in a variable number from each researched slaughter house, taking into consideration the porcine genetic material of these carcasses and the type of manufacturers.

Therefore, depending on the genetic origin of the parents, 5 groups of carcasses have been established, described next in *table 1*.

RESULTS AND DISCUSSIONS

Carcasses current quality

The quality of the 138 analyzed carcasses has varied from 35% to 60% lean meat CM, with a caloric mean of 51% CM. This variation of the muscular mass does not comply with the requirements of communitarian market, where the average quality of carcasses in EU usually is over 56% CM.

The average difference of autochthonous pig carcasses quality, compared to EU standards, is at least 4% CM and corresponds to a value of 12-15 euro /carcass. This can be determining for profit or loss in production, starting from the premise that the manufacturer receives this sum at sale. In other words, profit potentials can be found here for the production of pigs in Romania.

Carcasses classified in the analysis can be grouped into five categories, depending on the genetic origin of animals.

Table 1

Classification of analyzed carcasses

Group	*Genetic origin*	Type of manufacturers
1	♂ RO x ♀ RO	**POPULATION HOUSEHOLDS (SUBSISTENCE)**
2	♂ RO x ♀ RO	Industrial farms, with improved production technology
3	♂ import x ♀ RO	
4	PERHIB	
5	♂ import x ♀ import	

Carcasses coming from the subsistence production (**group no. 1**) had only 41.7% CM. ♂ RO x ♀ RO code signifies the origin from ascendants belonging to Romanian pig populations. In comparison to pigs coming from EU, they have 11-12 kg less lean meat for the same body weight which corresponds to a decrease of

profit by 35 € for every carcass. This qualitative category does not have any future on the market of pigs meant for processing in industrial slaughter houses.

Industrial farms that used in their turn autochthonous genetics **(group 2**) ♂RO x ♀RO – achieved better results recording 46.3% CM, due to the application of feeding and breeding technologies in compliance with the requirements of this species.

Group no. 3 including hybrids obtained with import ascendants boar (♂ import x ♀ RO) recorded a 4% increase of lean meat compared to group no. 2 with exclusive Romanian genetics, 50.4% CM respectively. But, we can assume that neither through adequate nutrition and care, using a combination of import genetics with Romanian genetics cannot reach the level of European quality of over 56% CM.

PERHIB Group, including a Romanian hybrid achieved from imported genetics, reached 51.5% CM, meaning exactly the average value of all the analyzed carcasses.

Group 5 consists of integral import genetics pigs (♂ import x ♀ import) and was the best represented from numerical point of view within the analyzed sample, which proves the obvious tendency to use this genetics. The average of the lean meat amount recorded in this group was 53,5 %, but we have to also mention the great variation in this group, from 45% lean meat to 60% lean meat.

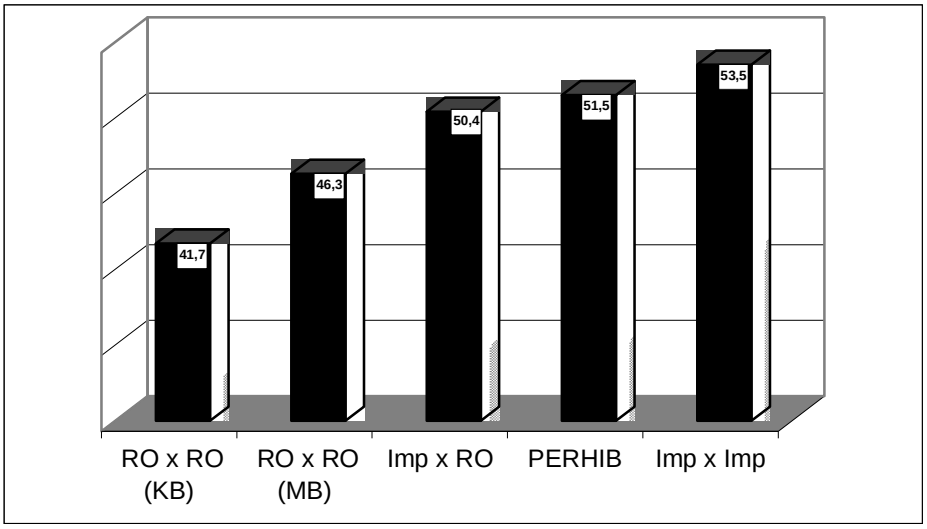

Figure 1 **Quantity of lean meat in the carcass**

If we consider an equivalent foddering and maintenance, we find an obviously superior quality of carcasses in industrial farms with genetics coming from import comparing to the other 4 groups.

What we already know, was again confirmed by this study. Only the farms able to implement EU type production technologies together with a modern

genetics, shall have competing capacity on the market. The other ones shall have to stop production.

Carcass weight

The average weight of slaughtered carcasses according to EU standards was 74 kg, with a variation between 55 and 120 kg. they usually sacrifice animals with a bigger body weight, but during the analyzed period, there was a higher demand for pork on the market and thus manufacturers were pushed towards an early sale, before animals reached their adequate sacrificing weight. This decision behavior of manufacturers has lead to losses of meat production capacity at national level and was a wrong managerial decision because it increased the need for import.

The following calculation reveals better the value difference between an average EU carcass and an average carcass from our country.

Table 2

Value differences of carcasses from Romania and EU

Origin	Carcass weight	Lean meat	Lean meat	Lean meat value
EU	90 kg	58 %	52.2 kg	157 €
Romania	74 kg	51 %	37.7 kg	113 €
Differences	16 kg	7 %	14.5 kg	44 €

At an average price of 3 euro/kg for pork meat, there results a difference of 44 euro/head in minus for the Romanian pig.

Sample structure on classes of quality.

