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WORLDWIDE TRENDS DEVELOPMENT OF SHEEP BREEDING

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Abstract

The purpose of this paper was the revelation of sheep breeding development trends worldwide in the past 14 years. The research was conducted on sheep herds worldwide of all breeds, in the profile of countries and continents. Based on FAOSTAT data, the volumes of sheep breeding production (meat, milk, wool, skins of Karakul) were analyzed during the years 2000-2014. It was found that on the whole globe, the sheep herds increased by 10.7%, the amount of meat by 14.4%, the milk by 27.8%, the skins by 8.8% and the wool production decreased by 8,0%. Conclusions were deduced that: social and economic importance of sheep breeding is due mainly to ensure food security of the population with animal protein such as meat and milk; the increasing of sheep herd occurred on those continents, regions and countries of the world with important human populations but underdeveloped (Africa, Asia), who live in the arid zones with plains and scanty vegetation, where the sheep are kept the whole year in natural conditions, without capital investments, with minimal cost, for which the sheep are a crucial source of existence and survival; on the continents with developed countries and rural populations (Europe, North America, Oceania), for which the breeding and exploiting of sheep is seen as an economic business for obtaining a profit, sheep were reduced because, the ovine species, in conditions of modernization, industrialization and intensification of the zootechnic sector, economically cannot compete with other animal species (birds, pigs, bovines).

Key words*: trends, development, sheep, meat, milk, wool, Karakul skins.*

INTRODUCTION

The sheep breeding, worldwide, is a branch of traditional livestock by major socio-economic importance. Multiple researches in this domain demonstrate that importance of this branch is due, at thirst, to ensure food security of the human population with protein products of animal origin such as meat (Bradford, 2001; FAO, 2017 a, 7; Pop et al., 1976; Ştefănescu et al., 1973; Taftă et al., 1997; Бастаев и др., 2003; Шайдулин и др., 2016) and milk (Barillet et al., 1974; Faostat, 2017, 8, Pop et al., 1976; Ştefănescu et al., 1973; Taftă et al., 1997; Ильев, 1969; Миллз, 1985), and, secondly, by providing natural raw materials, such as: wool (Ghiță et al., 1996; Faostat, 2015; Rider et al., 1968), skins (Adametz, 1927; Васин и др., 1971; Гигинейшвили, 1975; Дъячков, 1980; Закиров и др., 1987; Иванов, 1964: Кошевой, 1975), sheep fur and leather, for the processing industry and manufacturing of confection large consumer (clothes, fabrics, carpets, leather goods etc.). All these make ovine species indispensable for human society. It mentioned, that on the continents of the world the sheep production has been obtained from a wide range of breeds of sheep with various skills production: wool, meat, milk, wool-meat, wool-meat-milk, skins-milk etc. Better known in the world are about 600 breeds of sheep (Вениаминов, 1984), but after other data, newer of the FAO (FAO, 2016) in the world is growing more than 1129 sheep breeds, including less known.

In certain geographic areas of the world were created by humans, raised and spread those breeds of sheep at different stages of development of human society, satisfying the demands of society, they corresponded most appropriate traditions and local pedo-climatic conditions.

Throughout the ages, breeds of sheep have been perfected, ameliorated and specialized. Thus, in developed European countries (England, France, Holland, Germany) with favorable pedo-climatic conditions for intensive technologies, spread specialized breeds for meat, milk, meat, wool and prolific.

In underdeveloped countries (Africa, Asia), difficult conditions for intensive technologies, have spread breeds specialized for milk, wool-meat-fat, wool-milk-meat wool-milk-skins etc. Following, in the advanced stages of human society development in order to cover the

increasing demand on the world market to some specific sheep products, were created and in the Asian countries (in extensive) breeds performances, specialized in skins (Karakul), meat-tallow (Ghisar), wool (Australian Merino) and others.
In most cases, creating breeds and production skills development of sheep were driven by climatic and socio-economic conditions existing in the concerned areas (regions, countries). Those breeds and types of sheep that do not correspond to the requirements of the respective areas gradually disappeared.
Taking into account the climatic and socio-economic conditions quite varied in different parts and regions of the world, for elaboration measures of development of sheep branch under certain conditions, it is extremely necessary to know the development trends of sheep breeding at global and regional level.
In this context, the present work was proposed for research of sheep breed development trends worldwide in the last 14 years, regarding the dynamics of the sheep herds and production volumes of sheep meat, milk, wool and Karakul skins.

