

РЕЗЮМЕТА

на научните трудове представени за участие в конкурс за заемане на академичната длъжност- **“Доцент”** в област на висшето образование

б. Аграрни науки и ветеринарна медицина, Професионално направление: 6.3 Животновъдство, Научна специалност- “Овцевъдство и Козевъдство”,

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ТРУДОВЕ ПО ПРОФЕСИОНАЛНО НАПРАВЛЕНИЕ, С КОИТО УЧАСТВА В НАСТОЯЩИЯ КОНКУРС

I. Хабилитационен труд – научни публикации (не по-малко от 10) в издания, които са реферирани и индексирани в световноизвестни бази данни с научна информация

1. Vuchkov A., D. Dimiov, 2006, Meat characteristics of lambs from White and Patched Maritsa sheep (Месодайни характеристики на Бели и Вакли Маришки агнета), Journal Animal of science, Vol.XLIII, № 3, pp.6-10, ISSN: 2534-9856

ABSTRACT

A study was conveyed on the meat characteristics of 60-day-old lambs from White and Patched Maritsa sheep. Slaughter analysis was made on 16 lambs (8. White and 8 Patched). Lambs were reared by the traditional manner, main food during the suckling period being maternal milk, and after the 10th day the lams having a free access to the alfalfa hay and concentrate mixture (containing maize, barley and sunflower cake). Both groups of White and Patched Maritsa lambs were of the same sex and birth type-single-born males. Individuals with medium stage of development were chosen and extreme variants were avoided. The slaughter was done at 60 days of age. The weight of the cool carcass of 60-day-old lambs from White and Patched Maritsa was 11.900 and 12.175 kg. respectively and according to the SEUROP system they corresponded to category C. The male lambs of the White and Patched Maritsa sheep at 60 days of age were with relatively high slaughter yield 53.58% and 55.46% respectively. The weight ratio of meat and bones in the carcasses was 73.65:27.35 for the White and 73.93:20.06 for the Patched lambs. The ratio of meat and bones in the back quarter was broader 3.150:1 for the White and 3.475:1 for the Patched compared to the fore quarter 2.320:1 for the White and 2.843:1 for the Patched ones. The carcasses of the White and Patched Maritsa lambs were predominantly of class C₂ and C₃, first grade by the SEUROP qualification system.

Key words: lambs, slaughter characteristics, Maritsa lambs

2. Vuchkov A., D. Dimov, N. Genov, 2008, **Chemical and fatty acid content of the meat of lambs of white Marisa sheep at weaning (*Химичен и мастнокиселинен състав на месо от агнета от Белите Маришки овце при отбиване*), Journal of Animal science, Vol. XLV, № 4, pp.177-180, ISSN:2534-9856**

ABSTRACT

The chemical and fatty acid content of bulk samples of meat from the carcasses of eight male lambs of Maritsa sheep slaughtered immediately after the weaning at 60 days of age was studied.

It was found that the dry matter was 30.794% of the meat, the fats and proteins-14.9% and 14.97% respectively. The oleic fatty acid (C 18:1) was with the highest (29.930%) relative share of the fatty extract from the bulk samples of meat. The content of the essential polyunsaturated linoleic (C18:2) and linolenic acid (C18:3) was respectively 4.414% and 1.193%, the ratio being linoleic : linolenic : 3.6 : 1. The total percentage ratio of the saturated to unsaturated fatty acids in the fatty extract on the bulk meat samples was 56.81% : 43.18%.

Key words: *fatty acids, meat, lambs*

3. Седефчев С., А. Вучков, А. Седефчев, 2011, **Характеризиране и съхраняване на български автохтонни породи кози, Аграрни науки-Аграрен университет-Пловдив, година- III, Бр.6, с. 67-72, ISSN:1313-6577**

РЕЗЮМЕ

Автохтонните породи кози в България все още не са добре проучени. Поради това в литературата всички местни породи и типове се споменават под общото название „местна коза”.

От 2000г. Б.Д.О.Б.Р. СЕМПЕРВИВА извършва теренни проучвания, развъждане, описване и мониторинг на две автохтонни породи кози – Калоферска дългокосместа коза и Българска витороба дългокосместа коза. Калоферската дългокосместа коза е специфична, атрактивна стара местна порода. Описана е за първи път едва преди няколко години.

В миналото Български витороби дългокосместа кози са била изнесени в Германия. Вече повече от 40 години породата се отглежда там чистопородно. Същевременно в своята родина тази коза доскоро бе пренебрегвана. Поради своите малки популации и двете породи попадат във FAO категория „Застрашени породи”. Нужно е да се предприемат спешни мерки за тяхното устойчиво съхраняване.

