

Historical review of the development of Bulgarian livestock production

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Abstract

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This scientific review provides information about the state and development of livestock production on our lands from antiquity to the present day. The analysis shows that long before the founding of the Bulgarian state and at all stages of its millennial history, livestock farming was a well-developed and leading agricultural activity. It has provided sustenance and livelihood to many generations of Bulgarians. It has laid the foundations for the first crafts and industrial production in Bulgaria. It has occupied a significant part of the foreign trade of our ancestors. For the successful development of livestock farming, Bulgaria has vast natural resources for the rearing of large and small ruminants and equidae. Arable land provides very good opportunities to feed a significantly higher number of non-ruminants.

The historical enquiry also shows that during all stages of the development of our country, the natural resources and arable land available were used to a significant extent and that Bulgaria was among the leaders in Europe for the number of raised animals per square unit, and worldwide in terms of small ruminant breeding.

During the years of the transition from planning to market economy, the number of animals in Bulgaria has been reduced to the maximum extent and has reached sizes previously unknown to Bulgaria. Bulgaria currently takes the last place in the European Union for the number of livestock units per hectare of managed areas. Bulgaria has lost traditionally important foreign livestock markets.

All this requires a thorough and objective analysis of the state of Bulgarian livestock production and the adoption of a National Program for its restoration and successful development under the conditions of market economy.

Keywords: history; livestock production; milk; meat; eggs, honey; consumption; economy

Introduction

Securing food for every living creature has always been, is and will be a number one priority. Life stripped of all other amenities, albeit absolutely primitive, is possible, but without food and water it is unimaginable. This makes agricultural activity strongly significant and always subject to attentive interest and evaluation. The greatest impact on the life and health of any living being is the consumption of food products from their land of origin and habitation. It is even more important and determinative for the production of agricultural products to

carry it out in a way that is facilitated by specific natural and climatic conditions.

The need for this study stems from the drastic reduction of the natural and economic indicators of Bulgarian agriculture under the conditions of market economy and the integration of Bulgaria to the EU. Of all agricultural products, the only exception is the production of cereal and oilseeds.

This requires an in-depth analysis of the development of livestock production in Bulgaria and setting of the guidelines for its further successful growth. The need for such analysis also arises from the ever-deteriorating natural and climatic conditions for food production and the constantly increas-

ing population on our planet. Prognostic reports published in various literary sources show that by 2050 the population of our planet will exceed 9 billion. It is worrisome that soil fertility is continuously deteriorating from intensive and in many cases improper use of land for food production. There are pronounced climatic deviations and anomalies as a result of global warming and the disturbed ecological equilibrium of nature (Stankov et al., 2013; Atanasov, 2019).

The purpose of this scientific review is to trace the development of livestock production until the founding and the subsequent millennial history of the Bulgarian state.

Material and Methods

The survey covers all types of farm animals kept in Bulgaria, namely cattle, buffaloes, sheep, goats, pigs, poultry, horses and bees. Information on the development of fisheries and aquaculture, silkworm and rabbit farming is presented briefly. On the basis of the published historical facts, information about livestock production on our lands from the Thracian times to the Liberation of Bulgaria from the Ottoman rule is presented. The digital data used in the survey are based on the available statistical information included in various literary sources for the time from the Liberation to the present day.

The analysis of the data covers the three most important periods for our country for which statistics possess information on the number and productivity of animals, namely:

- From the Liberation of Bulgaria from Ottoman rule in 1878 until 1944, i.e. the period of the Third Bulgarian Kingdom with prevalent small-scale agriculture and private ownership of land and means of production;
- From 1944 to 1989, which is a period of the planned economy and public ownership of the means of production;
- From 1989 to the present day, or the period of the market economy and private ownership of the land, and the means of production.

The study looks at the condition and development of different species of animals kept in Bulgaria for production purposes. A significant number of literary sources are cited with the attempt to present objective information. In addition to data on the number of animals and the production obtained, the economic results and the animal food supplies for the population, information on the role of science and the state in the development of livestock production in Bulgaria is delivered. For greater visibility, some of the digital information is structured as tables and figures.

On the basis of the analysis also on the current development of livestock production on our lands, important recommendations for its further growth are suggested.

Results and Discussion

Livestock production on our lands

According to Katsarov et al. (1949) at the end of the 9th century A.D. the majority of the Thracian tribes that lived on our lands were already sedentary and engaged in agriculture and livestock farming, mainly rearing sheep and horses, and less cattle, goats and pigs.

The favorable climate and wide pastures were a prerequisite for the development of sheep farming. In the Iliad, Homer calls Thrace “the land of fleece-bearing flocks of sheep” and “the mother of sheep”.

For the ancient Thracian, the horse was the most revered animal. In his Iliad, Homer praised the Thracians as agile riders and horse tamers, and their horses’ manes – of “blooming” beauty.

The Thracians also raised cattle, and it is believed that Thrace was the homeland of the brachyceran cattle.

The Slavic population in antiquity was mainly engaged in agriculture and cattle breeding. Cattle breeding was the best developed type of production. Cattle were used for work purposes, meat, milk and hides. Besides cattle, the Slavs raised sheep, goats, pigs, dogs, hens, and later horses. The role of animal breeding for Slavs can be estimated by the fact that they had a special god of livestock – Veles (Volos), protector of the herds and patron of animal husbandry.

No less popular agricultural branch among all Slavs was beekeeping. Mead was their favorite drink. Honey and wax were the main products for export and taxation.

The Proto-Bulgarians considered the horse a sacred animal. In extreme cases, they sacrificed a white horse or dog. By the smoke of the burning carcass, the priest (the great khan) divined the will of God Tangra.

Besides the well-developed horse breeding, the ancient Bulgarians raised cattle and sheep. These animals were kept in large herds and could follow the horde in all seasons of the year. For heavy work and draft purposes, they used oxen.

The Proto-Bulgarians taught their children from an early age how to ride horses and use a bow during racing. During migration, women and children rode horses with ease. Dowries and taxes were paid with horses. The flag of Greater Bulgaria was a horse tail.

In Danube Bulgaria, livestock production marked a significant development. By number of cattle, sheep and pigs raised, Bulgaria was at the forefront of its neighbors. The number of bovine animals reared was prevalent. Many reports on the development of sheep farming and the rearing of dairy sheep were found in monasteries. Horse breeding was highly developed, as it was the most traditional breeding activity for the Bulgarians of Khan Asparuh who brought

it along with them when they migrated across the Danube river.

Well-developed agriculture and livestock production on Bulgarian lands during the time of the First and Second Bulgarian Kingdoms created conditions for the rapid and successful growth of the state. Good and varied food maintained the health of the Bulgarian warriors and gave them the strength they needed (Iliev et al., 2008).

In the first years after the conquest of Bulgaria by the Ottoman Empire, livestock breeding, especially in the plains, briefly subsided. In later years, it was restored and the rearing of sheep and cattle, the processing of the products obtained, and the trade with live animals greatly expanded. Sheep and goat breeding were common for each household. There are no data on the number of animals kept on Bulgarian lands, but it appears to have been significant. According to Savov (1964) there were over one million sheep and a large number of goats and cattle in Vidin Pashalik alone. Tomov (1962) notes that the number of sheep in Eastern Thrace according to the sheep tax paid by the breeders, amounted to about 3-4 million. The strongest development of livestock production was observed during the time of Sultan Bayezid II. Special privileges were introduced to people who raised animals and many Bulgarians, benefiting from the protection of the sultan, kept numerous flocks. During this period, the production of livestock production began to grow on a large scale. Popular among breeders were the fellowships of shepherds, led by their chosen kahya leaders, who raised between 3,000 and 30,000 sheep.