MATERIALS AND METHODS

The research was conducted on sheep herds worldwide of all breeds, in the profile of countries and continents, based on FAOSTAT data (FAO 2015a).
Based on data of this institution has been, also, analyzed information on production volumes of sheep meat (FAO, 2017a), production volumes of sheep milk (FAO, 2017 b), quantities of raw wool (FAO, 2015 b) and quantity of Karakul skins, deducted based on data information from the international fur auctions (Kopenhagen Fur, 2015) and communication of the official representative of the first FAO International Symposium on Karakul from Vienna, 1967 (Ştefanescu et al., 1973).
Based on the analysis data above, were been deducted the main development trends of worldwide sheep breeding, including various continents and countries. Finally those conclusions have been made.

RESULTS AND DISCUSSIONS

As a result of our research (Buzu, 2016), based on the FAOSTAT data, 2015, we found that worldwide herd of sheep in 2013 was 1172.8 million heads), of which the most numerous effective were been in Asia (526.6 mil heads) and Africa (325.3 mil heads), followed by Europe (129.6 mil heads) and Oceania (106.3 mil heads). The less sheep are on the American continent (84.9 mil heads) (Table 1).
Analysis distribution of sheep herds from Asia and Africa, on the countries, shows that this is largely linked to human population in those countries.
Thus, most numerous Asian sheep have been registered in China (185.0 mil sheep, with 1408.0 mil people), India (75.5 mil sheep, with 1236.7 mil people), Iran (50.2 mil sheep, with 76.4 mil people). On the African continent, the most important sheep herds are in Sudan (52.5 mil sheep, with 37.2 mil people) and Nigeria (39.0 mil sheep, with 168.8 mil people).
In Europe, the size of sheep herds in major countries is based not so with the number of population, but more with specific traditions of these countries.
Thus, the most numerous sheep herds from Europe are in the United Kingdom (32.8 mil heads), the development of human society throughout history have been created most numerous and powerful in the world breeds of sheep and wool textile industry and sheep meat consumption in food of human population in this country are some millennial traditions.
The important herds sheep are, also, in Turkey (27.4 mil heads), Russia (22.0 mil heads), Spain (16.1 mil heads), Greece (9.5 mil heads) and Romania (8.8 mil heads).
In Oceania, the largest herds of sheep are in Australia (75.5 mil heads) and New Zealand (30.8 mil heads), not in relation to the population of these countries, but rather with colonial traditions of Britain, peoples which imposed breeding of sheep in these colonies.

Table 1. Evolution of worldwide herds sheep during the 2000-2013 period (thousand heads)

