SEUROP CLASSIFICATION OF BOVINE CARCASSES IN STRUMICA REGION

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Abstract: Beef production in the R. of Macedonia is 5.000 to 8.000 tons, but its consumption is 14.000 to 16.000 tons of beef annually. For that market gap, our country spends a lot of money for beef import every year. From 2010 a New Law for quality of agricultural product ruled, according to new estimation of bovine carcasses by conformation and fat covering according SEUROP standards. According to our research, most of controlled bovine carcasses belong to R, O and P class by conformation, and 3 and 4 class by fat covering of carcasses.

Key words: cattle breeding, beef, classification, production, SEUROP

Introduction

Cattle production is a leading branch in our domestic animal production, which supply a lot of animal proteins for human diet. R. of Macedonia is for a long period a net importer of beef. For that purpose our country spends a high amount lot of money for the beef import every year. In the R. of Macedonia beef production on the annual level is 5.000 to 8.000 tons, but from the other side, total consumption is 14.000 to 16.000 tons of beef annually. Features of our beef production are:

- early slaughtering of calves
- unused genetic potential bad genetic material for fattening
- low application of the fattening systems and technologies
- inappropriate nutrition, poorly housing, and care,
- low effectiveness in food energy usage

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Таб. 1 Производња говеда у Р.Македонији, (2006- 2012), СЦС, 2013
Tab. 1 Beef production in the R. of Macedonia, (2006 - 2012), SCS, 2013

Година, Year	Укупна производња меса у РМ, у тонама *Total meat production in RM, in tons*	Укупна производ-ња говеђег меса у РМ, т *Total beef production in RM, t*	Процентуално учешће говеђег меса у укупној производњи меса, % *Percentage of beef in total meat production, %*
2006	28041	7132	25,43
2007	27228	7121	26,15
2008	25065	7018	27,99
2009	25362	7307	28,81
2010	23271	6082	26,14
2011	21632	5301	24,51
2012	23124	4981	21,54

Data regarding number of slaughtered cattle (in heads) in last several years are presented in tab. 2.

Таб. 2 Број закланих грла у Р. Македонији (ДЗС, 2008- 2012), у 000
Tab. 2 Number of slaughtered cattle heads in the R. of Macedonia (SCS, 2008-2012), in 000 heads

	Година *Year*	Број говеда *No. of cattle*
Укупно закланих грла у 000 *Total slaughtered cattle in 000 heads*	2008	57
	2009	53
	2010	45
	2011	40
	2012	38
Укупно закланих говеда у кланицама, у 000 *Total slaughtered cattle in slaughtered houses, in 000 heads*	2008	7
	2009	4
	2010	7
	2011	6
	2012	7
Просечна тежина закланих говеда у кланицама, у кг *Average gross weight of slaughtered cattle in slaughtered houses, in kg*	2008	340
	2009	340
	2010	340
	2011	382
	2012	340
Рандман закланих говеда у кланицама, у % *Randman of slaughtered cattle in slaughtered houses, in %*	2008	50
	2009	47
	2010	46
	2011	49
	2012	47

Based on data presented in tab. 2 it could be considered that the total number of slaughtered cattle in the period from 2008 till 2012 has declined from 57.000 to 38.000 heads, and has a stable number of slaughtered cattle in the slaughtered houses of approximately 7.000 heads annually and with the average body mass of slaughtered cattle of 340 kg per head.

The present tendency is decreasing the number of farms, which leads to reduction of cow's number in total. Generally, in many countries to supply enough beef, usually a special beef or dual-purpose breeds are fattening in intensive or half-intensive production system. From the other side, on extensive production system usually the number of cattle is increasing per farm, to have sustainable beef production.