Ключови думи: *дългокосместа, калоферска, коза, породи*

4. Вучков А., Д. Димов, 2011, **Описание и измерване на екстериора на местната калоферска дългокосместа коза от района на гр. Калофер, Аграрни науки - Аграрен университет-Пловдив, година - III, бр. 6, с. 59-65, ISSN:1313-6577**

РЕЗЮМЕ

Калоферската дългокосместа коза е автохтонна българска порода кози отглеждана в района на Централен Балкан, която през последните 10 години стана популярна сред фермерската общност във връзка с търсенето на кожи за направата на кукерски костюми. В резултат от този интерес се създадоха стада в Благоевградска област, на базата на закупени типични екземпляри от оригиналния ареал. За изследването бяха

посетени 6 стада от Района на калофер и 6 стада от благоевградска област. Бяха избрани 109 кози и 39 пръча над 3 годишна възраст за екстериорни измервания. Характерна особеност на Калоферската дългокосместта коза е обилната, дълга космена покривка, която при холката е с дължина 26.42 cm, а при крупата 29.42 cm. Цвета на козината е различен и в популацията се срещат индивиди с черен, сив, бял, черно-бял, червен, и червено-бял цвят. Калоферската дългокосместта коза е средно едра порода с височината при холката 72.26 cm при козите и 82.00 cm при пръчовете. Косата дължина на тялото като измерение е много близка с височината при холката, което създава впечатлението за хармонично телосложение (квадратна форма). Обхвата на гърдите при козите е 88.84 cm, а при пръчовете 100.76 cm. Други особености в екстериора на Калоферската дългокосместта коза е наклонената крупа и наличието на „бретон“ на челото. Преобладаващата част от козите са рогати (90.50 %), но се срещат и безроги кози и пръчове. Дължината на рогата при пръчовете е 44.44 cm, а разстоянието между върховете е 67.27 cm. Дългата космената покривка, а така също големината и формата на главата и ушите, са залегнали, като признаци на желан тип използвани от развъдчиците при вътрестадната селекция.

Ключови думи: екстериор, измервания, козина, кози, порода

5. Димов Д., **А. Вучков**, И. Стойчев, 2013, **Проучване върху плодовитостта и млекодобива на едногодишни овце майки от породата Бяла Маришка овца**, Аграрни науки-Аграрен университет-Пловдив, година- V, бр. 14, с.97-101, ISSN:1313-6577, ISSN:1313-6577

РЕЗЮМЕ

Заплождането на шилета е важен метод за интензификация на производството на овцевъдна продукция. За целите на това изследване са използвани 314 записа за плодовитостта и 178 записа за млекодобива на едногодишни овце майки от породата Бяла Маришка. Данните се отнасят за периода 1995-2011 г. Плодовитостта е установена в 13 стада, а млекодобивът в 7 стада, собственост на овцевъди от равнинната част а Пловдивска област. Установено е, че при условията на естествено проявен еструс и естествено заплождане 36.45% от останените агнета за разплод се заплождат като шилета. Коефициента на плодовитост е 1.17, а млекодобивът е 60.26 L., което представлява съответно 76.92% и 54.49% от потенциала на възрастните овце майки за производство на агнета и мляко. С изключение на стопанската година, факторите месец на заплождане и стадо нямат доказано влияние върху плодовитостта. Върху продължителността на дойния период и млекодобива на едногодишните овце майки от породата Бяла Маришка статистически доказано влияние имат факторите, стопанска година и месец на агнене.

Ключови думи: едногодишни овце майки, млекодобив, плодовитост

6. Kalaydzhiev G., **A. Vuchkov**, T. Angelova, D. Yordanova, V. Karabashev, J. Krastanov, D. Dimov, N. Oblakov, S. Laleva, Y. Popova, 2014, **Variability of individual coagulation ability and qualitative composition of milk from Kalofer Longhaired goats**, Agricultural Science and Technology -Stara Zagora, vol. 6, No 4, pp. 491-493, ISSN:1314-412-X

ABSTRACT

The growing scientific interest in the coagulation ability of milk in leading countries in Europe and in the world, is the premise for the research carried out by us in this direction. In this study were examined 49 individual milk samples of goats from autochthonous breed Kalofer longhaired for coagulation ability and qualitative composition of the milk. Analysis of individual coagulation ability was made in the dairy lab of Agricultural Institute - Stara Zagora through Computerized Renneting Metter - Polo Trade, Italy. Studied phenotypic

parameters defining the dynamics of the qualitative composition of milk are respectively with average values: fat - 4.15%, protein - 3.34%, dry nonfat substitutes (DNS) - 8.84%, lactose - 4.84%.

Average values of exponents: rennet clotting time, curd firming time and curd firmness are as follows - 11.47min.; 0.86min.; 27.16 mm.

Studies carried out in this direction are pilot, and so far there is no such of this nature in Bulgaria.