Starting from the premise that the analyzed sample is approximately representative for pigs populations in Oltenia and that for the future the market shall adequately honour only the E quality class carcasses (over 55% CM) it results that at present, only 18.5% of pigs raised in industrial type system comply with communitarian market requirements.

Adequate moment of sacrificing

In order to determine the adequate moment for sacrificing, the influence of the carcass weight has been studied upon the percentage of lean meat, within the quality classes.

In E quality class (>55% CM) they found a constant ratio of muscular tissue irrespective of the carcasses weight, which was between 55 and 120 kg in the analyzed sample. The pigs in this quality class can be fattened up to the weight of 120-125 kg without the fear that they may develop too much fat. At an 80% output, a carcass over 95 kg results with a ratio over 56% CM.

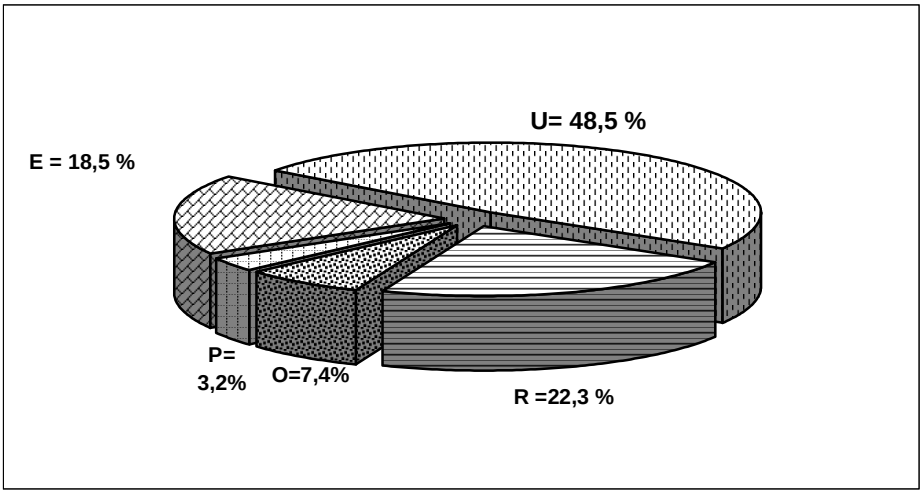

Figure 2 **Percentage of quality classes for the carcasses made according to EUROP Grid**

Choosing the adequate time for sacrificing, the adequate weight of the carcass respectively is determining for achieving the profit and therefore an important managerial decision for farmers. An adequate decision may increase the production potential of every farm.

CONCLUSIONS

In order to stimulate the quality of production in Romania and bring it at the current European level, manufacturers have to receive adequate price increases for muscular tissue percentage over the average. This is possible through a price gradation depending on the carcass quality – common procedure in EU – the so-called "scale of prices".

The basis of a scale of price is the basic price, corresponding to the reference level, which is usually established on the level corresponding to the established average.

Carcasses will be divided in quality classes depending on the percentage of lean meat, after the classification procedure. Carcasses whose quality is over the average shall be granted a bonus and the ones below the average shall be applied a penalty. The size of bonuses and penalties corresponding to levels of quality remains constant. The basic price is established by the market and is thus variable.

Consequently, the price for the manufacturer consists, as the case may be, of:

• the base price plus increases (bonuses) for high quality;

• base price minus decreases (penalties) for low quality.

The size of increases for quality is connected to the carcasses value, which in its turn, depends on the percentage of lean meat. Reversely, price decreases approximately correspond to the value decrease of low quality carcasses, as a consequence of decreasing the amount of lean meat.

Moreover, penalties will apply for carcasses whose weight is not within the adequate weight limits. The scale of prices and adequate weight limits shall be established by Carcasses Classification Commission.

Both manufacturers and processors and traders take advantage from the high quality of carcasses. This is why all partners from the pork meat market have a common interest for introducing a payment system depending on the quality according to European regulations.

BIBLIOGRAPHY

1. Beres, M. şi colab., 1999 – *Manualul Fermierului*. Editura Tipomur. Tîrgu Mureş, p. 12-22
2. Dinescu, S. şi colab., 1990 – *Hrănirea animalelor în fermele mici şi mijlocii*, Editura Ceres. Bucureşti, p. 33-45.
3. Dinescu, S., 2001 – *Creşterea animalelor de fermă, vol. II. Tehnologii eficiente în creşterea porcinelor şi păsărilor*. Editura Agris, Bucureşti, p.15-16.
4. Dinescu, S, 2002 – *Creşterea porcinelor pe coordonatele secolului XXI*, Editura Ceres. Bucureşti.
5. Dinu, I., 1990 – *Tehnologia creşterii suinelor*, Editura Didactică şi Pedagogică. Bucureşti.
6. Dinu, I., şi colab., 1998 – *Îngrăşarea porcilor*, Editura Grand, Bucureşti,p.111-125.
7. Isar, O., 2002 – *Influenţa hrănirii scroafelor lactante asupra creşterii purceilor*, Buletin informativ în patologia porcină. Vol. V, nr. 2, p.9-12.
8. Ştefănescu, Gh., 1997 – *Tehnica creşterii şi hrănirii tineretului porcin*, Revista de Zootehnie şi medicină veterinară, nr. 9, p.16-18.
9. Ştefănescu, Gh. Şi colab., 1999 – *Creşterea porcinelor în fermele mici şi mijlocii*, Editura Ceres, Bucureşti, p.61-67.
10. Wathes, C.M., 1998 – *Enviromental control in pig houssing,* Proc. of the 15 th I.P.V.S. Congress, p. 32-37.
11. Zaneci, N. şi colab., 2002 – *Ghidul crescătorului de porcine din microferme,* Editura Sirius. Bucureşti, p.16-18.