Таб. 3 Расни састав говеда у Р. Македонији у 2010 и 2012, ДЗС, 2013
Tab. 3 Breed structure of cattle in the R. of Macedonia in 2010 and 2012, SCS, 2013

Расе говеда/ година *Breeds of cattle/year*	2010		2012	
	Број говеда *Cattle heads*	%	Број говеда *Cattle heads*	%
Црно- бела *Black and white*	41,57	41,80	103628	39.69
Сименталац *Simmental*	5,22	5,05	13131	5.03
Браон(двојни правац) *Brown (dual purpose)*	3,79	3,87	8977	3.44
Зелено(двојни правац) *Grey (dual purpose)*	0,03	0,28	493	0.19
Домаће говедо Буша *Domestic cattle Busha*	10,11	12,12	20363	7.80
Посебне расе говеда *Special beef breeds*	0,06	0,03	246	0.09
Мешане раса *Crosses of breeds*	38,95	36,82	113720	43.56
Остала говеда *Rest of the breeds*	0,27	0,03	515	0.20
Укупан број говеда *Total no. of cattle*	100,0	100,0	261073	100.00

The average beef consumption per capita in R. of Macedonia in last several years is approximately 15.000 tons annually or 7,5 kg per capita annually, which is much lower than in the other regional or European countries, where the average beef consumption per capita is from 10-25 kg (in the regional countries) till 30-60 kg (in some European countries (Bunevski et all, 2009, Trajkovski et all, 2006, Lazarevic 2003, Antov et all, 2001, Ostrec, 2008, Ostojic et all, 2012).

Generally, in our country the main fattening material for beef production is coming from crosses and black and white cattle, without special cattle farms for intensive fattening, and without any policy for estimating of beef quality by conformation and fat covering, but only on body mass of slaughtered cattle and their category.

Material and methods

Estimation of totally 42 bovine carcasses was made in one private slaughtered house in Strumica region, from the adult cattle from different cattle breeds, mainly from the cattle crossbreeds between black and white cattle, busha cattle and dual purpose breeds. Estimation was made for the conformation according SEUROP classification and for fat cover of carcasses in the classes from 1 to 5. All the investigations were made in the period from September to November 2013.

From 2010 a new Law for quality of agricultural products ruled, according to new estimation of bovine carcasses by two criteria:

a) Conformation of the carcasses and

b) Fat covering of carcasses.

According a new Law for quality of agricultural products, all the bovine categories are estimated according the description (tab. 4 and 5).

Таб. 4 Развој профила трупа, у делу основних партија(средњи део, леђа, плећка)
Tab. 4 Development of carcass profiles, in particular the essential parts (round, back, shoulder)

Конформација класе *Conformation class*	Опис *Description*
S Супериоран *Superior*	Сви профили заокружени (екстра развијени мишићи) *All profiles rather round (an extraordinary muscle development)*
E Одличан *Excellent*	Сви профили су изражени до супер изражени; изузетно развијени мишићи *All profiles convex to super-convex; exceptional muscle development*
U Врло добар *Very good*	Изражен профил у целини, врло добра развијеност мишића *Profiles on the whole convex, very good muscle development*
R Добар *Good*	Изражен прави профил; добра развијеност мишића *Profiles on the whole straight; good muscle development*
O Просечан *Fair*	Удубљени профил; просечна развијеност мишића *Profiles straight to concave; average muscle development*
P Слаб *Poor*	Сви профили удубљени до веома удубљени;Слаба- лоша развијеност мишића *All profiles concave to very concave; poor muscle development*

Таб. 5 Процена класе трупа на основу прекривености мастима, од 1 до 5, на спољном делу трупа и у грудној шупљини(грудни кош)
Tab. 5 Estimation of carcass classes according fat cover, from 1 to 5, on the outside of the carcass and in the thoracic cavity