Key words: *Kalofer longheared goats, coagulation ability, qualitative composition, curd firmness, coagulum, milk*

7. Stoichev I., **A.Vuchkov**, D. Dimov, 2015, **Study on the growth rates of weaned lambs of the white Maritza sheep breed** (*Проучване на растежните способности на отбити агнета от породата Бяла Маришка*), Scientific works-Agricultural University-Plovdiv, Vol. LIX, book 2, pp.255-262, ISSN:1312-6318

ABSTRACT

The aim of this study was to evaluate the live weight and growth rates of lambs in the post-weaning period. The breed of lambs is *White Maritza sheep* (Biala Marishka ovca). Small database was collected during two years-2014 and 2015 including 69 female and 16 male lambs from 4 herds in the region of Plovdiv. It was established that the live weight of single male lambs at weaning on the 60th day of age was 25.13 kg., on the 90th day-32.01 kg., on the 129th day-39.19 and on the 150th day-43.52. The growing rate of the lambs at weaning was 418.9 g., from the 60th to 90th day-229.1 g., from the 90th to 120th -239.3 g., from the 120th to 150th -144 g. daily gain.

The live weight of the female single lambs at weaning was 24.15 kg., on the 90th day of age-31.24 kg., on the 120th day-37.42 kg., on the 150th -41.46 kg. The growing rates of female single lambs were as follows: at weaning-402.5 g., from the 60th to the 90th day-236.4 g., from the 90th to the 120th day-206.1 g. from the 120th day to 150th day of age-134.1 g. The live weight and growing rates of twin female lambs followed the same tendencies but at a lower level.

Key words: *live weight, growth rate, sheep, White Maritza sheep*

8. Dimov D.,P. Zhelyazkova, **A. Vuchkov**, 2017, **Study on loss of accuracy of AC-method for milk yield control in sheep**, Agricultural science and technology, Vol.9, No 4, pp. 268-272, ISSN:1314-412-X

ABSTRACT

The aim of this study was to investigate the loss of accuracy of AC-method for milk yield control in sheep under the conditions of threefold milking per day. Test day milk yield records of 113 ewes raised on sheep farm of the Agricultural University in Plovdiv collected according to official A4 method were used. Two breeds were raised at the university experimental farm: White Maritza (49 ewes) and Patch Faced Maritza (64 ewes). Predicted milk yield data on test day were simulated using different prediction coefficients (calculated at morning, noon or evening milk recording). Database includes 2577 predicted milk yield records on test day. The loss of accuracy using AC method is accumulated in two ways: by milk yield prediction coefficients on test day and milk yield calculations during milking period. Loss of accuracy (LA₁) in prediction of test day milk yield by prediction coefficients varies from 10.02% to 12.74% according to type of milk recording (morning, noon or evening). Three factors such as level of test day milk yield, type of milk recording and animal have larger influence on LA₁ 27.70%, 21.99% and 19.32%, respectively, of total variation. Loss of accuracy (LA₂) in the calculated total milked milk per milking period on the basis of predicted test day milk yield according to the morning, noon and evening milk recordings compared with A4 method are 7.04%, 8.03% and 6.05%, respectively.

Depending on the type of milk recording on the test day (morning, noon and evening), 46.88% to 56.15% of the observations of LA₂ fall within the scope of $\pm 5\%$. Rank correlations in the ranking of ewes in all years and different designs of AC method have high values from 0.891 to 1.000.

Key words: *loss of accuracy, milk yield, recording AC-method, sheep breeding*

9. **Vuchkov A.**, M. Kostova, B. Bojinov, 2017, **Variations of the color of coat in two autohtonous goat breeds in Southwest Bulgaria**, Journal of Mountain Agriculture on the Balkans, Vol.20, No.5, pp. 25-36, Troyan, Ecomauntin, ISSN:2367-8364

ABSTRACT

The present paper shows a summary analysis of variations in the color of coat in two Bulgarian autohtonous goat breeds - Kalofer longhaired and Bulgarian screw-horned longhaired goat breeds, reared in Southwest Bulgaria. The specimens included in the investigation, form a representative sample of breeds - 120 typical animals (60 of each breed). For the purposes of the study were selected purebred animals, without common grandparents from 12 herds, representing the full diversity of color of the coat, typical for the populations of a both breeds. The results show that 5 basic colorations of the coat can be differentiated - Black, Brown, Silver-gray, Paecock "barza" , Black and tan. Two of them (black and brown) have been determined by the B-locus, defining the Eumelanic pigmentation, and three (silver-gray, "barza", black and tan) have been determined by Agouti-locus

Key words:*autohtonous goat breeds; color of coat*

10. Dimitrova K., **A. Vuchkov**, 2018, **Tulum cheese – cheese making technology and main characteristics**, Journal of Mountain Agriculture on the Balkans, Vol.21, No.3, pp. 1-26, ISSN:2367-8364

ABSTRACT

Tulum cheese is a specific kind of cheese which is typical of the countries of the Balkan Peninsula, but some of its varieties are also produced in Algeria and Lebanon. In the different countries the cheese is designated with different names. In Romania it is known as *brânză de burduf*, in Bosna and Herzegovina its name is *mjeh*, in Croatia it is called *mišina* or *sir iz mišine*. In Algeria it is known as bouhezza and in Lebanon as darfiyeh. In Turkey and Bulgaria it is designated as Tulum cheese. In fact, the variety of names for this kind of cheese in the different languages is related to the specific step of technology which is applied in the production of the cheese.

