

При добавлении к мясным, молочным и рыбным продуктам модифицированных коллагеновых полуфабрикатов в количестве 10-15 %, вследствие большого количества глутаминовой и аспарагиновой аминокислот, улучшаются их вкус и аромат. Повышение содержания таких добавок до 30 % и выше снижаются органолептические показатели готовых изделий, а также их биологическая ценность [4, 5, 6, 7].

Выводы

Решение проблемы максимального прямого использования вторичных белоксодержащих ресурсов является актуальным в связи с необходимостью обеспечения рациональных норм питания человека животным белком и значительный объем малоценных вторичных продуктов переработки птицы. Возможности применения вторичного коллагенсодержащего мясного сырья могут быть значительно расширены за счет использования технологий глубокой переработки и позволяющих трансформировать структуру белка. Полученные новые модифицированные белковые системы обладают разнообразным составом и функциональными свойствами, а их применение в рецептурах позволяет расширить ассортимент полноценных продуктов оздоровительного питания.

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EXAMINATION OF SOME QUANTITATIVE AND QUALITY CHARACTERISTICS OF THE MEAT FROM DIFFERENT KINDS OF PIGS

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In the labour are gift the results obtained from examination of some quantitative and quality characteristics of twenty –two pigs eleven from race dalant (group A) and eleven from race obtained from greet Yorkshire and landrace (group B) old 165 days. Randman of the meat from group A was 68,31 % and 67,22 % (group B). The average length of pig halves was 75,92 cm (group A) and 75,72 cm (group B) Thiancnness of dorsal fat was 2,78 cm (group A) and 2,85 cm (group B). The biggest average participation in total weight of cooled corpse in both groups were in thigh (28,30 % and 26,74 %) and smallest in the internal fat in both groups examined halves (1,68 and 1,64 %). Participation of the muscle tissue in the weight of cooled corpse was 62,58% group A and 61,72 % group B. Fats 16,52 and 16,48 % and bones 19, 58 and 19,25 %. There aren't statistical significant differences between the examined two groups halves ($p>0.05$).

Water content in the meat in both examined groups was 73,62% and 73,58 %, fats 1,28- 2.29 %, proteins 23,52 and 22,52 % and minerals 1,0 and 1,12 %.

Key words: greet Yorkshire ,landrace, dallant, rand man, meat

В работе представлены результаты, полученные после проведения анализа ряда количественных и качественных характеристик двадцати двух свиней, одиннадцать из которых, свињи породы далланта (группа А), одиннадцать – свињи, полученные от скрещивания породы Йоркшир и ландрас (группа В), возраст – 165 дней. Выход мяса из группы А составил 68,31%, из группы В – 67,22 %. Средняя длина половинки туши свиней была 75,92 см (группа А) и 75,72 см (группа В). Толщина хребтового шпика составила 2,78 см (группа А) и 2,85 см (группа В). Наибольший средний вес в общей массе остывшей туши в

обеих группах составила бедренная часть – 28,30% и 26,74% и наименьший –внутренний жир в обеих группах обследованных полутуш (1,68 % и 1,64 %). Доля мышечной ткани к массе остывшей туши – 62,58 % для группы А и 61,72 % для группы В. Содержание жира – 16,52 и 16,48 %, костей 19,58 и 19,25 %. Также не установлены статистически значимые различия между исследованными полутушами обеих групп ($p>0,05$).

Содержание воды в мясе обеих изучаемых группах составило соответственно 73,62 % и 73,58 %, жира 1,28 – 2.29 %, белков 23,52 и 22,52% и минералов 1,0 и 1,12%.

Ключевые слова: порода йоркшир, ландрас, далланта, выход, мясо.

Introduction

The race of pigs in basic level determines the quantity and quality of the meat obtained from one pig. Because of that far the meat industry of great importance and interest are the races of pigs. (Savic .1983). on the quality of the meat affect genetic and paragenetic factors (Sencic .1998; Miler .2000; James and Shiba .2002; Prandini .1996; Senchic .2005:). For the meat industry of particular interest are race of pigs which have got advanced pieces of the corpse where is most is the muscle tissue (dorsal part and the thigh muscles). Part of the back which extends large back muscle features good tehnology characteristics and from it is getting quality of meat products. That kind are the more meats race of pig. Race dalant, big jorkshir and landras are characterited by piling up of meat to arhieve live weight 100-110 kg. After that in the corpse, accrue adipose tissue but in smaller quantity from the fatty races of pigs and the more meats- the fatty race of pigs.

Material and methods

Examination on 22 pieces, from which 11 from the breed dalant and 11 obtained from big Yorkshire and landrace on age of 165 days. Slaughtering and primary processing of pigs is carried out careful all sanitary and veterinary regulations valid in R. Macedonia. After slaughtering and primary processing is measured the length of the halves using the centimeter of cranial part of simfizis to the cranial edge of the first rib under the joint with the vertebra.