Until the Liberation of Bulgaria there were no official statistics on the number of farm animals on our lands and the production obtained from them. This was not the case until the second decade after the Liberation.

Livestock breeding in Bulgaria after the Liberation (1878)

According to Savov (1964), even during the Liberation War and the first years after the Liberation, the Bulgarian peasants, who were sharecroppers and tenants, no longer recognized any feudal obligations to the Turkish landowners and declared themselves owners of the lands they had farmed.

The entry into possession of the lands of the Turkish landowners by the Bulgarian peasants was defined as an agrarian coup, and Dimitar Blagoev called it a social coup. This was the first agrarian coup in Bulgaria when the redistribution of the farm property and the land of the liberated from Ottoman rule Bulgarians was carried out.

After the formal settlement of the problem with the ownership of the utilized lands, the small and medium agricul-

tural production was established as a dominant form in the Bulgarian village. An unseen by then enthusiasm and aspiration to acquire more land were professed by Bulgarian peasants. Mass ploughing of the land and uprooting of the forests started taking place. And this was the big difference from the later agrarian coups in Bulgaria, namely the Great labor enthusiasm and desire for own agricultural production.

An important element for the development of the young Bulgarian state was the trade regime imposed by the Berlin Treaty of 1878. According to Article 8 of the Treaty, the Principality could not conclude foreign trade contracts with the countries participating in the Berlin Congress. This could only be done with highly competitive export goods. In this sense, the preservation of the Turkish trade contracts in the Principality could to some extent be considered positive in the case of lower duties on Bulgarian products. Moreover, for centuries, the goods produced in the Bulgarian lands, had been well received on the Turkish market.

The first laws had no bearing on the improvement of livestock farming, but on its taxation. The few funds allocated by the central government went to state livestock farms.

Almost no care was taken for the sale of livestock products.

According to Bobeva (2019), the first census of animals in Bulgaria was performed in 1887. The law obliged statisticians to conduct censuses every five years. The fourth and fifth were carried out in 1905 and 1910 and provide more complete information on the state of livestock breeding during this period.

Table 1 presents data on the development of livestock production in Bulgaria after the Liberation from the Ottoman rule until 1939.

The figures in the table show that the number of horses, donkeys, sheep and pigs increased significantly in 1939 and that of bovines (cattle and buffaloes) and goats decreased versus 1905 and 1910. In all animal species, their number per 1000 inhabitants decreased because the population of 4035 million in 1905 increased to 6.6 million in 1939. During this 34-year period, the natural population growth rate was very high – 38.86%.

Regardless of the temporary reasons for the number of bovines/cattle and buffaloes/ Bulgaria ranked third in Europe after the countries with the most advanced livestock breeding, such as Denmark and Sweden.

Traditionally in Bulgaria sheep farming was a leading branch and was highly developed. The increase in sheep over the years was stable and significant. For years Bulgaria ranked first among the European countries in terms of the number of sheep on the territory of the country and per capita (Bobeva, 2019) (Table 2).

Table 1. Data on the number of animals for the period 1905-1939

Livestock	Total number			Number of animals per 1000 inhabitants		
	1905	1910	1939	1905	1910	1939
Horses	538 271	478 000	614 000	133	110	93
Hinnies	11 947	12 238	-	3	3	-
Donkeys	124 080	118 488	173 000	31	27	26
Cattle	1 195 533	1 606 363	1 495 000	420	370	227
Buffaloes	476 872	412 978	327 000	118	95	50
Sheep	8 130 997	8 669 260	9 028 000	2015	1999	1368
Goats	1 384 116	1 464 719	450 000	343	338	68
Pigs	465 333	527 311	743 000	115	122	113
Total	12 827 149	13 289 579	12 830 000	3178	3064	1944

Table 2. Number of sheep per 100 000 of the population and density per 1000 da of area – number

Indicators	1892	1900	1905	1910	1920	1926	1934
Per 100 000 inhabitants	208	187	201	200	184	159	145
Per 1000 da of total area	71.3	72.8	84.4	90.0	86.5	84.7	85.7
Per 1000 da of arable land	-	-	224.6	215.0	243.9	225.3	213.3
Per 1000 da of common land and pastures	708.0	723.0	891.0	949.0	971.0	1597.0	2114.0

Note: According to Gunchev (1942)

The data from the table show that despite the increase in the number of sheep in Bulgaria per 100 000 inhabitants, the population of sheep was decreasing. On common and arable land areas, there was a relative consistency in the number of sheep. The tripling of the number of sheep per 1000 da of common land and pastures was worrisome, because of the constant ploughing and conversion of these lands into arable areas.

After the discovery made by Dr. Stamen Grigorov and the theory of Prof. Ilya Mechnikov hundreds of studies on the longevity of the Bulgarians were carried out that confirmed the health benefits of yoghurt consumption.

Turkey was the first major importer of white brined cheese and yellow cheese. In 1907, 509 tonnes of white brined cheese and 2450 out of the total of 2453 tonnes of yellow cheese were exported to Turkey. Since then, despite the wars, exports of dairy products to Turkey never decreased. Unfortunately, this trend was lost in 1934 due to political decisions.

In addition to Turkey, in 1915 about 100 tonnes of cheese were exported to Egypt, 75 tonnes Romania, 62 tonnes to Austria-Hungary and small quantities to Greece and Germany. In 1920, in the aftermath of the war losses, imports of cheese from neighboring countries were imposed to feed the population. Over a short period of time, the markets for dairy products were lost, but quickly restored in the following years. This was achieved by resourceful Bulgarian traders. New markets were found and Bulgaria exported its dairy products to four continents. Exports of dairy products

grew to such an extent that world-famous countries, such as France, Switzerland and Italy also benefited from this Bulgarian produce.

During the same period, Bulgaria exported annually over 800 thousand heads of ewes, hoggets, lambs, goats, as well as a significant number of cattle. The main markets were Greece, Turkey and Palestine.

In 1934, a commercial joint-stock company Atlantic was formed, which produced and exported bacon to England, and in 1935 a joint-stock company Poels & Co. was established with the participation of Bulgarian capital that produced and exported bacon to Germany (Stankov et al., 2002).

Until 1939, negligible quantities of canned meat, salami, jambones, etc. were imported. The amount of meat products consumed through the internal commercial network was not large because almost half of the population was self-sufficient in animal products.

Livestock breeding in Bulgaria in the period 1944-1989

After 1944 important decisions were taken with respect to Bulgarian agriculture. A process of collectivization under the rules of voluntary cooperation began. At the end of 1946, after the elections for the VI Grand National Assembly, the government decided to intensify the process of collectivization. In February, 1947, a propaganda assembly was held called the First National Conference of the Labor and Cooperative Agricultural Holdings (LCAH).

At the beginning of 1948, immediately after the liquidation of the legal opposition and the wave of the nationalization of industry, the regime launched a campaign of “massification” of collectivization (Gruev, 2009).

The first massification of farmers in the LCAH covered about 34% of the country’s agricultural lands. It ended in May 1949 with a decision of the leadership of the Bulgarian Communist Party, in agreement with Joseph Stalin (Ivanov, 2007).