The unique traditional technology is characterized by ripening of the cheese curd in animal skin bag (Tulum), which has been prepared for this purpose in advance. Traditionally, the cheese is made from raw sheep's or goat's milk, but it is also possible to use cow's milk or a mixture of these kinds of milk. There is also some variety in the technological processes in the cheese production.

The lactic acid bacteria are the main microflora of the cheese, but in some cheese varieties yeast and moulds are also found. The specific and strong taste and flavour of the cheese is due to the proteolytic and lypolytic activity of its specific microflora which takes part in the processing of the cheese curd and during the cheese ripening.

Key words: *tulum cheese, cheese making technology, main characteristic*

II. Публикувана книга на базата на защитен дисертационен труд за присъждане на образователна и научна степен "доктор"

1. **Vuchkov A.**, 2020, **Месодайна продуктивност на Белите и Вакли Маришки овце**, Издателство „Интелексперт-94“ Пловдив, 65 с., **ISBN:978-619-7220-72-8**

III. Статии и доклади, публикувани в научни издания, реферирани и индексирани в световноизвестни бази данни с научна информация

1. **Вучков А.**, 2008, **Химичен и мастнокиселинен състав на месо от Вакли маришки агнета при отбиване на 60-дневна възраст**, Научни трудове-Аграрен университет-Пловдив, т. LIII, с. 171-175, **ISSN: 1312-6318**

РЕЗЮМЕ

В настоящата статия са проучени химичният и мастно-киселинният състав на общи проби месо от трупа на 8 мъжки агнета от Вакли Маришки овце, заклани веднага след отбиване на 60-дневна възраст. Сухото вещество съставлява 29.981% от месото. Мазнините и белтъчините, респективно-13.614% и 15.435%. С най-висок относителен дял от мастните киселини в мастен извлек от общи проби месо е олеиновата киселина (C18:1) и линоленовата (C18:3) е съответно 4.634% и 1.320% в съотношение линолилова:линоленова-3.5:1. Общото процентно съотношение на наситени към ненаситени мастни киселини в мастен извлек от общи проби месо е 52.08% : 47.91%.

2. Angelushev I., **A. Vuchkov**, 2015, **Basics exterior measurement in males Bulgarian tricolor coonhound** (*Основни екстериорни измерения при мъжки екземпляри от породата Българско Трицветно Гонче*), Scientific Works-Agricultural University-Plovdiv, vol. LIX, Issue 1, pp.38-42, **ISSN:1312-6318**

ABSTRACT

The Bulgarian Tricolour Coonhound - "Tricveten Palash" belongs to the group of scenthounds with Asian origin, cultivated since ancient times on the Balkan Peninsula. This dog is considered one of the rarest existing breeds. After recent studies on population Tricolour Coonhound, committed by Gaitandjiev 1968, there have not been other studies on the exterior. With a view to standartization of the breed and the next way of breeding with them, it is imperative performing contemporary description of the exterior and disarming exterior parameters of the currently existing pure-bred specimens. Measurements are made of basic exterior singhts of 17 males pure-bred specimens of the breed Bulgarian tricolor Coonhound. The peculiarities of the exterior in Bulgarian tricolor coonhound have belonged to the group of eastern beagles with a medium size of body. The height at the withers of the males is 51, 29,±3,82 cm; diagonal length of the body is 55, 64,±1,99 cm. Stretchability index is 111,96. Hearth girth is 62,05,±0,70 cm.

Key words: *Bulgarian Tricolour Coonhound, Tricveten Palash, hunting dogs*

3. **Vuchkov A.**, 2015, **Analysis of farming systems in growing of the local Kalofer longhaired goats**, (*Анализ на стопански системи при отглеждане на местни Калоферски Дългокосмести козу*), Scientific Works-Agricultural University-Plovdiv, vol. LIX, book 2, pp.263-270, **ISSN:1312-6318**

ABSTRACT

The Local Kalofer Longhaired goats are the subject of research relatively recently. With a

view to sustainable development and conservation of this endangered genetic resource, it is necessary to be analyzed the farming systems in which grew this breed. The survey covers 14 farms. Basic income that provides growing Kalofer longhaired goats in Blagoevgrad region is the skin for making mummer costumes. Minority of farmers milking goats - 5 respondents. Another production forming total income for farmers is goats meat and kids for breeding. Most farmers sell kids, the price per kilogram live weight, is a 7-10 BGN.