Nr d/o	Country, continent, part of the world	Years			2013 % to 2000
		2000	2007	2013	
WORLD TOTAL		**1 059 082.3**	**1 138 486.5**	**1 172 833.2**	**110.7**
1.	**EUROPE total**	**146 694.2**	**135 525.3**	**129 650.5**	**88.4**
	inclusive: United Kingdom	42 264.0	33 946.0	32 856.0	77.7
	Turkey	30 256.0	25 616.9	27 425.2	90.6
	Russia	12 603.0	17 508.1	22 061.0	175.0
	Spain	23 965.0	22 194.2	16 118.6	67.3
	Greece	8 951.0	8 831.0	9 520.0	106.4
	Romania	8 121.0	7 678.0	8 833.8	108.8
	Azerbaijan	5 279.7	7 523.0	7 979.4	151.1
2.	**ASIA total**	**414 248.8**	**491 031.5**	**526 590.6**	**127.1**
	inclusive: China	131 095.0	171 961.1	185 000.0	141.1
	India	59 447.0	71 560.0	75 500.0	127.0
	Iran	53 900.0	53 800.0	50 220.0	93.2
	Pakistan	24 084.0	26 794.0	28 800.0	119.6
	Mongolia	15 191.3	16 990.1	17 500.0	115.2
	Syria	13 505.2	22 865.4	14 000.0	103.7
3.	**AFRICA total**	**246 505.8**	**294 957.0**	**325 338.8**	**132.0**
	inclusive: Sudan	46 095.0	50 944.0	52 500.0	113.9
	Nigeria	26 000.0	33 080.4	39 000.0	150.0
	Ethiopia	10 950.7	26 117.3	26 500.0	242.0
	Algeria	17 615.9	20 154.9	25 500.0	144.7
	Morocco	17 299.7	16 894.0	19 956.4	115.4
	Kenya	7 939.5	16 308.1	18 500.0	233.0
4.	**AMERICA total**	**90 805.1**	**92 785.3**	**84 902.0**	**93.5**
	inclusive: Brasilia	14 784.9	16 239.4	17 022.0	115.1
	Argentina	13 561.6	16 180.0	14 000.0	103.2
	Peru	14 686.3	14 580.2	12 434.3	84.7
	Bolivia	7 352.9	8 237.7	9 287.6	126.3
	Mexico	6 046.0	7 478.5	8 477.0	140.2
	SUA	7 032.0	6 120.0	5 335.0	75.9
5.	**OCEANIA total**	**160 828.3**	**124 187.4**	**106 351.0**	**66.1**
	inclusive: Australia	118 552.0	85 711.1	75 547.8	63.7
	New Zeeland	42 260.0	38 460.4	30 786.7	72.8

The sheep herds worldwide increased significantly in the period 2000-2013, from 1059.1 million heads in 2000 to 1172.8 million, in 2013 with 113.7 million heads (10.7%). The highest growth rhythm were been recorded in Africa and Asia, with 32.0 and 27.1% respectively.

In profile on the country, the sheep herds from Mali, Kenya and Ethiopia have increased during this period, by 2.02 to 2.42 times. From Asian countries, the sheep herds from China increased by 41.1%, in Pakistan, Iraq and Mongolia - with 19.6 to 15.2%.

An entirely different situation is in Europe, America and Oceania. In these continents the sheep herds, during the years 2000-2013, have been permanent decreased. For example, in Europe the sheep herds fell from 146.7 million heads in 2000 to 129.6 million heads in 2013 or with 17.0 million heads (11.6%). However, on the background of the herd's reduction, some countries in Eastern and Southern Europe recorded significant increases of sheep number. Thus, the sheep herds increased in Russia - with 9.4 million head, or 75.0%, Azerbaijan - with 2.7 million head, or 51.1%, in Romania - with 0.7 million heads, or 8.8%, Greece - with 0.6 million heads, or 6.4%.

On the American continent herds of sheep decreased, during that period, it was more moderate, only the 6.5%. This is due to countries in Central and Latin America, with important herds of sheep. Among these are Mexico, which registered an increase of sheep herds by 40.2%,

Bolivia – 26.3%, Brasilia – 15.1% and Argentina – 3.2%.

The most drastic reductions of sheep herds during 2000 - 2013 occurred in countries of Oceania, the herds are concentrated mainly in Australia and New Zealand. The herds of sheep from this continent have been reduced from 160.8 million heads in 2000 to 106.3 million heads, or with 54.5 million heads (33.9%), including: in Australia, the number of sheep decreased from 118.5 million heads in 2000 to 75.5 million heads in 2013, or with 43.0 million heads (36.3%) and in New Zealand herds of sheep decreased from 42. 3 million heads in 2000 to 30.8 million heads in 2013, or with 11.5 million (27.2%).

The evolution of the sheep worldwide reflects a similar picture in the evolution of sheep production volumes in this period, such as meat, milk, wool, skins

Thus, world production ***of sheep meat***, according to FAOSTAT data, 2017, in the 2000-2014 period has increased from 7829.1 thousand tons in 2000 to 8960.3 thousand tons in 2014, or with 1131.2 thousand tons (14.4%) (Table 2).