Mass collectivization by the model of Soviet kolkhozes marked the second agrarian coup in Bulgaria.

Unlike the first agrarian coup related to the huge desire for property, the removal of private property and the forced collectivization of some people greatly alienated Bulgarians from labor and related values. The collectivization of agriculture was not necessarily part of the socialist economic model. This was not done in Poland and Yugoslavia, but Bulgaria closely followed the example of the Soviet Union (<https://ekipbg.com/bulgarski-socializum-2>).

During the years after the end of collectivization in agriculture, production increased in volume, but was accompanied by many problems- waste of raw materials, materials and final products, large downtimes for repair of machinery.

Agriculture ceased to be a major branch of the Bulgarian economy during this period. It was rapidly industrialized.

In the period 1958-1970, the second stage of the consolidation of the LCAH and the State Agricultural Holdings (SAH) was carried out by creating united, larger farms. At that time, there was still enough labor force to meet domestic food needs and a significant part of it was exported to other countries.

According to Marcheva (2006) until 1974 including those who joined the Agrarian Production Complexes (APC), LCAH, and SAH retained their economic autonomy and within the complex they found easier realization of the output for the food and light industry. By decision of the February, 1975, Plenary Assembly APCs were declared state-owned economic organizations, and the formed LCAHs and SACs were disassembled without seeking the opinion or consent of their members. Thus, the final stateization of the land in the country was realized.

Soon the negatives of such a consolidation and unification of the agricultural sector began to emerge. The peasants were increasingly alienated from the land, disinterested in the production and the fate of agriculture in the APC.

Dimov (1992) showed that during this period livestock breeding received a strong boost in the form of investments and construction of pig and sheep complexes for 1000 – 2000 animals. To increase the productivity of animals, valuable breeds were imported from outside, but also expensive

fodder for feeding them. An expression of this state of affairs was the payment of large grants in agriculture, which in 1984 amounted to BGN 1 billion.

So far, Todor Zhivkov had managed to obtain part of the taxes for agriculture in the amount of 400 million rubles annually to be paid by the USSR, for whose market the main part of the export of agricultural products was destined (Baeva, 1998).

According to Ivanov (2007), much larger funds were allocated to the creation and introduction of new crop sorts and their chemization and irrigation, the new breeds of domestic animals, and the mechanization and automation of the sector. In 1983, 15 100 agronomists, 4849 zootechnicians, and 4153 veterinarians were employed in agriculture. The whole system of research institutes and experimental stations was working on various problems on a sectoral basis and had an obligation to facilitate the rise of agriculture. Although the cooperative idea was completely eroded, it could not be ignored that agricultural production was developing for years only on an intensive path – by increasing crop yields, animal productivity and labor productivity.

The author shares his astonishment at how the above-mentioned facts led to the demise of the cooperative formation in the late 1980s. The facts point to such a degree of development of agriculture in Bulgaria that in the mid-1970s not all opportunities for further progress had been exhausted. The reasons for the upcoming standstill were complex. They mainly cover the series of unsuccessful transformations, the revival process with the Bulgarian Turks, the severe climatic conditions in the later 1986 and 1987, the crisis with unstable prices on the world market, etc.

Table 3 provides information on the development of livestock breeding during the period of planned economy under the conditions of the LCAH and APC. Here the pre-war year of 1939 is taken as a baseline.

It can be noted that the warning of Mikhail Gorbachev to discontinue the subsidies of 400 million rubles that agriculture received every year could be another important reason. In the second half of the 80s, Gorbachev realized his warning and stopped paying the subsidies.

Despite the growing difficulties that the Bulgarian state largely created for itself, the production of animal products continued to grow.

Large-scale breeding work was carried out in the livestock industry, which transformed the Bulgarian livestock industry. In the period 1950-1990, 5 cattle breeds, 1 buffalo breed, 8 sheep breed, 1 goat breed, 3 horse breed, 2 breeds and 3 hybrids of pigs, 1 breed and 6 hybrids of poultry were created (Stankov et al., 2002).

Table 3. Number of farm animals for the period 1939 – 1989 (thousands)

Animal species	1939	1960	1970	1980	1984	1989
Cattle	1495.5	1452.5	1279.6	1796.7	1778.0	1575.6
Buffaloes	326.7	173.7	–	52.0	36.0	23.0
Sheep	9028	9333	9678	10 433	10 978	8130
Goats	550.7	246.5	335.1	467.2	418.0	435.6
Pigs	743	2553	2369	3808	3769	4332
Poultry	–	23 366	–	41 003	–	36 338
Bee colonies	–	625	–	781	–	615

At the end of the 1980s, Bulgarian livestock breeding was characterized by high concentration and specialization, with the majority of the animals being kept on cooperative and state-owned farms. The average size of the cattle farms was 359 cows, with 12% being up to 300 cows, 38% from 300 to 500, and the remaining over 500 cows, at a total number of 1320 farms. The trend was similar for other animal species.

New modern production technologies were introduced in pig and poultry farming. The planned pig farming was concentrated in 42 large pig complexes, 21 reconstructed and extended bases and many smaller modern pig farms. Plants for the production of compound mixtures were built to meet the feed requirements (Katsarov, 2013).

Poultry farming was concentrated in 16 poultry farms with an average capacity of 330 thousand layer-hens. Their cultivation was in production buildings, equipped with 3-storey cell batteries – semi-cascade type, with mechanical feeding, watering and collection of eggs, with artificial ventilation. More than 120 million broilers were raised annually in the poultry and family farms. The broilers were grown on a deep, non-removable bedding. In 1989, 188.5 thousand tonnes of poultry meat were produced and its relative share of total meat production was 23%. Scientific service of poultry farming was carried out by the Institute of Poultry Breeding in Kostinbrod (Kaitazov et al., 1997).

During the reviewed period, significant work by the scientific teams was also carried out in cattle breeding. In addition to the work carried out on the concentration of cattle production, the efforts of researchers were focused on the creation of new higher-productive breeds of cattle. Through the methods of reproductive and continuous crossbreeding, three of our highly productive breeds were originally created – the Bulgarian Brown Cattle, the Bulgarian Red Cattle and the Bulgarian Simmental Cattle. At a later stage, work with the Black Spotted Cattle was started and the Bulgarian Black Spotted Cattle breed was created. Extremely important practice during the period of the planned economy in cattle production was calf fattening, which took place in 400 farms with an average capacity of 662 calves. Farms with a capacity of up to 500 calves were 73.2%, up to 1000-14.8%,

between 1000 and 2000-4% and over 2000-6.9%.

A relatively high degree of mechanization of the individual production processes was achieved – milking 99%, feeding 64.75%, removing the manure – 85.8% (Sertmadzhiev et al., 1997).

Sheep breeding has always been a leading field in livestock breeding in Bulgaria. During the period 1952-1970, the state did a lot for the successful development of sheep breeding, especially for the transformation of its quality composition.