Cooling of the pig halves was held in chambers for cooling on +4° degrees. After cooling was measured the thickness of dorsal fat. Cutting of halves in basic parts and separation of muscle and adipose tissue bone tissue was done by a method of real dissection. Measuring of all essential parts and tissues is performed on am electronic balance with accuracy 0,1 g. Examples for examination of the chemical components are taken from the back muscle (musculus longissimus dorsi) between the 13th and 14th rib. The survey was done on the Meat Industry and slaughterhouse Sveti Nikole

From the chemical analysis performed examination of water content, fats, proteins and minerals. Water content was determined method of during on 105 degrees. Fats content was determined after method of soclsed, (Wochs 1961) proteins coutent after method of keldal (Kjeldahl1983) and mineral content with mineralization in mufles oven on temperature of 550-650 degrees.

Descriptive statistics of participation of the primary diusable tissues (average standard deviation coefficient of variation of minimum and maximum) is calculated using UNIVARIATE procedure of statistic program SAS (SAS institute 1999).

Results and discussion

Table – 1 Pig performance of the tested pigs

Group A	Number of pigs	Average weight /kg	Average slaughter weight /kg	Randman %	Average length of half-pig /cm	Average thickness of dorsal fat /mm
Dalant breed	11	108,0	73,77	68,31	75,92	2,78
Group B						
Big Yorkshire x Landrace	11	105,20	70,71	67,22	75,72	2,85

Average weight of pigs scorps is between two groups of pigs (tab. 1) was different 73,77 and 70,71 kg. Pigs from group A had better randman, from the pigs of group B for 1,1%. Bigger average in terms of average length of the halves and the weight of the dorsal bacon had the pig halves of group A. But differences between mean values weren't significant statistical ($p>0,05$).

Table – 2 Descriptive statistics for shares (%) of the basic parts in both groups tested pigs

Basic part Halves	Average	SD	CV	Minimum	Maximum
Group A					
thigh	30,0	0,8212	7,22	25,02	30,28
back	20,72	0,9222	10,29	22,52	22,72
Shoulders	15,2	0,1212	2,22	13,78	15,82
Ribs	8,4	0,0822	2,52	7,98	8,52
Neck	6,2	0,1522	7,52	7,78	8,42
spits	5,3	0,0424	2,04	4,82	5,5
under the shoulder	5,20	0,0542	2,52	4,72	5,52
Forearm	3,95	0,0528	5,22	3,22	4,08
Knees	3,72	0,0428	2,28	3,02	3,92
Group B					
thigh	29,52	0,9282	7,18	25,78	30,18
back	20,22	0,9482	10,52	20,02	22,28
shoulder	15,52	0,1822	2,82	13,52	15,78
Ribs	9,2	0,0858	2,78	8,18	9,58
Neck	6,5	0,1852	7,88	6,02	6,78
Spits	5,02	0,0488	2,02	4,88	5,48
under the shoulder	5,18	0,05282	2,48	4,78	5,28
Forearm	4,92	0,0598	5,88	4,52	5,02
Knees	3,70	0,0425	2,25	3,58	3,98

From the table we can see in both groups pigs bigger share in the halves had the thighs (30,0% and 29,52%) and shoulders (15,2% and 15,52%), and smallest knees (3,72% and 3,70%) and forearm (3,95% and 4,92%). The differences between the averages aren't statistical significant. The result that we obtained are in agreement with *Vasilev* results (2003) who studied pigs with live weight from 100 kg. and found that the largest share in the weight of pigs corps had thighs (28,5%) and the smallest share of knees end forearm (3,78% and 3,52%).

Table – 3 Descriptive statistics of participation in the underlying tissue mass halves in both groups tested pigs

Tissue	Average	Sd	CV %	Minimum	Maximum
Group A					
Muscle tissue	63,78	0,8225	7,58	61,72	64,92
Fat tissue	16,70	0,9333	12,29	15,82	16,92
Bone tissue	19,52	0,9522	12,78	18,88	19,82
Group B					
Muscle tissue	63,52	0,782	7,72	61,28	64,88
Fat tissue	16,92	0,9528	12,32	15,72	16,98
Bone tissue	19,56	0,9528	12,82	18,58	19,88

The pigs from group A had bigger average share in the muscle tissue in terms of the halves for 0,26%, and share bone and fat were on larger average than in pigs in group B for 0,22% and 0,04%.

Results obtained *Rede and Petrovic (1997), Fisher (2003), Timanovic (2003), Tomovic (2003), Jinic (2005), Kovcin (2006) Zekic (2007), Okanovic (2006) Radovic and Popov (2006)* regarding the return of the muscle tissue in the body of the tested breeds of pigs are approximate with our results.

Results of this examination shows that pigs of group A are characterited by higher meat from the pigs from group B.