Key words: *farming systems, local goats breeds, Kalofer longhaired goats*

4. **A. Vuchkov**, 2020, **Caracas traits for the kids of two indigenous goat breeds in Bulgaria**, Scientific papers. Series D. Animal science University of Agronomic Science and Veterinary Medicine of Bucharest Faculty of Animal Productions Engineering and Management, vol.LXIII, No2, pp.48-55, ISSN:2285-5750

ABSTRACT

The Kalofer longhaired goat (KLG) and the Bulgarian screw-horned longhaired goat (BSLG) are indigenous goat breeds in Bulgaria, reared in some mountainous regions of the country. 12 male kids (6 of KLG and 6 of BSLG), born as singles, were slaughtered immediately at weaning at 90 days of age, without a period of intensive fattening after weaning. Based on the results of slaughter analysis of suckling kids from the two local goat breeds, it can be concluded that the average weight of the cold carcass was 9.88 kg for male suckling kids of KLG and 9.79 kg for kids of BSLG. Dressing percentage of chilled carcass, without the offal was 48.87 % and 50.5% for KLG and BSLG, respectively. The linear measurements of the carcass of male suckling Kalofer longhaired kids at 90 days of age were as follows – big carcass length – 49.50 cm, length of ham – 32.16 cm, circumference of ham – 32.83 cm. The area of m. longissimus at 11th ribs was 10.39 cm². The ratio meat:bones in the carcass of suckling Kalofer longhaired kids at 90 days of age was relatively high - 2.99:1. For males Screw-horned kids, the linear measurements of a carcass were as follows – big carcass length – 56.66 cm, length of ham – 30.16 cm, circumference of ham – 30.18 cm. Area of m. longissimus at 11th ribs was 10.0 cm². The ratio meat:bones was 2.87:1.

Key words: *indigenous goat breeds, local goat breeds, slaughter characteristics, carcass traits*

5. Penkov D., **A. Vuchkov**, 2020, **Net utilization of energy and protein by traditional reared Bulgarian Screw-horned longhaired suckling kids through the system**, Journal of Mountain Agriculture on the Balkans, vol.23, No.2, pp. 1-10, ISSN 1311-0489 (Print), ISSN 2367-8364

ABSTRACT

Through the introducing of a new approach for recording of the productive effect of the energy and protein through the eco-technical system “fodder - lamb/kid’s meat”, the authors investigate the possibilities of meat productivity of “milk-kids” from Bulgarian Screw-horned longhaired goat, reared in traditional technology. The results was obtained in experiment with a 6 male kids, slaughtered immediately at weaning at 90 days of age, without a period of intense fattening after weaning. The kids were rearing in traditionally conditions in real production system. The following results of net utilization have been obtained: Clarc of energy distribution - CED (net energy fodder – gross energy meat)- 0.2197 (21.97%) and Clarc of protein transformation – CPT (protein digestible in the intestine fodder – crude protein meat) - 0.6711 (67.11%).

Key words: *Clarc of energy distribution, Clarc of protein transformation, kids, fodder – meat*

6. Penkov D., A. Vuchkov, 2020, **Methodology for introducing the system “CLARC of energy distribution\clarc of protein transformation” and a process for calculating by meat production from lambs and goat kids**, , Trakia Journal of Sciences, Vol. 18, № 1, pp. 25-30, ISSN: 1313-3551

ABSTRACT

PURPOSE: Introducing a system for recording of the productive effect of energy and protein by their transformation into lamb/kids/small ruminant's meat. **METHODS:** The results were obtained in experiment with a 6 male Kalofer longhaired goat kids, slaughtered immediately at weaning at 90 days of age, without a period of intense fattening after weaning (so-called “milky kids”). The kids were rearing in traditional conditions in the real production system. **RESULTS:** Clarc of energy distribution-CPT (protein digestible in the intestine fodder-crude protein meat)-0.1958 (19.58%) have been calculated. **CONCLUSIONS:** The Clarc of energy distribution and Clarc of protein transformation are indexes for objective calculation of the energy and nutrient transformation between the preliminary and secondary parts of the eco-technical chain “fodder-edible parts of lambs/kids meat”.

Key words: *Clarc of energy distribution, Clarc of protein transformation, goat kids, fodder-meat*

7. Vuchkov A., 2020, **Variation of the exterior in the Bulgarian screw-horned longhaired goat two distribution areas**, Trakia Journal of Sciences, vol. 18, Sppl1, pp. 34-39, ISSN: 1313-3551

ABSTRACT

The Bulgarian Screw-horned longhaired goat is a local breed, distributed in the mountainous regions of Bulgaria. The largest compact herds with preserved breed type of the animals are differentiated into two main habitats.

I. The region of Southwestern Bulgaria - mainly in the southern and western border mountains of the Blagoevgrad region (the slopes of Southern Pirin, Slavyanka, Ograzhden, Malashevaska mountains).

II. The region of Western Stara Planina (settlements along the northern slopes) - mainly the Vratsa and Teteven regions. Exactly from these two areas (Teteven region and settlements in the border regions of Blagoevgrad region) in the 1968 year Professor Altman selects animals for conservation work with this breed in the GDR (1). Initial monitoring of the population shows some variation in the exterior signs of specimens in the two native distribution areas. This requires a detailed study and comparative analysis of the exterior in specimens from the respective areas. For the purposes of the study, complete measurements and descriptions of the exterior were performed in 50 goats and 20 bucks, respectively, from each areal. The Bulgarian Screw-horned longhaired goat from the area of Northwestern Stara Planina was larger and more massive than the animals from the area of Southwestern Bulgaria. The height at withers for the goats from the Vratsa region was 74.42 cm and 66.06 cm in goats from the Sandanski region. This sign in the bucks also shows a difference of almost 10 cm - 83.75 and 72.45, respectively for male animals from the two regions. The differences were proven with a high degree of probability. The goats from the area of Northwestern Stara Planina has a longer and broader head, the ears were proven to be longer, than in the animals from Southwestern Bulgaria. The horns of both male and female specimens from the Vratsa region were extremely rough and massive. The differences were proven with a high degree of probability.