By 1988, 8 cultivated sheep breeds were recognized – 4 thin-fleece (Northeastern Bulgarian thin-fleece, Thracian thin-fleece, Danube thin-fleece and Karnobat thin-fleece); 2 crossbreds (North Bulgarian Corridel and South Bulgarian Corridel): 2 Tsigai (Staroplainski Tsigai and Rhodope Tsigai). The production of quality wool from all assortments increased sharply, with the amount of unwashed wool from 12.8 thousand tonnes in 1939 exceeding 36 thousand tonnes in 1984. During these years Bulgaria was one of the largest exporters of live small ruminants in the world. In 1978 it took third place, and in 1982-1984 – fifth place in the world. In the period 1980-1984, exports of hoggets consistently exceeded 1 million, with a maximum in 1980-1.3 million. During these years, exports were mainly to Libya, Lebanon, Italy and Greece. In addition to hoggets, these years witnessed significant exports of lambs and lamb meat to Italy, Greece, Iraq, Jordan, Saudi Arabia. In the 1970s and 1980s, Bulgaria was recognized by Arab and other Muslim states for its slaughter of animals in line with the requirements of the Islamic religion.

White brined cheese and yellow cheese from sheep's milk were some of the most famous Bulgarian agrarian products on the international markets. They were exported to a total of 100 countries around the world. While in 1939 Bulgaria had exported 263 tonnes of white brined cheese and 367 tons of yellow cheese, mainly from sheep's milk, in the 70s the export was 22.8 thousand tonnes per year, and in the 80s – up to 32.8 thousand tonnes of white brined cheese to Austria, Australia, the two German states, Greece, Lebanon, Romania, USA, Syria, the USSR and France. In 1987-1989, exports

stabilized between 27 and 28 thousand tonnes, targeting not only the above-mentioned states, but also Belgium, Benin, Iran, Iraq, Italy, Jordan, Canada, North Korea, Kuwait, Cuba, the CIS, the UAE, Poland, Hungary and Yugoslavia (Tiankov et al., 1997).

In 1962 began the focused and methodical work for the creation of a new buffalo breed Bulgarian Mura. The main task was tackled by a research team from the Institute of Buffalo Breeding in Shumen.

The Bulgarian White Dairy Goat breed (BWD) was created by reproductive crossing with the participation of the highest yielding dairy Swiss breed – the Saan goat. The work on the selection of BWD was carried out by a scientific team of the Institute of Mountainous Livestock and Crop Production (IMLCP) in Troyan. The breed was recognized in 1988 and was widespread throughout the country. The average lactation milk yield was 500-550 l, with the highest amount achieved by the IMLCP-Troyan herd in 1982 (Tiankov et al., 2000).

Horse breeding on our lands has always been well-developed and recognized. Barzev et al. (2002) indicate that the breeding and improvement work with horses in Bulgaria was purposefully managed. An important role for the successful development of horse farming in Bulgaria played the horse and stallion depots boasting their old breeding traditions.

During the studied period significant attention was paid to the development of special livestock sectors, namely fish and aquaculture, beekeeping, silkworm and rabbit production.

The creation of our native breeds was carried out by scientific collectives composed of scientists, specialists and breeders. With this act, breed formation was placed on scientific foundations.

Since 1975, the breeding and improvement work was carried out by the three scientific and production associations, namely:

Scientific and Production Association of Cattle and Sheep Breeding – Kostinbrod with 27 district selection centres in the country, with departments of Cattle and Sheep Breeding, Artificial Insemination and Breeding Animal Trade;

Scientific and Production Association of Pig Farming – Shumen, with a chief and four regional inspectorates of pig farming based in Shumen, Sofia, Pleven and Karnobat;

Scientific and Production Association of Poultry Farming – Kostinbrod.

In 1991, the scientific and production associations were closed and their activities were taken over by the Centre for Selection and Reproduction in Animal Breeding.

Alongside all the positive aspects, during the planning economy stage in livestock breeding, there were a number

of shortcomings that could have been overcome. According to the requirements of the planned economy, livestock farming maintained some planned numbers, but the average productivity compared to that of developed countries was significantly lower. Livestock farming was served by underqualified contractors, pastures were used inefficiently and non-systemically, the supply of farms and especially the purchase of livestock production was poorly organized. Perhaps, these were the problems that needed to be solved, not the liquidation of what had been created by several generations of Bulgarian citizens (Stankov et al., 2002).

The transition of agriculture from a planned to a market economy

Since 1990, Bulgarian agriculture has undergone significant changes. The reform of agricultural production in Bulgaria was linked to a collapse that had not been observed in any period in Bulgaria's history. Unlike the other countries in transition, such as East Germany, the Czech Republic, Slovakia, Hungary, where they adopted laws representing the rights of the owners of agricultural land to carry out the reform themselves, liquidation councils were appointed in our country, which took away the rights of the owners. The liquidation of agricultural cooperatives was entrusted to appointed officials (mostly non-professionals) who took away the right of the most concerned to decide for themselves what to do with the property.

One of the first laws adopted by the Grand National Assembly (along with the new Constitution of the Republic of Bulgaria) was the Law on Ownership and Use of Agricultural Lands (LOUAL).

The main principle of the market economy declares the right of any economic entity, be it individual, family, group, enterprise or corporation, to choose the desired, appropriate, advantageous and preferred economic activity to be carried out in a form permitted by law.

On April 3, 1992, the deputies of the 36th Ordinary Assembly, on the proposal of Prime Minister Filip Dimitrov, adopted the Law on the Amendment and Supplement to the LOUAL, which completely changed the philosophy of the old law. Paragraph 12 stated: 'Puts an end to the existing organizations and companies'. In Paragraph 13 (1): 'within one month of the entry into force of this Law, the regional governors shall appoint liquidation boards of the organizations.'

In the period 1992 to May 1995, the liquidation councils did what they were sent to do – to destroy Bulgarian agriculture. These people were tasked with restoring property rights within real borders, specifically through land sharing plans for more than 5000 parcels; liquidating 3400 agricultural co-

operatives; 196 – state agriculture holdings; 99 mechanical tractor stations and 238 other economic structures dealing with agricultural production and processing.

For these three years, the liquidation councils managed to secure the plundering of the material and technical base of the Bulgarian agriculture worth billions of levs and built with the labor of the entire Bulgarian people. Under the pretext of “distributing the shareholding of cooperative members”, machines and elite animals were given away according to difficult-to-understand criteria. Compensation bonds were distributed with the right to participate in privatization, etc.

As a result, by 1995 one third of the fertile Bulgarian land became barren.

The GDP from agriculture in dollars in 1989 was USD 10 790 million, while in 1998 – USD 2262 million. The production of the main crops, the number of animals and the obtained products drastically plummeted. The change deprived 15 thousand agricultural specialists of opportunities to exercise their profession. Thousands of Roma people who were not landowners remained unemployed. By 1989 45% of mechanics and 65% of livestock farmers came from this minority.

Prof. Klaus Rott from Ludwig Maximilian University of Munich did interesting research on the socio-economic changes in rural areas in Bulgaria and compared it to what happened in the farming areas of the former GDR. His most concise finding was the following: “The abandoned villages of Bulgaria are such a disturbing sight that I still can’t get used to it.” He believes that land restitution is one of the most tragic mistakes of the Bulgarian transition (<https://www.dw.com.bg>).

Despite the expectations that young people would take up agriculture as land and animal owners, the average age of farmers was rising and 45.5% of those employed in production were above 50 years old.

As a result of all these changes in the 1990s, the planned economic system was completely destroyed. Agricultural production has been fragmented and reduced to meeting primarily one’s own food needs. In the following years, significant structural changes occurred in the crop and livestock production in Bulgaria (Stankov et al., 2003).

Structurally, the transition from a planned to a market economy has had a negative impact on farm restructuring processes and their product orientation. The structure of Bulgarian agriculture was characterized by a polar grouping of farms with a certain specialization:

Large group of small farms, mainly in livestock and horticulture, producing goods with low market potential and organization.

