

## CRITERIA OF CONSUMERS WHEN PURCHASING BEEF IN RETAIL STORES. A. CONSUMER ATTITUDE TOWARDS BEEF QUALITY TRAITS, PREFERENCES AND HABITS IN SELECTION OF THE CATEGORY OF RETAIL MEAT PARTS AND GIBLETS<sup>1</sup>

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*Contents:* The attitude of consumers towards beef quality traits, their inclinations and habits in selection of category, retail meat parts and giblets were analyzed in the paper based on information gathered through polling of town inhabitants (N=478). Also, the position of beef compared to other meat types was investigated, reasons and frequency of its use in every day nutrition and way of its preparation for consumption. Data was analyzed according to sex, age and occupation of those polled in order to conclude about their effect on selection criteria.

Female consumers consume beef (17,7%) more than mutton (6,7%), but less than pork (39,0 %) and poultry meat (36,5%). Compared to them, male consumers consume slightly more pork (41,8%), beef (26,0%) and mutton (9,2 %) but less poultry meat (23,0 %). When choosing the category of beef, 67,7% of consumers stated that they would choose young beef, 28,6% veal and only 3,7% beef. Approx. 50% of consumers stated that first criterion when purchasing meat is their own inclination/preference, followed by quality, price or recommendation by doctor. However, consumers with higher education, as well as female consumers and younger consumers prefer higher categories of meat with lower content of fat. Visual impression when choosing young beef in retail stores is most important criterion for average consumer. Approx. 43% of those polled stated colour of meat as decisive factor, pink-red colour being the most desirable. Second factor when choosing meat is presence of fat tissue more appreciated and demanded by male consumers and older consumers because in their opinion it makes the meat taste better.

*Key words:* young beef and beef, quality, preference, consumer, poll.

### *Introduction*

Importance of cattle production in relation to meat production reflects in ability of cattle to convert different plant products, rich in cellulose, into highly valuable products for human nutrition. Beef is characterized by high nutritive value with low content of fat and plenty protective substances – minerals and vitamins (Petrović *et al.*, 2002).

Production of beef in the Republic of Serbia has reached its greatest volume in 1985 (156.000 t), but it decreased in subsequent years to amount of 93.000 t in year 2001. In the next year slight increase was registered – production volume of 97.000 t. The highest share of production of beef in total meat production was achieved in 1970 (27,41%). After this year, the share of beef in total meat production decreased to 19,88% in year 2000, followed by demonstration of trend of slight increase.

In regard to consumption, according to data from Bureau of statistics of the Republic of Serbia, average annual consumption of fresh beef per member of household decreased from 5,4 kg (1998) to 3,4 kg (2000) but it increased to 4,8 kg in year 2002. The share of young beef consumption in relation to other types of meat was similar from 17% (1998) to 13,5% (2002).

Production and consumption of beef in Serbia compared to developed countries such as France, Spain, Italy, etc., are still very low and inadequate to soil and other resources and potentials with which we dispose. Considering also nutritive importance of beef in human nutrition popularization of consumption of this type of meat is essential in our country (Aleksić *et al.*, 1997, Mišćević *et al.*, 2003).

Programmes of genetic improvement of fattening cattle are traditionally focused on growth traits, daily gain and feed conversion as factors affecting the profitability of production and slaughter industry. On the other hand, demands of the modern consumer in regard to quality of meat are becoming more important especially in developed countries where special systems of meat evaluation have been developed (Richardson *et al.*, 1994). Most authors including Radovanović (1994) quote Hamond *et al.* (1971) who stated that the

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meat of the highest quality is meat »preferred by the consumer and seller is able to sell«, in other words, quality of meat is determined by consumers-consumption and price that they are willing to pay for it.

It can be concluded that future selection-breeding programmes of fattening cattle should improve not only fattening traits but also provide such genotypes of cattle for marketing of young beef on market best suited to taste and demand of consumers. *Pavlovski et al. (2003)* determined that majority of polled consumers thought that breed, age and sex were factors of influence to quality of meat.

Investigation of the consumer opinion regarding meat quality traits, frequency and way of consumption is first step in our intentions to bring closer the production of beef in our country to needs and desires of modern consumer, followed by selection or creation of new genotype which would be better suited to set demands.

#### Material and methods

In our investigation method of random polling of 487 people of different age, sex and occupation was used. Polling included consumers on the territory of Belgrade as most important market in the country.

Questions in the poll related to consumer attitude towards meat quality traits, their preferences and habits when choosing category of meat, retail cuts and giblets.

Since poll relates also to investigation of consumer attitude towards different meat types, term beef was used in investigation of its position in relation to other types of meat. Considering that young beef as category is mainly present in retail stores, questions relating to quality traits and ways of consumption relate to this type of meat.