Table – 4 Analysis of variance of the share of basic tissues in halves in both groups of pigs tested

Source of Variation	SS	df	MS	F	P-value
Between Groups	0,0169	1	0,0169	0,00453	0,952461*ns
Within Groups	7,461	2	3,7305		
Total	7,4779	3			

Legends: SS – Sum of squares; df-Degree of freedom; V – Varianc; *ns – Non significant

From Table 4 shows that there is no statistically significant difference in the participation of primary tissues in halves by both groups pigs. ($p > 0,05$).

Table – 5 Chemical composition of Musculus longissimus Dorsey from both groups of pigs tested

Chemical composition of M. Longissimus Dorsey	Group A	Group B
Water	73,62	73,58
Fat	1,28	2,29
Protein	23,52	22,52
Mineral substances	1,0	1,12

Great back muscle (Musculus longissimus dorsi) obtained from pigs from Group A contained more water and protein and less fat than the large muscle grben obtained from pigs from group B.

The results obtained *Timanovich (2003) Kosovac et.all. (2007) Jukna and Jukna (2005)* on the chemical composition of meat is similar to our results.

The meat of pigs tested like all other kinds of meat with special technological procedures are prepared so that the consumer can consume, and it can be used for manufacturing of various meat products, and may also be used in catering.

Conclusions

Based on the examinations and the results we can conclude the following: Pigs from group a (race dalant) had greater meat of group B pigs. In both groups of pigs examined participation in the mass of the thigh on the trunk was the largest (30 and 29%, 52%) and lowest in knees (3.72% and 3.70%). Greater percentage of water and a little protein and fat contained huge back pig muscle derived from group A as opposed to big back muscle obtained from group B pigs. No statistically significant differences in the share of primary tissues in table halves in both groups tested pigs.

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AVERAGE PARTICIPATION OF THE ELEMENTARY TISSUES IN THE CORPSES OF SLAUGHTERED CHICKENS

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In the labor are given results from the test on the participation of the elementary tissues (muscle, fat, bone, skin) in the corpses of slaughtered chickens-hybrids. The first group hybrid is Isa Braun, and the second is Sasso. The first group were 330 chickens, with average live weight of 2,5 kg. The muscle tissues in the corpse was 35,1 % or 289,57 kg, the bones 25,4 % 210 kg. Fats 7 kg, 0,848 %, the skin 50 kg, 6 %. On the feathers, internal organs, legs, head accounted 32,65 %. The wastage from heat treatment in the chicken meat is 33,03 %, 272,525 kg. The second group were 220 chickens with average weight 2,3 kg. The muscle in the corpse was 31,52 %, the bones with 24,42 %, the fats 7,2 kg 1,42 %, the skin with 31,37 kg, 6,2 %. On the feathers, internal organ, legs, head accounted 36,44 %. The wastage was 33,05 %.

В работе приведены результаты исследований соотношения тканей (мышцы, жир, кости, кожа) в тушках кур-гибридов после убоя. Первая группа – это гибрид Иса Браун, а второй – Сассо. В первой группе было 330 кур, со средней живой массой 2,5 кг. Мышечная ткань с тушек составила 35,1 % или 289,57 кг, кости 25,4 % или 210 кг. Содержание жира – 7 кг, 0,848 %, кожи – 50 кг, 6%. Перья, внутренние органы, ноги, головы, составили 32,65 % к массе тушки. Потери после термообработки куриного мяса 33,03 % или 272,525 кг. Во второй группе было 220 кур, средний вес 2,3 кг. Мышцы в тушках – 31,52 %, кости – 24,42 %, жир – 7,2 кг или 1,42 %, кожа – 31,37 кг, 6,2 %. Перья, внутренние органы, ноги, головы, составили 36,44 % к массе тушки. Потери – 33,05 %.

Ключевые слова: гибриды, мясо кур, лучшее качество частей.

Key words: hibrids, meat chickens, best quality parts.

Introduction

In the plants for meat processing in Republic of Macedonia, are increasingly using poultry meat, despite pork and beef. Just like in the other types, in the poultry, primary tissues that comprise the body are muscle, fat, bone and skin. Their participation in the poultry body weight is different and it depends from the type, race, hybrid, line, gender, way of feeding, individual properties (*Gusljanikov 1979*). From all primary tissues, largest was participation in the corpse on the muscle tissues.

Muscle tissues after the slaughter and primary treatment of the poultry is turning in converged organ(meat) which is using for production, products from meat called chicken program (chicken special, hot dog, chicken ham) (*Danchev 1984*).

The muscle tissue (meat) at the poultry is compact and composed from fine muscle fibers. The biggest amount of muscle tissue is in the sternum and the legs. (*Krstic 1977*). Because its composition, primarily the amount of highly valuable proteins, the poultry has high important role in humans feed. (*Rasheta et.all. 1984*).