A comparatively small group of large, substantially mod-

ernised farms with production activities, mainly for grain production and oilseed crops.

A strong influence on the violation of the relatively well-balanced structure in agriculture was the Common Agricultural Policy (CAP) for a united influence, and caused a product imbalance in Bulgarian agriculture. In addition, this created serious difficulties for processors from the food, textile and other branches of the Bulgarian industry.

This imbalance was exacerbated by the fact (according to NSI data from 2008) that the rural population decreased by 1 million between 1972 and 2004.

According to Ivanov et al. (2020), the average size of agricultural holdings in the EU for 2016 was 16.6 hectares. For Bulgaria in 2007 (the year of integration with the EU) this amount was 6.2 ha and grew to 20.6 ha over a period of 10 years. This was due to the processes of consolidation, which tended to be intense in Bulgaria. Similar trends of a very large leap in aggregation were observed in livestock farming. The total number of holdings for all animal species changed from 418 160 in 2007 to 134 004 in 2016, or with a reduction of 68%. With the exception of cattle farms (with – 59%), the reduction was above average for all other species, namely: sheep – 72%, goats – 77%, pigs – 80%, poultry – 78%, equidae – 81%. The share of livestock farms that managed less than 1 ha of utilized agricultural area (UAA) was high and they did not meet the requirements of the Single Area Payment Scheme (SAPS), and this was relevant to 59.3% of all livestock species.

An important indicator of livestock production was the density expressed by the number of livestock units (LU) per 1 ha of UAA. For EU countries the density of LU was 0.76, while for Bulgaria in 2016 it was 0.24. This negative trend was due to the large reduction of farmed animals and the outflow of producers from the subsector. Results on animal density per 1 ha of UAA showed that land resources were not fully utilized, which led to the loss of GVA from agriculture (Ivanov et al., 2020).

Low values have also been reported by the same authors in relation to the average number of LUs in livestock holdings. For EU-27, the average number of LUs per holding was 22.9, for France – 89.2, while for Bulgaria it was 7.8 LUs.

According to FAO data (2010), fodder crops worldwide accounted for 26% of the land area and 70% of the agricultural area. The most preferred fodder crops in the world are alfalfa and silage corn. Besides them, about 60 other crops are grown as a source of feed – feed peas, soybeans, white clover, red clover, sainfoin, birdsfoot, cocksfoot, muticate brome grass, ryegrass, vetch, etc.

Table 4 presents data on natural grasslands in Bulgaria, including common lands, meadows and pastures for the pe-

riod 1897 to 2017. The data presented for the years 1897 and 1938 are informative because a significant part of the areas with natural grass, although usable, were occupied by shrubs and thorns. However, they constituted a significant share and for their time they were a major source of grazing and hay to feed animals. During the period of the planned economy, natural grasslands accounted for a significant share in the structure of the managed areas. At the same time, intensive fodder crops which were most important for ruminant breeding were grown to feed the huge number of animals for Bulgarian standards.

According to the data, in 2017 the natural grasslands were reduced by 22.8%. In 2017 the permanent grassland in Bulgaria decreased its relative share of the UAA by about 24% and from 36 it fell to 27.7% compared to 2008. These areas have been transferred to arable land planted with cereals and oilseeds. The author also points out that a significant part of the pasture area was overgrown with shrub vegetation and was practically unusable, whereas a large part of the livestock farmers did not have access to such areas. It is necessary to involve the research organizations in the development of projects for the use of pastures, including the areas of "Natura 2000" There is a very large reduction in the areas occupied by fodder crops – 4.9 times, compared to the first year of the transition – 1990. The reduction in the best fodder crop for ruminants, such as alfalfa, was 4.6-fold. Silage corn, which is a major bulky feed with a very high nutritional value, was reduced 14.8 times. The reduction of both these critical fodder crops and pasture areas was linked to the sharp drop in grazing animals and the cultivation of cereals on the same areas.

Excluding silage corn from ruminant rations and replacing it with roughages led to a reduction in animal productivity and efficiency in livestock production. The reduction in the relative share of pasture areas and fodder crops took place under the conditions of Bulgaria's integration with EU countries, whereby the majority of the funds were allocated to grain production.

Market economy development of livestock farming

Livestock farming in Bulgaria at all stages of the country's development has had a leading role and a greater rela-

tive share in the structure of agriculture. During the transition years and especially at the beginning of the liquidation processes, its relative share has constantly been shrinking. This is shown in Table 5.

Table 5. Structure of agricultural production since 1989

Sector	1990	2001	2012	2018
Total	100.0	100.0	100.0	100.0
Crop farming	49.0	40.4	59.7	69.2
Livestock farming	51.0	40.8	27.6	22.3
Agricultural services	–	5.2	6.0	6.1
Other	–	13.6	6.7	2.4

Source: Statistical Guide of the Republic of Bulgaria. Agrarian Report 2019

The reduction in the relative share of livestock production was mainly due to the drastic reduction in the number of animals, the low level of selection and reproduction in livestock farming, the deteriorated feeding and technological servicing of animals. Expectations that after the integration of Bulgaria to the EU, animal husbandry would recover its positions were not justified and the data show that in recent years it has fallen to its lowest level in terms of the number of animals and their productivity.

According to Ivanov et al. (2020) in the structural adjustment of Bulgarian agriculture to the European requirements, livestock farming is facing the greatest difficulties. After Bulgaria's accession to the European Union, for the period 2007-2017, there was a decline in livestock production by more than 20%. Gross output decreased from 44% to 27% and the value added from 42% to 22%. This shows that GVA as a percentage is not only lower than GDP in livestock farming, but that it is also decreasing at a higher rate.

Table 6 provides information on changes in the number of farmed animals from 1937 to 2018.

It is evident from the data that the number of bovine animals decreased about 3.5 times compared to the pre-1939 and 1980, and about 3 times compared to the year 1990, when the transition started. A reduction in the number of animals and the resulting products is even more evident from the Figures, presented from 1 to 9.

Table 4. Natural grasslands and fodder crops in Bulgaria (thousand da)

Indicators	1897	1938	1984	1990	1994	2001	2017
Natural grasslands	92 000	60 689	18 130	18 030	17 860	16 010	13 927
Fodder crops	–	5470	8955	10 340	3320	2830	1815
including alfalfa	–	–	4026	3995	1943	1507	882
including silage corn	–	–	5535	4435	535	574	299

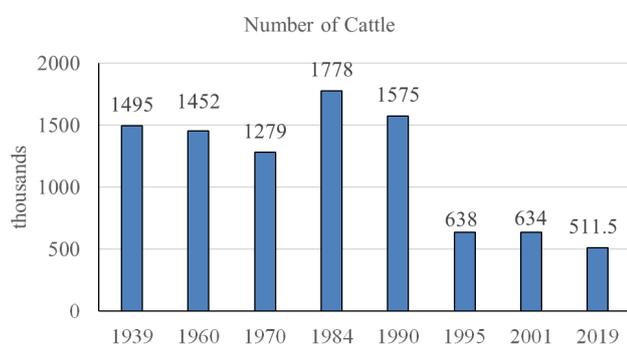
*Common lands, pastures and meadows are referred to as natural grasslands

Source: Sazdov et al. (1989); MAFF, Agrostatistics

Table 6. Number of animals per species (thousands)