Data was analyzed according to sex, age and occupation of those polled in order to make conclusions about their effect on selection criteria.

#### Results and discussion

In order to have better preview and easier presentations, results were divided into three groups:

##### 1) Structure of those polled:

The poll included 59% females and 41% males. Share of those polled under 30 years of age was 37%, 49% were between 30-65 years and 14% over 65 years of age.

##### 2) Preferences/inclinations of consumers in selection of category, retail cuts of beef and giblets

When choosing the category of beef, 67,7% of consumers chose young beef, 28,6% veal and only 3,7% beef. Persons with higher education (faculty degree) and students decide most often to purchase younger categories and more valuable retail cuts – round and beef steak. Compared to other groups, older persons/retired persons use the veal the least -13% and beef the most -15%. Giblets are consumed the least by persons with higher education and the most by retired persons as well as students - mainly liver and heart (Table1).

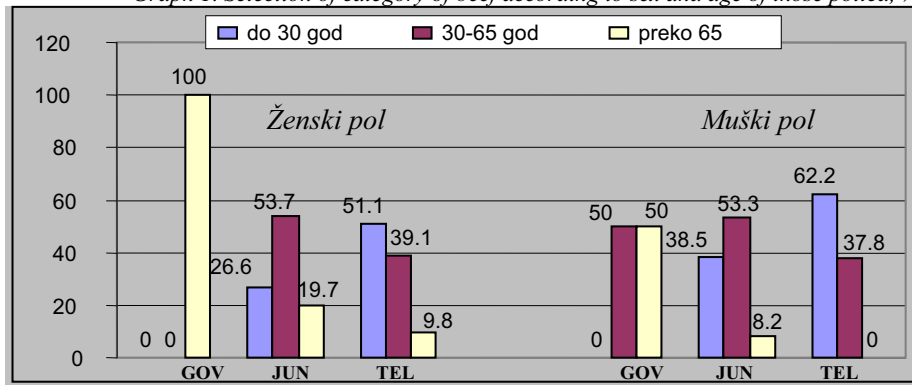
Majority of those polled use mixed ground meat, except persons with higher education and housewives who in 60% of cases for preparation of meals use only ground beef.

Table 1. Choice of category, retail cuts of beef and giblets according to occupation of those polled

Occupation and education	Categories			Retail cuts						Giblets				
	Beef	Young beef	Veal	Ribs and rib steak	loin	Round	Beef steak	Belly	Legs and tail	Stomach	Tongue	Liver, heart	Other	No giblets
Housewives	0.0	78.9	21.1	42.1	5.3	26.3	5.3	15.8	5.3	15.8	10.5	31.6	0.0	42.1
Craftsman	4.8	79.0	16.1	40.3	8.1	12.9	3.2	29.0	6.5	12.9	8.1	24.2	4.8	50.0
High school education	2.5	68.5	29.0	36.4	18.5	17.3	2.5	19.1	6.2	17.3	10.5	29.0	3.7	39.5
Faculty degree	1.0	54.2	44.8	41.7	25.0	22.9	5.2	5.2	0.0	14.6	4.2	21.9	0.0	59.4
Students	0.0	66.7	33.3	38.9	25.0	26.4	0.0	9.7	0.0	5.6	4.2	51.4	2.8	36.1
Retired	14.9	71.6	13.4	46.3	14.9	19.4	0.0	11.9	7.5	23.9	6.0	49.3	4.5	16.4
Average	3,7	67,7	28,6	40,0	18,4	19,9	2,5	15,1	4,2	15,3	7,3	33,3	2,9	41,2

In regard to selection of different categories of beef it is noticeable that older persons consume young beef more - 54%, whereas younger people prefer veal which is also the last choice of the oldest consumers. Older male persons consume more beef and less young categories of meat, but persons in the group from 30 to 65 years of age consume young beef and persons from the age group under 30 consume veal -62% even more than female consumers (Graph 1).