Key words: *Local goat breeds, Exterior measurements, Bulgarian screw-horned longhaired goat*

IV. Статии в нереферирани списания с научно рецензиране или в редактирани колективни томове

1. Dimov D., **A. Vuchkov**, 2007, Patch faced Maritsa sheep- state and perspectives of development (*Вакла Маришка овца – състояние и перспективи за развитие*), Agricultural University-Plovdiv, Scientific Works, vol.LII, pp. 259-264, ISSN:1312-6318

ABSTRACT

The tendencies in population of Patch-faced Maritsa sheep during last six years (2002-2006) has been analysed in this study. Population size under monitoring program has been increased from 250 to 955. The flocks under performance testing have been increased from 7 to 16. Tendency of lower milk yield in the herds has been established during last years (100.03-89.32 litters per ewe). Also, in some of the best herds the farmers have gone on two-time lambing per year. In other herds the farmers have got to later lamb weaning. Coefficients of prolificacy vary between 1.38 to 1.49, which indicate middle level of this character. Due to enhanced interest of local sheep-breeders to keep Patch-faced Maritsa sheep it has been decreased risk of extinction of this local breed.

Key words: *sheep, population, milk, yield, prolificacy*

2. Batzalov P., D. Dimov, A. Arnaudov, **A. Vuchkov**, T. Dimitrova, 2008, **Possibilities for early diagnostic of pregnancy of sheep, inseminated in breeding season** (*Възможност за ранна диагностика на бременност при овце заплодени в развъден сезон*), Scientific research of the Union of Scientists in Bulgaria-Plovdiv, series C, Vol. VII, pp.306-309, ISSN:1314-9490

ABSTRACT

A new ascertaining early pregnancy in sheep method based on determination in relation index of nipple secret, was examined. The experiment was conducted during two consecutive inseminated campaigns. It was found out that the values of refraction indices of nipple secret from pregnant sheep are higher than the refraction undress on the not pregnant ones. However, the differences have low values of significance $P < 0.02$ and $P < 0.05$, which necessitates the conducting of an identical research on a greater number experimental animals. The proposed method can be used for determination of early pregnancy of flocks.

3. **Vuchkov A.**, D.Dimov, S. Sedefchev, 2011, **Body measurements of the Kalofer Long-Haired Goat Breed in Bulgaria**, Proceedings of 8th Global conference on the conservation of Animal Genetic Resources, 4-8 October, Tekirdag, TURKEY, pp. 251 – 258, ISBN: 978-605-87679-4-2

ABSTRACT

Kalofer longhair goat breed is a Bulgarian autohtonous goat breed kept in mountain area of Central Balkan (region of the city of Kalofer), that became popular between farmers in connection with demand of furs for mummer's suits. As a result of this interest is created a herds in Blagoevgrad region based on typical specimens purchased from the original range. Six herds from Kalofer region and six herds from Blagoevgrad region were visited and 109 does and 39 bucks were chosen for the purposes of the study. Abundant long coat is special feature of Kalofer longhair goat breed, whose length vary between 30.13 cm and 33.69 cm at males, respectively at wither and rump. Different color of the coat can be found

in the population – grey, black, black and white, red, red and white. In the population of the Kalofer region most common is gray color of coat – 33%. In the population of the Blagoevgrad region in the most common color is black color of coat – 61%.

Kalofer longhair goat breed can be classified as medium size breed having height at withers 71.60 cm and 81.85 cm for female and male respectively. Diagonal body length as measurement were very similar to height at withers, which create impression of square shape of the body. Hearth girth were 88.88 cm at females and 101.06 cm at males. Sloping rump and bang at forehead were special features of Kalofer longhair goat breed. More of the goats have horns but it can be found also hornless does and bucks.

Key words: *body, measurements, coat, goat, breed*

4. Вучков А., Д. Димов, 2012, Описание и измерване екстериора на витороба дългокосместта коза, Селскостопанска наука, том 45, бр. (5-6), с. 62-68, ISSN: 1311-3534

РЕЗЮМЕ

Българската витороба дългокосместа коза е автохтонна порода, отглеждана предимно в планински селища от Югозападна България. Екстериорът на тази порода не е достатъчно добре проучван до момента. За изследването бяха посетени 3 стада с типични екземпляри от селищата в Южен Пирин и Беласица. Бяха извършени пълни екстериорни измервания на 38 кози и 12 пръча над 3-годишна възраст. Характерна особеност на Българската витороба дългокосместа коза са изправените и спираловидно навити рога при женските, като понякога се срещат и рога от типа "aegagrus". И двата пола са рогати. Космената покривка е дълга. При козините дължината на козината при холката е 17.1 см., а при при крупата 23.3 см. Цветът на козината е различен и в популацията се срещат индивиди предимно с различни оттенъци на сивия цвят. Срещат се червен (плав), черен и черно-бял цвят. Виторобата дългокосместа коза е средно едра порода с височината при холката 66.8 см. при козите, и 73.1 см. при пръчовете. Височината при кръстеца е 66.7 см. при козите и 72.3 при пръчовете-не се наблюдаванадстоеност при животните от двата пола. Косата дължина на тялото е 70.7 см. при козите и 77.2 см. при пръчовете, като формата на тялото е леко разтегната.