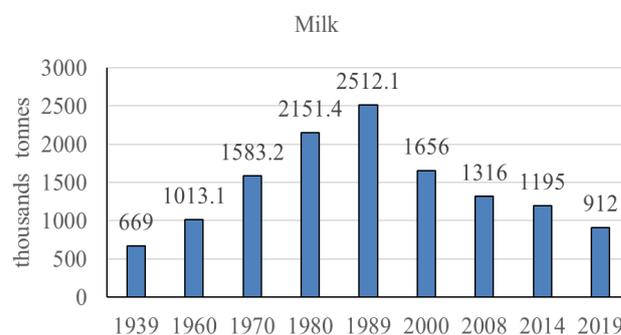
Animal species	1939	1960	1980	1990	1995	2001	2007	2018
Cattle	1495	1452	1787	1575	638	634	602	526.5
Cows	537	547	712	617	351	419	350	340.8
Buffaloes	327	190	52	23	14	8	9.0	15.6
Buffalo cows	172	100	26	11	7	5	5.2	10.3
Total number of cattle	1822	1642	1839	1598	652	642	611	542.1
Total number of cows	700	647	738	628	357	424	355.2	351.1
Sheep	9028	9333	10 536	8130	3398	2286	1526.4	1350
Ewes	7004	6823	7232	5007	2358	1758	1233.4	1119.9
Goats	551	247	433	433	795	970	495.5	271.7
Does	450	212	351	367	656	790	431.9	231.3
Total number of small ruminants	9579	9580	10 969	8563	4193	3256	2021.9	1621.7
Pigs	743	2 553	3 830	4 331	1 986	1 144	888.6	654.4
Sows	78	237	370	381	219	137	85.4	51.5
Poultry	–	23 366	41 003	36 338	19 126	14 991	18 698	15 520
Laying hens	–	–	–	–	11 632	7883	9253	6921
Horses	614	3122	120	119	133	–	168.3	–
Donkeys	173	257	337	329	276	–	including to horses	–
Bee colonies	–	625	781	615	248	349	663.4	738.3

Source: 1989; MAFF, Agrostatistics

**Fig. 1. Number of cattle in Bulgaria (thousands)**

From the data presented in Table 6 and Figures 1 and 3, it is apparent that since the start of keeping statistical records, the number of large ruminants has never fallen below 1 million, and now they are 542 thousand. This was the case during the First and Second Bulgarian Kingdoms and the time of the Ottoman Empire, after wars and epidemics, although there were no statistics on the number of animals. This should raise a serious concern, all the more so since the population has grown considerably in relation to these periods. It can be seen from the data that during the most condemned years of planned economy, namely under the conditions of APC, the number of cattle reached its highest peak in recorded history.

Cattle breeding in Bulgaria is the main producer of milk – over 82% is cow's milk from the total production. In Bulgaria,

**Fig. 2. Milk production in Bulgaria (thousand tonnes)**

milk accounts for 11% of the total agricultural production and 25% of all animal production, which is slightly lower than the average in the European Union (Panayotova et al., 2002).

Figure 2 presents the total milk production of all types of farmed animals for the period 1939-2019.

The figures in the graph show that the highest total milk production was recorded in 1989. For the 30-year period from the changes to the last year indicated, the reduction in milk production was 63.7% or 2.8-fold.

The quantities produced per animal species in 2018 have the following relative share: cow's milk 87.7%, buffalo milk 1.1%, sheep's milk 7% and goat's milk 4.2%.

Reduced milk production in recent years is determined both by the number of dairy cattle and by their low produc-

tivity. The lactation milk yield of a dairy cow is still below 4 t. According to Stankov, K. (2015), dairy cows have a short term of productive use. Animals return the investment from birth to culling for three lactations and make a profit for less than half a lactation. The milk yield of the sheep, which is 80 liters per ewe in Bulgaria, also has an impact on the reduction of the total quantities of milk produced. In neighboring Greece, the milk yield from a lactating period of an ewe is 115 liters, in France – 175 liters, in Spain 232 liters/ewe.

An agrarian report from 2019 indicated that in the calendar year 2018 the farms were 2.5% smaller. Farms with 100 or more buffaloes are growing most significantly. The average number of buffaloes kept on the farms reached 34.3% (vs. 29 in 2017). Figure 3 shows that the buffalo farming in Bulgaria is reduced to a critical minimum.

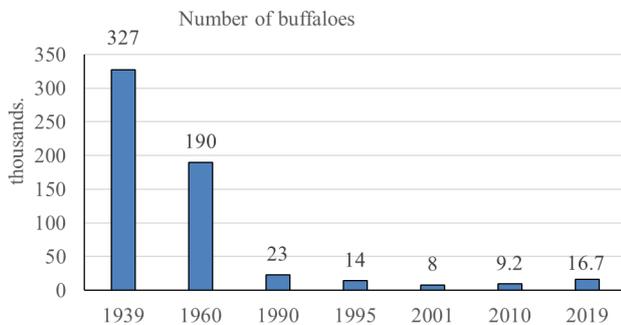


Fig. 3. Number of buffaloes in Bulgaria (thousands)

The figures presented in the table on the number of animals show a drastic decrease in sheep, which is 6.7-fold compared to 1939, 7.8-fold compared to 1980 and 6-fold compared to the starting point for the 1990 transition. For both cattle and sheep farming, during the period 1990-1995 as a result from the work of the liquidation councils, 58.2% of the sheep disappeared, while compared to the levels in 1980 the lost sheep reached 67.7%.

Until 1995, i.e. until the mass liquidation of agriculture

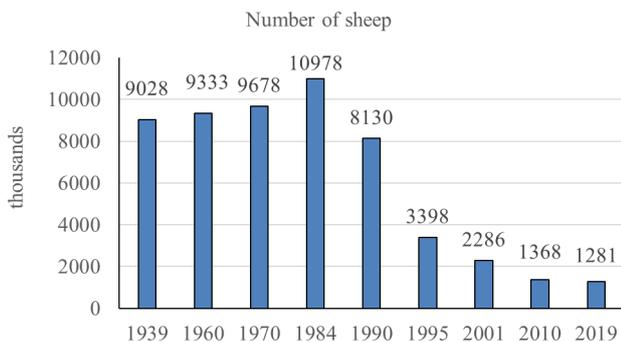


Fig. 4. Number of sheep in Bulgaria (thousands)

and the Bulgarian village, there has never been a point in time when the number of small ruminants was less than 8 million (Figure 4).

The figure also shows that despite subsidisation through direct payments from EU programs and national top-ups, the number of sheep in Bulgaria continues to decrease and has reached its critical minimum. With this number of animals a targeted selection cannot be performed, nor can the national genofund created with the efforts of many generations of Bulgarians be preserved (Panayotov et al., 2002).

It can be seen from Figure 5 that the variation in the number of goats is very large. A peak in the number of goats was reached in 2001, after which the last statistical year marked the lowest number of this species.