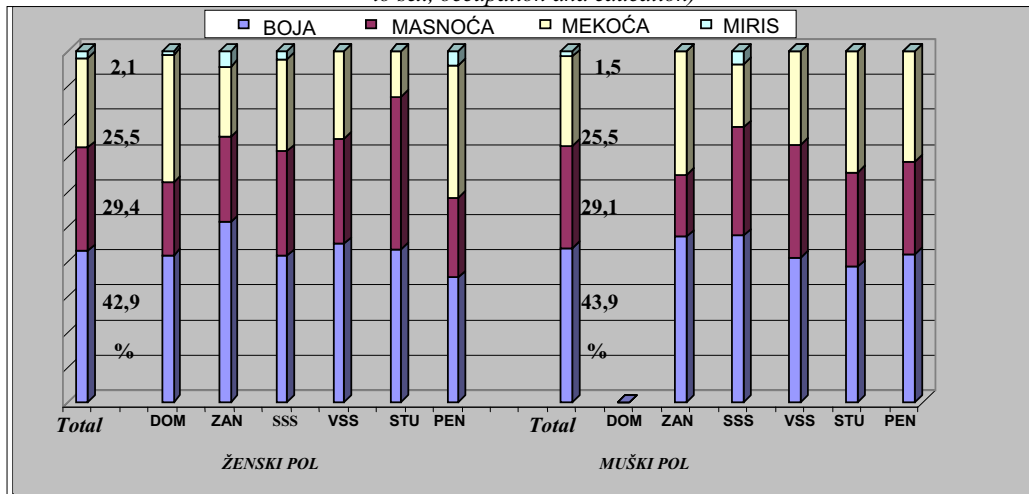
Graph 1. Selection of category of beef according to sex and age of those polled, %



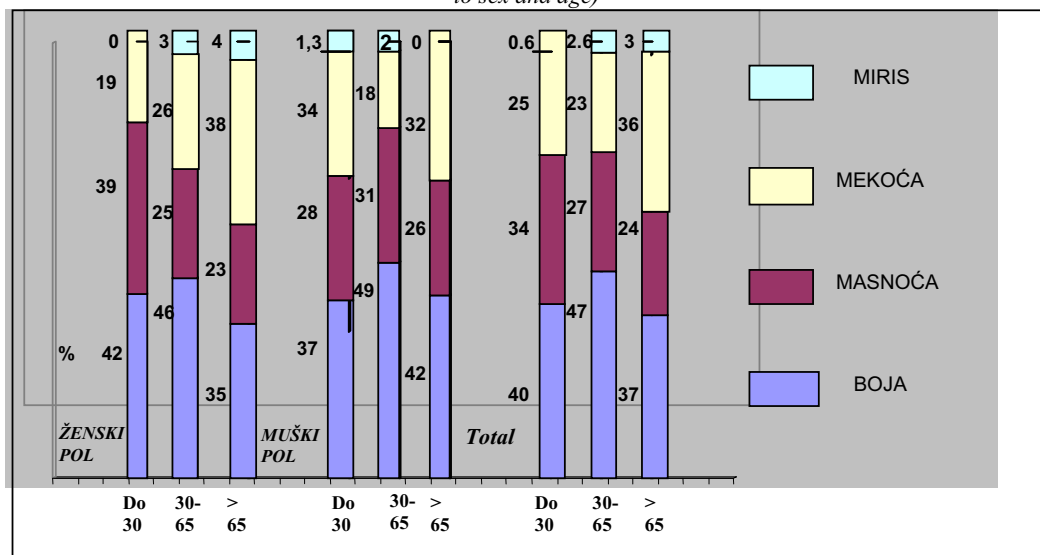
### 3) Consumer attitude towards young beef quality traits

Colour of meat is very important criterion in selection of retail meat cuts (Graphs 2 and 3) without any significant differences between sexes. Female students choose often according to share/content of fat in the meat and retired females and housewives according to meat tenderness. In regard to age of those polled, meat colour was most important to medium age group - 47%, tenderness to those polled belonging to group over 65 years of age - 36% and presence of fat to the youngest persons - 34%.

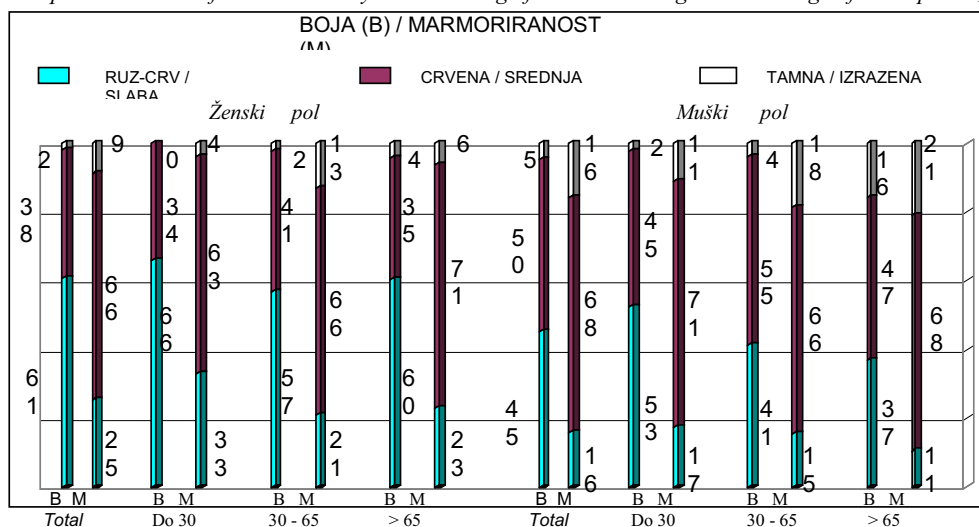
Graph 2. Importance of beef quality traits to consumers when choosing and consuming products (according to sex, occupation and education)