Ключови думи: *автохтонни породи кози, екстериор, измервания*

5. Kalaydzhiev G., A. Vuchkov, T. Angelova , D. Yordanova, V. Karabashev , J. Krastanov, D. Dimov, N. Oblakov, S. Laleva, Y. Popova, 2013, **Variability of individual coagulation ability and qualitative composition of milk from Local longhaired (Screw horned) goats (*Варирание на индивидуалната коагулационна способност и качествения състав на млякото от Местни дългокосмести (витороби) кози*), International scientific on-line journal "Science & Technologies", Publisher „Union of Scientists-Stara Zagora”, Volume III, Number 5, Animal studies & Veterinary medicine, pp. 51-56, ISSN: 1314-4111**

ABSTRACT

The growing scientific interest in the coagulation ability of milk in leading countries in Europe and in the world is the premise for the research carried out by us in this direction. In this study were examined 37 individual milk samples of goats from autochthonous breed Local longhaired (Screw horned) goat for coagulation ability and qualitative composition of the milk. Analysis of individual coagulation ability was made in the dairy lab of Agricultural Institute - Stara Zagora through Computerized Renneting Metter - Polo Trade, Italy. Studied phenotypic parameters defining the dynamics of the qualitative composition of milk are

respectively with average values: fat - 4.86%, protein - 3.20%, dry nonfat substitutes (DNS) - 8.44%, lactose - 4.61%.

Average values of exponents: rennet clotting time, curd firming time and curd firmness are as follows - 12.17min.; 0.89min.; 31.89 mm.

Studies carried out in this direction are pilot, and so far there is no such of this nature in Bulgaria.

Key words: *Local longhaired Screw horned goats, coagulation ability, qualitative composition, curd firmness, coagulum, milk*

6. Dimov D., **A. Vuchkov**, I. Ivanov, 2015, **Study on ewe live weight of Patch faced Maritza sheep breed**, 2-nd International Symposium for Agriculture and Food, 7-9 October 2015, Ohrid, Republic of Macedonia, pp. 67–72, ISSN: 2545-4315

ABSTRACT

The aim of this study was to investigate magnitude of live weight of adult ewes and rams of Patch-faced Maritza sheep breed as well changes in ewe live weight from lambing on the end of lactation. Live weight of 296 ewes and 7 rams of Patch- faced Maritza sheep breed has been measured by a portable electronic scale FX2. The weighing was made in 6 herds in Plovdiv region (central part of South Bulgaria) with dried of ewes. In order to establish changes in ewe live weight during lactation an experiment was conducted with monthly weighing of 67 ewes in the herd of Agricultural University in Plovdiv. It was found that overall mean of ewe live weight is 74.47 kg. and ram live weight in this study was 121.47 kg. In comparison with order local sheep breeds in Bulgaria and other European country this is higher live weight. ANOVA table showed a statistically proven impact of environmental factors-herd, age and body conduction score of the ewe with high probability ($p < 0.001$). The changes of ewe live weight after parturition were studied through monthly weighing after lambing to drying of the ewes. After parturition, ewe live weight decreased to 2nd month with 19.54%, then to the end of lactation live weight is maintained at the same level with minor fluctuations.

Key words: *live weight, adult ewes and rams, environmental factors, changes*

7. **Vuchkov A.**, D. Dimov, 2016, **A comparative analysis of the exterior in local goat breeds from Southwest Bulgaria**, VII International Scientific Agriculture Symposium “Agrosym 2016”, 6-9 October 2016, Bosnia and Herzegovina, pp. 2271-2279, ISBN: 978-99976-632-76