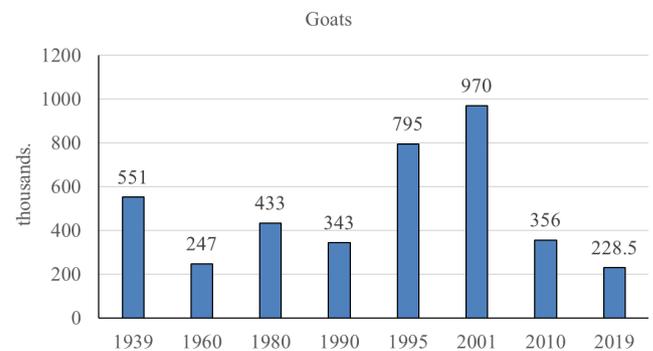


Fig. 5. Number of goats in Bulgaria (thousands)

The state of pig farming is of great concern. In 2018, pig farming accounted for the lowest total of 654.6 thousand sows and 54.5 thousand sows. The data showed a 6.6-fold lower total number of pigs and a 7-fold lower number of sows. Compared to the initial year 2007, the year of accession, the decrease was 26.3% of the total number of pigs and 36.2% of sows, respectively. In this species, too, the reduction was the lowest in relation to all the years included in the study (Figure 6).

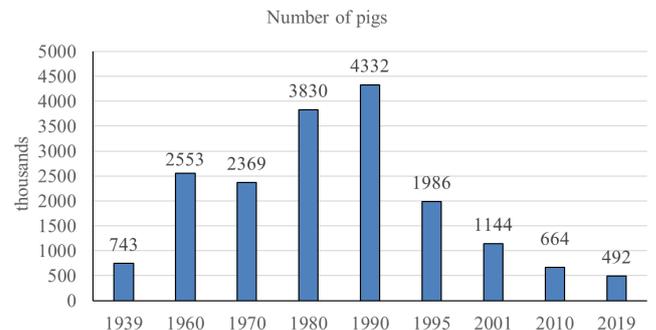


Fig. 6. Number of pigs in Bulgaria (thousands)

In 2018, pork production amounted to 82 312 tonnes (78% of the total red meat production). The amount of pork produced in the same year was 9.5% more than in the previous year, due to the growth in industrial production of 12.9%. At the same time, pork production on livestock farms decreased by 53.8% (Agrarian Report, 2019).

Figure 7 presents the production of meat from the main species of farmed animals in Bulgaria for the period 1939-2019.

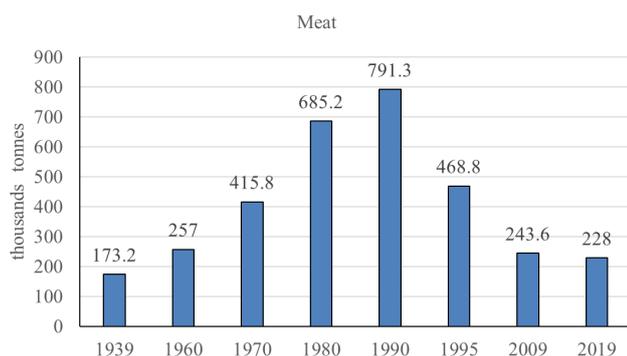


Fig. 7. Meat production in Bulgaria (thousand tonnes)

The data show that the largest amount of meat in carcass weight was recorded in 1990, i.e. the year before the change of the economic system in Bulgaria. The increase in meat production in Bulgaria in 1990 compared to the pre-war 1939 was 4.6 times. Between 1990 and 1995, after the liquidation processes in agriculture, meat production decreased by 40.8%. After the accession of Bulgaria to the EU for the period 2009 to 2019 follows another decrease of 6.4%. Overall, for the 30 years following the reform of the system, the reduction in meat production is 71.2% or 3.5 times.

The number of equidae in 2018 in Bulgaria was about 116 thousand and in recent years has remained as a constant number.

For the preservation of livestock, especially horses, financial support for horse breeding was provided for the first time in 2014 by granting de minimis state aid. This support has to some extent helped the sector to preserve and conserve the established centuries-old cultures and historical traditions of horse breeding in Bulgaria. Thus, the genetic resources in horse breeding can be preserved and developed.

Since 1990, poultry farming has remained most important animal production subsector in Bulgaria. Agrostatistics shows that in 2018 a total of 15 520 000 birds were kept, including 6921 thousand laying hens. And in this species during the years of transition, the decrease in the number of birds is significant. Compared to the peak in 1980, when the

total number of birds was 41 003 000, the birds in 2018 were found 2.6 times less.

Figure 8 presents the dynamics of the development of poultry farming in Bulgaria for the period 1960 to 2018.

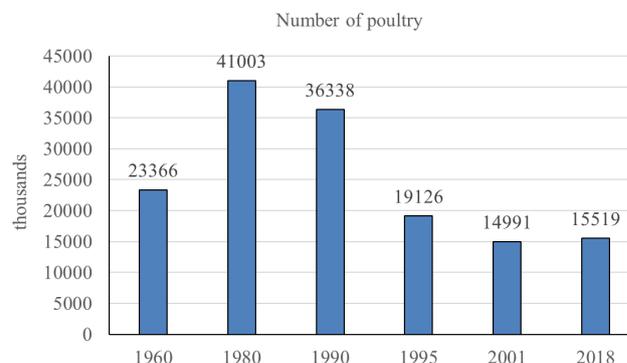


Fig. 8. Number of poultry in Bulgaria (thousands)

Poultry farming has an extremely important role to play in providing our country with meat. In 2018, the white meat produced, which is mainly from poultry, accounted for 52% of the total meat production in the country and amounted to 118.5 thousand tonnes.

It can be seen from Figure 9 that egg production has also dropped significantly, compared to the 1980s. The egg strand has difficulty recovering its production levels not only from the strong years with over 2.5 billion eggs, but also from levels up to and shortly after integration to the EU. This is due to the very strong competition within the Union and with the countries with developed agriculture.

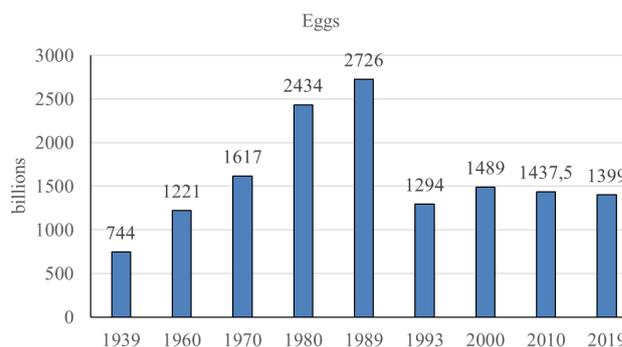


Fig. 9. Egg production in Bulgaria (billions)

Despite the reduced number of birds and their products, poultry farming in Bulgaria has the best position in the livestock sector. This is due to the fact that, to a large extent, the industrial production method and the specialized poultry farms have been preserved. Poultry farming in Bulgaria is one of the best structured subsectors of livestock production.

Beekeeping in Bulgaria has long traditions. Natural and climatic conditions favor its successful development. Bee honey and beekeeping products have indispensable medicinal and dietary properties and have always attracted great interest. Even nowadays the demand for honey and bee products is very high because Bulgarian honey has proven high quality indicators. Data on the development of beekeeping in Bulgaria show relatively little variation in the number of bee families for the period 1933 to 2018. The exceptions are 1995 and 2001, when the number of bee families was reduced from 2.5 to 3 times in 1980. These are the years immediately following the liquidation of the cooperatives and the restoration of ownership, as well as from the severe inflation experienced by Bulgaria during this period.

Figure 10 presents the production of honey in Bulgaria for the period 1970 to 2018, from which it can be seen that apart from 1995 and 2000 it has retained relatively good positions.