Table 2. Evolution worldwide of sheep meat production during the 2000-2014 period (thousand tons)

Nr d/o	Country, continent, part of the world	Years			2014 % to 2000
		2000	2006	2014	
W O R L D T O T A L		**7 829.1**	**8 392.1**	**8 960.3**	**114.4**
1.	**E U R O P E t o t a l**	**1 268.7**	**1 309.5**	**1 139.7**	**89.8**
	inclusive: United Kingdom	383.0	332.0	298.0	77.8
	Turkey	320.7	289.5	312.5	97.4
	Russia	119.1	139.3	186.4	156.5
	Spain	238.0	216.0	113.6	47.7
	France	130.4	139.6	110.2	84.5
	Greece	69.4	90.0	58.4	84.1
	Romania	60.5	54.7	67.7	111.9
	Azerbaijan	35.1	44.6	68.7	195.7
2.	**A S I A t o t a l**	**3 433.5**	**3 928.6**	**4 453.9**	**129.7**
	inclusive: China	1 478.1	1 939.1	2 184.0	147.7
	India	220.8	255.5	235.2	106.5
	Syria	206.1	252.2	161.3	78.3
	Pakistan	157.4	149.0	164.0	104.2
	Iran	329.1	276.3	147.9	44.9
	Kazakhstan	91.1	98.7	138.6	152.1
3.	**A F R I C A t o t a l**	**1 254.6**	**1 483.4**	**1 757.2**	**140.1**
	inclusive: Sudan	272.7	316.0	251.0	92.0
	Algeria	164.1	184.7	290.9	177.3
	Nigeria	111.5	138.6	139.5	125.1
	Morocco	125.3	120.4	120.3	96.0
	Ethiopia	36.4	78.9	88.1	242.0
4.	**A M E R I C A t o t a l**	**419.3**	**416.7**	**401.7**	**95.8**
	inclusive: Brasilia	68.7	77.0	85.9	125.0
	SUA	116.4	87.5	72.9	62.6
	Mexico	24.3	44.9	58.2	239.5
	Argentina	49.6	49.7	60.3	121.6
5.	**O C E A N I A t o t a l**	**1 323.8**	**1 253.9**	**1 207.8**	**91.2**
	inclusive: Australia	790.6	710.9	720.6	91.1
	New Zeeland	533.2	542.9	487.1	91.3

The biggest volumes of this production is in Asia (4453.9 thousand tons) and Africa (1757.2 thousand tons), followed by Oceania (1207.8 thousand tons) and Europe (1139.7 thousand tons). The lowest amount of sheep meat has been produced in America (401.7 thousand tons) and maintained at the same level with a downward trend. In Asia and Africa is found increase of meat production volumes.

In Asia, the meat production has been increased from 3433.5 thousand tons in 2000 to 4453.9

thousands tones in 2014, or with to 1020.4 thousand tons or (29.7%).

From Asian countries, the biggest quantities of meat has been produced in China (2184.0 thousand tons), India (235.2 thousand tons), Syria (161. 3 thousand tons), Pakistan (164.0 thousand tons) and Iran (147.9 thousand tons). The biggest growth rhythms production of sheep meat in the examined period was recorded in China (47.7%) and Kazakhstan (52.1%).

In Africa, the volume of sheep meat production increased from 1254.6 thousand tons in the 2000 year to 1757.2 thousand tons in 2012 year, or 502.6 thousand tons (40.1%). The highest total meat production increases occurred in areas of East, West and North Africa. Thus, sheep meat production increased during 2000-2014 period in Ethiopia by 2.42 times, in Egypt and Mali with 76.5 -74.7%, in Algeria and Nigeria with 77.3-25.1%.

In Europe, the sheep meat production volume decreased from 1268.7 thousand tons in 2000 to 1139.7 thousand tons in 2014, or with 10.2%. It is caused by a significantly reduced of sheep meat production in the most countries with major effective from Europe: United Kingdom - with 22.2%, Spain - with 52.3% France - with 15.5%, Greece - with by 15.9%.