ABSTRACT

In the last 15 -20 years there has been a higher interest in the skins of the Kalofer longhaired goats, used for making mummer's costumes, typical for Southwest Bulgaria. As a result, very valuable animals from this indigenous goat breed were brought from its tipycal habitat (Kalofer region); some of them were killed for their skin, and others left for breeding, mainly in Southwest Bulgaria (Blagoevgrad region). This region(Blagoevgrad region) , however, is a natural habitat of another local breed – the Bulgarian Screw-horned long-haired goat. Coexistence and breeding in purebred status of these two indigenous goat breeds, requires clearly distinguished breed types of both of them. For this purpose, we traced typical specimens, whith a clearly expressed breed type of Kalofer long-haired and Bulgarian screw-horned goats, reared in herds in Southwest Bulgaria. Full exterior measurements of 100 goats (50 of each breed) and 40 bucks (20 of each breed) were made. The Kalofer long-haired goat is larger than the Bulgarian Screw-horned long-haired goat - the height at the withers in the females, was - 70.76 cm and 66.9 cm, respectively. The height at the withers in the bucks was - 82.2 cm and 73.4 cm, respectively. The differences expressed a high degree of probability. The Bulgarian Screw-horned goat has a

light stretched format (bucks' stretchability index was 106.3), while the Kalofer long-haired goat has a square format (bucks' stretchability index was 100.3). The Kalofer long-haired goat has more massive bones (index for the development of bones was 12.99) than the Bulgarian Srew-horned goat (index for the development of bones - 12.12). The differences expressed a high degree of probability.

Key words: *Goat breeding, Autothonous breeds, local goat breeds, exterior measurements, exterior indices*

8. Vuchkov A., M. Kostova, B. Bojinov, 2017, Genetic variation in two Bulgarian domestic goat breeds as detected with issr markers, XXII Savetovanje o Biotehnologiji sa međunarodnium ucescem-RADOVA 1, pp. 387-395 ISBN: 978-86-87611-47-4 ISBN: 978-86-87611-49-8

ABSTRACT

The issue of conservation of genetic resources in livestock is of growing interest in recent decades. Local breeds of farm animal are usually with relatively lower productivity but well adapted to the specific conditions of the environment.

Due to the advent of a number of highly intensive selected breeds the existence of local genetic resources is threatened in our country. The risk comes from reducing the size of local populations of purebred animals, leading to narrowing of genetic diversity. Two local goat breeds with distinctive exterior, stably transmitted in the progeny were selected for the present study and their within-breed genetic variation assessed with ISSR markers.

Key words: *ISSR markers, genetic diversity, local breeds, goats*

9. Dimitrova K., A. Vuchkov, Y. Kartalska, 2018, Study of the acid production and proteolytic activity of the strains isolated from tulum cheese made by artisanal technology, Scientia Agriculturae, Vol. 21, №.3, pp. 93-97, E-ISSN: 2310-953X / P-ISSN: 2311-0228, DOI: 10.15192/PSCP.SA.2018.21.3.9397

ABSTRACT

Tulum cheese is one of the specific products for the countries of the Balkan Peninsula. It's traditional artisanal production involves the use of raw milk and ripening in an animal skin bag for several months until the cheese obtains its distinctive taste and odour. There are several technologies of production of Tulum cheese and just as there are differences among the countries, there are also differences among the regions of each country. The predominant microflora of Tulum cheese made by artisanal technology is different strains of lactobacilli and enterococci. The aim of this work is to study acid production and proteolytic activity of 20 strains lactic acid bacteria with ovoid shape which are isolated from fresh cheese crumbs and ripened Tulum cheese. The obtained results show that isolated strains can lower the pH to 4.45 and elevate the titratable acidity up to 110° Th of reconstituted skim milk. The strains showed similar proteolytic activity and the most active strain has a clear zone of 22.89 mm. on 24 h and 32.92 on 48 h on MRS-agar supplemented with 5% milk.

Key words: *active acidity, enterococci, farmhouse skin bag cheese, proteolysis, titratable acidity*

10. Buyklieva A., A. Vuchkov, 2020, Study of live weight of Karakachan lambs at the weaning in 90 days of age, (Проучване на живото тегло на Каракачански агнета при отбиване на 90 дневна възраст), Scientific works-Agricultural University-Plovdiv, Vol.LXII, Issue 1, pp. 139-145, ISSN: 1312-6318

ABSTRACT

The local Bulgarian sheep breeds are with a marked combined production - for meat, milk and wool. Growth abilities at an early age are importance trait for the production of meat from them. The Karakachan sheep is a relatively ancient, small mountain breed, but lambs in the young age has compared good growth intense. The average daily gain befor a weaning at 90 days of age was 219 g. This local breed has a good opportunity to produce light lamb carcasses from lambs slaughtered at the weaning, without a period of intense fattening. For a 90-days suckling period, male Karakachan lambs form 22, 492 kg live weight. Studies shows that a subsequent period of intense fattening of the lambs of this breed is economically ineffective. The average daily gain after weaning decreases (Alexieva, 1979, Kafedzhiev et al., 1992, Stankov, 1999) The cost of feed per unit of growth is increasing, and depositing a significant amount of fat (Nedelchev et al 1994, Boykovski et al., 2005). The growth of lambs during the suckling period can be considered as a specific meat production with a high taste and dietary qualities and with relatively low cost (Vuchkov, 2009; Vuchkov & Dimov, 2006). The results of this study for the formation of live weight at weaning of 90 days age, show that the Karakachan sheep have a high potential to produce so-called "milk lambs" and "light lambs carcasses" by SEUROP classification system of slaughtered carcasses.

Key words: *Karakachan sheep, authohtonous breeds, weight at weaning*