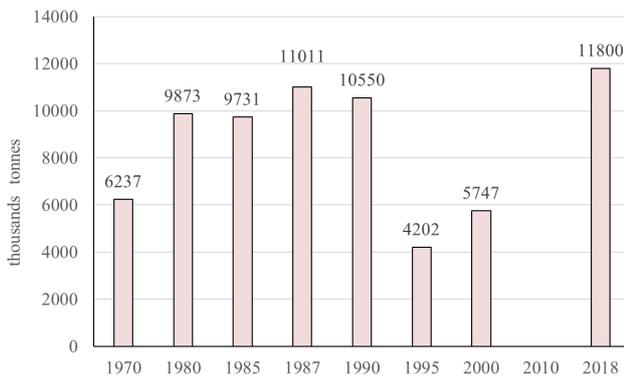


Fig. 10. Honey production in Bulgaria (thousand tonnes)

Ensuring people's food is one of the most important tasks of any government. The standard of living of people in each country is judged by their provision with basic food products, their nutritional and healthy qualities. Of utmost importance for the proper and wholesome nutrition are products that contain an optimal amount of proteins, carbohydrates, fats and mineral substances. This is the food of animal origin – milk, meat, fish, eggs and their products. Table 7 shows how the Bulgarian citizens have been guaranteed basic food products in the period 1960 to 2018.

Table 7. Consumption of basic food products

Products	1960	1970	1987	1990	1995	2000	2010	2013	2018
Bread and bakery products, kg	–	216	–	170.2	155.5	117.1	110.4	107.0	85.3
Meat and meat products, kg	29.1	41.4	73.3	54.5	38.2	34.7	45.8	46.6	47.9
Fish and fishery products	–	–	8.3	2.6	3.5	3.4	5.3	6.7	5.2
Eggs, pc.	84	122	263.09	166.0	141.0	129.0	137.0	143.0	146.0

Source: MAFG: <http://www.omda.bg> Dimitar Ivanov; Prof. Nikolina Salova

The table shows that the consumption of bread and bakery products in our country for the period 1990 to 2018 was reduced by 49.9%. This is an important indicator for lowering the standard of living, given that for Bulgarian citizens bread is one of the most permanent food products in nutrition.

In all the years indicated in the table, the consumption of meat and meat products per capita is below the specified feed rate of 85 kg. per person per year. The closest to the established norm for food is 1987, although it was 13.5% less at the time. In 2018, the consumption of meat and meat products was 43.6% below the set norm for proper nutrition. After Bulgaria's accession to the EU and the reduced production of meat in our country more than 50% of the meat and meat products were imported.

There is sufficient scientific evidence that fish and fish products are the healthiest foods. The rate of consumption of fish and fishery products is 10.8 kg per person per year. It can be seen from the data that in none of the mentioned years (key years before and after the changes in Bulgaria) the norm for consumption of fish and fishery products was reached. This is also an indicator for inadequate and unhealthy nutrition.

Milk and dairy products have always occupied a significant place in the nutrition of Bulgarian citizens. Brined cheese has always stood beside bread on the Bulgarian table. The norm for the consumption of milk and dairy products (expressed in litres of milk) is within normal limits and also above the standard determined between 1970 and 1990. During the transition years 1995-2018, the consumption of milk and dairy products was significantly below the norm, with 45.6% less in 2018. In addition to the data given as information on the consumption of dairy products, it can also be added that in 1989 one person consumed 53 kg of milk, 63.7 kg of yoghurt and 15.5 kg of brined cheese. In 2001, consumption fell to a level of 28.8 kg of milk, 23.3 kg of yogurt and 9.8 kg of brined cheese. In 2018, the consumption of milk fell to 16.8 kg, of yogurt and brined cheese there was a certain increase, respectively 29.3 kg. and 11.8 kg. (agrozona.bg).

Egg consumption varied by year, reaching a peak in consumption in 1987, after which, with the exception of 2000, it remained relatively constant.

Contrary to global trends, the share of agriculture, forestry, hunting and fishing is increasing in Bulgaria, with the GDP of agriculture during this period moving from 10.1% to 18.8%. This is due not to the successful development of agriculture, but to the crisis in industry and construction. In the following years, the share of industry did not change significantly, moving together with construction in the period 2014-2018 from 25.8% to 28.1%. The share of the agricultural sector in the country's GVA literally collapsed from 5.2% in 2014 to 3.9% in 2018. The largest share belongs to the services sector, which for the period showed stable values from 67.2% to 70.3% for 2018 (Agro Plovdiv, 2019).

The overall structure of the economy has maintained sustainable ratios over the past 5 years: 67% services, 28% industry and only 5% of agriculture. In 2018, as we have already pointed out, the share of GVA in agriculture fell to 3.9%, which was the lowest value indicated since statistics were kept. By the beginning of the new millennium, agriculture has formed more than 10% of GDP and GVA, and now without forestry and fish farming it accounts for only 2.5%.

Since 1995, under the conditions of the market economy and the years of accession to the EU, crop production has prevailed by around 10%. Following Bulgaria's accession to the EU and the alignment of agricultural production with CAP, which provides direct payments under the SAPS, crop production increased its relative share versus livestock farming by about 3.1 times. European subsidies during the first programming period mainly stimulated grain production and oilseed crops, which imposed monoculture agriculture in Bulgaria with five main crops – wheat, barley, corn for grain, sunflower and rapeseed. Arable land occupied by these crops requires significantly less labour force than for fruit, vegetables, fodder crops and livestock production. Despite the introduction of new direct payment schemes during the EU programming period 2014-2020 and above all the important for Bulgaria related support, the structure of agricultural production remained unchanged.

According to Atanasov (2019), the concentration on the cultivation of cereals and oilseeds and the significant reduction of production from animal husbandry, vegetable production, fruit and tobacco production and the withdrawal from the production of soybean, cotton, sugar beet, flax, hemp, flowers, etc. is driven by the way subsidies are distributed per unit area. According to Eurostat data, Bulgaria is one of the countries where subsidies currently do not have a positive impact on the gross value added produced by the sector. According to the author, for the period in which Bulgaria is a member of the EU theoretically with a model of super wholesale, monocultural agriculture compared to the model of traditional Bulgarian production, the country has

lost BGN 10 billion in added value and about 50 000 jobs (tentatively employed year-round). The conclusion is that particular attention should be paid to improving the opportunities for innovation in small and medium-sized farms and enterprises, as they do not have sufficient own resources to purchase modern equipment or, if they do, it is questionable whether they can use it effectively.

Conclusion with Inferences and Recommendations

The analysis shows that long before the founding of the Bulgarian state and at all stages of its millennial history, livestock farming was a well-developed and leading agricultural activity.

Bulgaria has a huge natural resource for breeding cattle, small ruminants and equidae, as well as a significantly higher number of non-ruminants.

Bulgaria has made significant exports of live animals and animal products and has met to the maximum extent the needs of Bulgarian citizens for food products.

During the years of transition from planned to market economy, the number of animals and the production of animal products has fallen below the critical minimum. According to these indicators, Bulgaria ranks last in the EU.

To make a critical analysis of the state of the Bulgarian livestock with the participation of all responsible stakeholders at a state level, representatives of the livestock science and NGOs.

To develop a national program for reconstruction and further successful development of Bulgarian livestock farming, in accordance with the capacity of the state and the requirements laid out in the CAP of the EU, which should become a must for each successive government, despite of its party allegiance.

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