The biggest volume of sheep meat production remain in Turkey (312.5 thousand tons), United Kingdom (298.0 thousand tons), Russia (186.4 thousand tons), Spain (113.6 thousand tons) and France (110.2 thousand tons). In some countries has been recorded an increase of meat production: in Azerbaijan – with 95.7%, Russia - with 56.5%, Romania – with 11.9%.

In Oceania it occurred, also, a decrease of sheep meat production level. In Australia sheep meat production decreased from 790.6 thousand tons in 2000 to 720.6 thousand tones in 2014 or with 70.0 thousand tons (8.9%), New Zealand - from 533.2 thousand tones in 2000 to 487.1 thousand tones in 2014.

Sheep milk, with particularly valuable nutritional qualities, has a vital interest in the human food from worldwide. According to FAOSTAT data, 2017, the volume of world production of sheep milk in 2014 was 10429.2 thousand tons (Table 3).

The biggest volumes of sheep milk has been produced in Asia (4854.0 thousand tons) and Europe (3080.7 thousand tons), followed by Africa (2451.4 thousand tons).

In America, the sheep milk production is insignificant. In Oceania the sheep, in general, are not milked.

From Asian countries, the most considerable volumes of milk produced in China (1537.0 thousand tons/year), which is situated after this index first in the world, Syria (685.1 thousand tons) and Iran (445.0 thousand tons).

Be noted that sheep milk production evolution in this part of the world has been progressed permanent in the examined period, from 3534.0 thousand tons in 2000 to 4854.0 thousand tons in 2014, or with 1320.0 thousand tons (37.4%). The most accelerated growth rhythms of milk production volumes were recorded in Jordan (by 2.1 times), China (with 81.5%) and Syria (with 53.7%).

If after the sheep herds and meat production volumes, Europe ranks third in the world (after Asia and Africa), then milk production volume ranks second after Asia. This is explained by the fact that sheep milk production in Europe is not just an occupation to ensure the food needs of the rural population, but has become a profitable economic business due to the substantial increase in market demand.

Therefore, specifically in Europe have been created the most advanced breeds of sheep for milk production (Oestfriză, Lacaune) and produces the most delicious assortment of cheeses (Roquefort), which ensures competitiveness and profitability of this production.

From European countries, the highest annual volumes of milk produced is in Turkey (1113.0 thousand tons), Greece (772.0 thousand tons), Romania (673.4 thousand tones), Spain (592.8 thousands tones) Italy (372.5 tones) and France (266.5 thousand tones). In some countries of Eastern Europe, the milk production volumes have been vertiginous growth evolution.

Table 3. Evolution of worldwide production of sheep milk during the 2000-2014 period (thousand tons)

Nr d/o	Country, continent, part of the world	Years			2014 % to 2000
		2000	2006	2014	
WORLD TOTAL		**8 159.9**	**9 017.3**	**10 429.2**	**127.8**
1.	**EUROPE total**	**2 880.9**	**3 098.8**	**3 080.7**	**106.9**
	inclusive: Turkey	774.4	794.7	1 113.0	143.7
	Greece	743.2	753.5	772.0	103.9
	Romania	320.8	650.8	673.4	209.9
	Spain	392.0	424.3	592.8	151.2
	Italia	741.9	548.3	372.5	50.2
	France	253.9	262.8	266.5	105.0
	Albania	78.0	75.0	89.0	114.1
2.	**ASIA total**	**3 534.0**	**4 156.0**	**4 854.0**	**137.4**
	inclusive: China	847.0	1 091.0	1 537.0	181.5
	Syria	445.6	824.1	685.1	153.7
	Iran	555.0	543.9	445.0	80.2
	Afghanistan	225.0	138.0	216.3	96.1
	Iraq	160.0	64.0	35.5	22.2
	Jordan	30.1	84.5	63.8	212.0
3.	**AFRICA total**	**1 731.4**	**2 045.5**	**2 451.4**	**141.6**
	inclusive: Somalia	445.0	573.5	503.5	113.1
	Sudan	462.0	492.0	402.0	87.0
	Algeria	180.0	228.2	363.2	201.8
	Mali	88.1	123.6	301.6	342.3
	Niger	92.9	114.2	131.4	141.1
4.	**AMERICA total**	**35.1**	**35.6**	**43.0**	**122.5**
	inclusive: South America	35.1	35.6	43.0	122.5
	Bolivia	29.0	29.2	35.8	123.4

Thus, in Armenia, Ukraine, Azerbaijan and Romania the sheep milk production volume produced in the 2000-2014 period rose by 4.14 - 2.1 times. In Turkey, Republic of Moldova and Spain, the sheep milk production volume increased with 30.4 - 51.2%.