Класа према прекривености мастима *Class of fat covering*	Опис *Description*
1 Ниска *Low*	Без масноће до ниске масноћа *None up to low fat cover*
2 Блага *Slight*	Блага масноћа, са свуда видљивим месом *Slight fat cover, flesh visible almost everywhere*
3 Средња *Average*	Заступљено месо у средњем делу и плећкама, скоро свуда прекривено мастима, средње наслаге масти у пределу грудног коша *Flesh with the exception of the round and shoulder, almost everywhere covered with fat, slight deposits of fat in the thoracic cavity*
4 Висока *High*	Месо прекривено мастим , али видљиво у средњем делу и плећкама, са неким особеним масним наслагама у пределу грудног коша *Flesh covered with fat, but on the round and shoulder still partly visible, some distinctive fat deposits in the thoracic cavity*
5 Врло висока *Very high*	Цео труп прекривен мастима; велике наслаге масти у пределу грудног коша *Entire carcass covered with fat; heavy deposits in the thoracic cavity*

All the categories of bovine carcasses are presented in tab 6.

Таб. 6 Категорије говеђих трупова
Tab. 6 Categories of bovine carcasses

Категорија/*Categories*	Опис/ *Description*
A	трупови некастрираних младих мушких грла млађих од две године старости *carcasses of uncastrated young male animals of less than two years of age*
B	трупови осталих некастрираних мушких грла *carcasses of other uncastrated male animals*
C	трупови кастрираних мушких грла *carcasses of castrated male animals*
D	трупови отељених женских грла *carcasses of female animals that have calved*
E	трупови осталих женских грла *carcasses of other female animals*
V	трупови телади до осам месеци старости *carcasses of calves until 8 months of age*
Z	трупови телади старости од 8 до 12 месеци старости *carcasses of older calves from 8 till 12 months of age*

Those beef cattle categories are important to label them on carcass recording.

Results and discussion

According to the estimation of the controlled bovine carcasses by their conformation and fat covering, the main results are presented in tab. 7.

Таб. 7 Добијени резултати проценом говеђих трупова
Tab. 7 Obtained results from the estimation of bovine carcasses

Усаглашеност конформације и прекривености масним ткивом трупова *Classes by conformation and fat cover of carcasses*	S	E	U	R	O	P
1	0	0	0	1	0	0
2	0	0	0	4	3	1
3	0	0	1	9	6	1
4	0	0	2	5	4	2
5	0	0	0	1	1	1

From tab. 7 can be considered that almost all estimated cattle according the conformation belong in the classes R and O, and by the second criteria – fat cover, belong to the classes 3 and 4. Those results correspond to the breed of cattle (mainly cattle crosses), their productive type (dual-purpose aim), as well as the system of their fattening which in mainly semi-intensive to extensive production system, without finishing them in last several weeks before their slaughtering. The first two classes of conformation (S and E) in many European countries are present only in high intensive beef breeds of cattle like Belgian Blue, which are not present in our country. Comparing to the other research studies (Ostrec 2008, Ensminger, 1996, Trajkovski et all, 2006, Ostojic et all, 2012), those obtained results in our research show that we have to accept this system of classification of bovine carcasses (according conformation and fat covering) and to leave the still present system of price forming mainly per kg of body weight of slaughtered cattle.

Conclusion

The main purpose of this paper is to show the real situation about conformation and fat covering classes of bovine carcasses in our conditions. In our research almost all estimated cattle carcasses according the conformation belong in the classes R and O, and by the second criteria – fat cover, belong to the classes 3 and 4. Those results are connected by the breed of slaughtered cattle, production system and system of fattening. This system of estimation of bovine carcasses by conformation and fat covering have to apply in our country as soon as possible, and to leave the still actual way of estimation and paying by kilograms of body weight of cattle.

For the purpose of satisfying the domestic market of beef, our government spends a lot of money for importing beef. During the transition period of our country, so many

special farms for fattening cattle were destroyed, so the future trend has to pay higher attention to the family farms. Subsidy agricultural policy has to stimulate the quality of bovine carcasses according the new estimation by their conformation and fat cover.

At the same time, the systems of fattening and genetic of cattle have to improve for better economical results of beef cattle production.

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