Graph 3. Importance of beef quality traits to consumers when choosing and consuming products (according to sex and age)



Graph 4. Selection of colour intensity and marbling of meat according to sex and age of those polled, %



Processing of poll results (Graph 4.) showed that, in regard to colour of beef, female consumers preferred lighter colour, pink-red colour - 61%, whereas male consumers preferred slightly darker meat - 50%. Younger persons in general preferred lighter colour of meat whereas dark red colour was not desired (2-5%) except in case of male consumers over 65 years of age -16%.

Data on desired marbling score of young beef was obtained based on selection of one of three pictures used in the poll and it showed that majority of those polled preferred meat of medium marbling approx. 67%, female consumers often choose meat of low - 25% and male consumers meat of high marbling score -16%. Persons belonging to group from 30 to 65 years of age appreciate distinct marbling more (13-18%) than female consumers under 30 years of age who often decide to purchase meat of low marbling score (23-33%).

### Conclusion

Based on presented results and analysis of results relating to criteria of consumers when purchasing beef in retail stores, the following can be concluded:

- Majority of those polled – approx. 70% use young beef and persons under 30 years of age veal. Housewives, students and persons with higher education mostly use more valuable cuts – round and beef steak and 40% of those polled doesn't use giblets at all.
- Colour of meat is most important for consumers when choosing retail cuts, female consumers prefer light pink-red colour and male consumers darker red colour of young beef.
- Tenderness of meat is most important to persons over 65 years of age - 36% and presence of fat to the persons under 30 years of age - 34%. Female students choose according to content of fat and housewives according to meat tenderness.
- Half of those polled, among which the majority is male, craftsmen with high school education and retired persons, think that meat with higher fat content tastes better and majority of those polled in retail stores choose meat of medium marbling score.

## KRITERIJUMI POTROŠAČA PRI IZBORU GOVEĐEG MESA U MALOPRODAJI A. STAV POTROŠAČA PREMA ATRIBUTIMA KVALITETA GOVEĐEG MESA, SKLONOSTI I NAVIKE PRI IZBORU KATEGORIJE, MALOPRODAJNIH DELOVA I IZNUTRICA

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### Rezime

Prikupljanjem informacija putem anketiranja gradskog stanovništva (N=478) analiziran je stav potrošača prema atributima kvaliteta goveđeg mesa, kao i njihove sklonosti i navike kada su u pitanju izbor kategorije, maloprodajnih delova i iznutrica. Takođe je ispitana pozicija goveđeg u odnosu na ostale vrste mesa, razlozi i učestalost upotrebe u svakodnevnoj ishrani i vidovi njegove kulinarske pripreme. Podaci su dalje analizirani prema polu, uzrastu i zanimanju ispitanika kako bi se izveo zaključak o njihovom uticaju na kriterijume za izbor.

Potrošači ženskog pola konzumiraju goveđe meso (17,7%) više od ovčijeg (6,7%), a manje od svinjskog (39,0 %) i živinskog (36,5%). U odnosu na njih, potrošači muškog pola konzumiraju nešto više svinjskog (41,8%), goveđeg (26,0 %) i ovčijeg mesa (9,2 %) na račun slabije konzumacije živinskog mesa (23,0 %). Pri izboru kategorije goveđeg mesa 67,7% potrošača izjasnilo se za juneće, 28,6% za teleće i samo 3,7% za goveđe meso. Oko 50% potrošača izjavilo je da im je pri izboru vrste mesa na prvom mestu sopstvena sklonost, pa tek onda kvalitet, cena mesa ili preporuka lekara. Ipak, potrošači sa višim obrazovanjem, kao i potrošači ženskog pola i mlađeg uzrasta preferiraju meso boljih kategorija sa manjim sadržajem masti. Vizuelni utisak pri izboru junećeg mesa u maloprodaji je najbitniji za prosečnog potrošača. Oko 43% učesnika u anketi navodi boju mesa kao odlučujući faktor, pri čemu je najpoželjnija ružičasto-crvena. Drugi činilac pri izboru mesa jeste zastupljenost masnog tkiva čije veće prisustvo cene potrošači muškog pola i starijeg uzrasta smatrajući ga ukusnijim.

*Ključne reči:* juneće i goveđe meso, kvalitet, izbor, potrošač, anketa.

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