On the African continent sheep milk production volumes increased from 1731.4 thousand tons in 2000 to 2451.4 thousand tons in 2014, or with 720.0 thousand tons (41.6%).

From African countries, the biggest volumes of sheep milk produce: Somali (503.5 thousand tons), Sudan (402.0 thousand tons), Algeria (363.2 thousand tons) and Mali (301.6 thousand tons).

On the American continent, the sheep milk is produced in insignificant quantities, only in Latin America. Of the total of 43.0 thousand tons, in Bolivia has been produced 35.8 thousand tons sheep milk. The volume of milk production during the reference period has been increased with 6.8 thousand tons or 23.4%. This country is one of the few states where the tradition was preserved colonial specific of population (Spain) on the sheep milk production and cheese preparation.

The wool production worldwide, according to FAOSTAT data, 2015, in the examined period has been a quantitative decreasing evolution, from 2311.4 thousand tons in 2000 to 2126.8 thousand tons in 2013, or with 184.6 thousand tons (8.0%) (Table 4).

This decrease is provoked by significant reduction of wool quantities produced in Oceania (43.4%) and on the American continent (27.0%). If in 2000 year, the countries of Oceania (Australia and New Zealand) ranks first in the world after the amount of wool produced, then, since 2006 year until now, they have to be second after Asian countries that produce a total 950.2 thousand tons.

In Asia, the biggest quantities of wool produce China (471.1 thousand tons), Iran (61.5 thousand tons), India (46.5 thousand tons) and Pakistan (43.6 thousand tons). The biggest growth rhythms, during this period, of the wool quantity produced in gross mass were recorded in Kazakhstan (64.2%), Turkmenistan (69.6%), China (61.0%) and Pakistan (12.1%).

Table 4. Evolution of worldwide wool production during the 2000-2013 period (thousand tons)

Nr d/o	Country, continent, part of the world	Years			2013 % to 2000
		2000	2006	2013	
W O R L D T O T A L		**2 311.4**	**2 213.8**	**2 126.8**	**92.0**
1.	**E U R O P E t o t a l**	**257.1**	**256.2**	**265.8**	**103.4**
	inclusive: United Kingdom	64.0	57.6	68.0	106.2
	Russia	39.2	50.3	54.7	139.5
	Turkey	43.1	46.8	51.2	118.3
	Spain	32.1	30.4	22.9	71.3
	Romania	18.0	19.4	18.6	103.3
2.	**A S I A t o t a l**	**719.2**	**857.3**	**950.2**	**132.1**
	inclusive: China	292.5	388.8	471.1	161.0
	Iran	75.0	75.0	61.5	82.0
	India	48.4	45.1	46.5	96.1
	Pakistan	38.9	40.1	43.6	112.1
	Kazakhstan	22.9	32.4	37.6	164.2
3.	**A F R I C A t o t a l**	**205.4**	**216.1**	**238.3**	**116.0**
	inclusive: Sudan	45.5	54.7	56.0	123.1
	Morocco	40.0	48.9	56.0	140.0
	Republic South-African	52.7	44.0	39.9	75.7
	Algeria	17.7	20.4	27.0	152.5
4.	**A M E R I C A t o t a l**	**201.5**	**186.9**	**147.1**	**73.0**
	inclusive: Argentina	58.0	67.8	45.0	77.6
	Uruguay	57.2	46.7	36.0	62.9
	SUA	20.7	16.3	14.0	67.6
	Brasilia	13.3	10.9	12.0	90.2
5.	**O C E A N I A t o t a l**	**928.2**	**697.2**	**525.5**	**56.6**
	inclusive: Australia	671.0	472.5	360.5	53.7
	New Zeeland	257.2	224.7	165.0	64.2

The Oceania countries produce in total 525.5 thousand tons of wool. Australia and New Zealand, having huge grazing fields, developed in the not too distant past, under the influence of their metropolis (United Kingdom), a whole industry of sheep breeding and wool and meat production with minimal expenses, obtaining huge profits.

With the development in the world of fibers industry and synthetic fabrics, it fell sharply wool demand on the world market and as a result, its competitiveness was compromised, causing sudden reduction of the sheep herds and the quantity of wool.

In Europe, total raw wool produced in the period under review remains practically at the same level (265.8 thousand tons) with a slight increase of 3.4%.

The biggest quantities of raw wool are produced in the United Kingdom (68.0 thousand tons), Russia (54.7 thousand tons), Turkey (51.2 thousand tons) and Spain (22.9 thousand tons).

The slight increase in the quantity of wool in Europe is due to the increase in the quantity of wool produced in some countries in the east: in Azerbaijan - with 51.4%; Russia - with 39.5%; Turkey - with 18.3% and other countries.

Increasing the quantity of wool in the United Kingdom - with 6.2% due to exploitation of performing sheep breeds specialized for meat-wool or wool-meat competitive in the livestock sector.

In Africa, the quantity of raw wool increased from 205.4 thousand tons in 2000 to 238.3 thousand tons in 2013, or with 32.9 thousand tons (16.0%).

This is due to respective growth of the sheep herds on this continent.

The American continent ranks last after the amount of wool produced in raw mass with 147.1 thousand tons/year. In the period 2000-2013 on this continent has produced a substantial decrease of wool quantity - with 54.4 thousand tons or 27.0%.

Production of ***Karakul skins***, with regret, is not systematized by FAOSTAT, therefore, concrete data on the number of Karakul skins products worldwide does not exist.

However, based on information of international tenders (Kopenhagen Fur, 2015) with furs and

sheep herds from country that grow Karakul, the global volume of Karakul skins could be estimated at 13.3 million pieces, with an increase by 33.0% compared to 1967, when it produced about 10.0 million pieces annually (Table 5).

Table 5. Total herds of sheep in some countries with biggest number of Karakul sheep (thousand heads)

Nr d/o	Country name	The total herds of sheep			2013 % to 2000	Estimated herd of Karakul sheep	
		2000	2007	2013		share in total, %	thousand heads
1	Uzbekistan	8 000.0	10 383.0	14 077.5	176.0	84	11 825.1
2	Kazakhstan	8 725.4	12 813.7	15 197.7	174.2	40	6 079.1
3	Turkmenistan	7 500.0	13 758.0	14 000.0	186.7	90	12 600.0
4	Afghanistan	15 000.0	8 105.0	13 141.0	87.6	40	5 256.4
5	Namibia	2 446.1	2 652.6	2 930.0	119.8	98	2 871.4
5	Republic South-Africa	28 550.7	25 082.0	25 000.0	87.6	5	1 250.0
6	Tajikistan	1 472.2	1 955.2	2 959.5	201.0	34	1 006.2
7	Romania	8 121.0	7 678.0	8 833.8	108.8	8	706.7
8	Republic of Moldova	930.2	835.1	695.1	74.7	50	350.0

If we distribute this growth at the period of 45 years, get an annual increase of 0.73%. Therefore, in the period of 2000-2012, it may be expected to increase the amount of Karakul skins at a rate of 8.8%. The biggest quantities of skins have been produced in Turkmenistan, Uzbekistan, Kazakhstan, Afghanistan and Namibia.

Generalizing analysis of the evolution of the sheep herds and the total amount of the main sheep productions (meat, milk, wool, skins) worldwide during the years 2000-2013, in profile on countries and continents, we find that this (evolution) is in concordance with Васин Б. Н., 1971 affirmation, that „*distribution of sheep herds and breeds on the world is conditioned largely by human economic activity, but the division will depend not only by human will, but also by various natural factors, existing in different regions of the world"*.

From the data above-shown we can deduce the conclusion that the increase on the total number of sheep herds held in those regions, parts and continents of the world with underdeveloped countries (Africa, Asia) and with in developing (in Eastern Europe), with important rural human populations living in arid areas of plains, semi deserted with poor vegetation where sheep are kept whole year without capital investments in natural conditions, with minimal cost. For these populations, sheep are indispensable source of existence and survival in difficult condition of nature.

Also, on continents with developed countries and rural populations (Europe, North America, Oceania), for the growth and exploitation of sheep is seen as an economic business of making a profit, the sheep herds in this period were reduced.

In our opinion, this situation is explains that sheep species in terms of modernization, industrialization and intensification of livestock sector in developed countries cannot makes economic compete with other animal species (birds, pigs, cattle), becoming uncompetitive. This is confirmed by the fact that in developed countries in Europe (United Kingdom, Germany, France, Spain etc.) quantity of sheep meat production was sharply reduced with 22.2 to 52.3% in the 2000-2014 period.

The data demonstrated that, from all sheep productions only milk production, thanks to its exceptional and specific nutrient application market remains competitive compared to other productions of animal species. This is confirmed by the fact that the quantity of sheep milk has continuously increased during the examined period considered in all parts of the world, including the developed countries of Western Europe and the Americas.

Therefore, when drawing up measures for the development of sheep breeding in different countries and regions of the world requires a comprehensive approach for assessing the conditions for growth and upkeep of sheep, traditions of the peoples inhabit the socio-

economic conditions and competition in the market of sheep species with other species of animals.

In these situations, both in the world and in our country, are in need actions of improvement (genetic amelioration) of existing breeds, and to create new breeds, intra and inter-racial types, competitive, with mixed productivity (milk meat) and high potential, that adequate corresponded the socio-economic provocations of human populations from different parts of the world.

CONCLUSIONS

Sheep breeding, worldwide, is a traditional zoo technical branch, which permanently is in ascendant development. This is due to major socio-economic importance, expressed through to ensure necessity security food of the population with animal protein such as meat and milk, as well as by supplying natural raw materials (wool, skins, fur sheep, leather etc.) of processing and manufacturing industry of wide consumer confections (clothes, fabrics, carpets, leather goods etc.). All of these make the ovine species indispensable for human society.

The herds of sheep in the world have increased during the years 2000-2013, from 1059.1 million heads in 2000 to 1172.8 million in 2013, or by 10.7%. In Asia and Africa it has been registered essential growth rhythms of the sheep population - with 27.1 and 32.0%. While in Europe, America and particularly in Oceania, there was registered a decrease of the sheep population, respectively, with 11.6; 6.5 and 33.9%.

The increasing of total effective of sheep has occurred in the regions, parts and continents of the world with underdeveloped (Africa, Asia) and developing countries (in Eastern Europe), with significant rural human population, living in arid zones with plains and scanty vegetation, where the sheep are kept the whole year in natural conditions, without capital investments, with minimal cost. For these populations, sheep are indispensable source of existence and survival in difficult conditions of nature.

On the continents with developed countries and rural population (Europe, North America, Oceania), where the breeding and exploiting of sheep is seen as an economic business of obtaining a profit, sheep livestock in this period had been reduced. This situation can be explained by the fact that the ovine species in the conditions of modernization, industrialization and intensification of the zootechnic sector in developed countries, economically cannot compete with other animal species (birds, pigs, bovines), becoming uncompetitive.

Worldwide, from sheep products in the period 2000-2014 increased more significant volume of food production, such as meat - with 14.4% and milk - with 27.8%, and less, nonfood, such as skins Karakul, which rose with 8.8%, and wool, which suffered a decline with 8.0%.

From all sheep productions, only milk production, due to specific exceptional nutritional qualities and market demand, remains competitive on all continents, compared with production of other animal species. This is confirmed by the increase in the period of 2000-2014, of volumes of this production: with 6.9% in Europe, with 37.4% in Asia, with 41.6% in Africa and with 22.5% in America.

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