

## GREY UKRAINIAN CATTLE BREED AS THE ANCESTOR OF PODOLIC (PODOLIAN) GROUP

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*Since 19th century, there is an opinion in Europe that the Podolic cattle group was formed after the name and genetics of cattle that existed on the Podolic Upland. Currently, this position is being discussed in scientific circles of European countries, breeding animals of the Podolic group. Taking into account above-mentioned, in the article there is proved the background for the justification, that the Grey Ukrainian breed of cattle, which exists on Podolic Upland and in the whole Ukraine, belongs to the Podolic group and may be its ancestor.*

*Podillya is the part of Ukraine and borders on the western regions of modern Ukraine, which at the time of the most intensive cattle trade were parts of foreign countries. That's why the cattle from all over Ukraine were collected in Podillya and fattened by local landowners to be exported abroad. According to the written evidences, the cattle trade has been going on since the 15th century, but then it has been already developed, ie the beginning of trade should be sought earlier. The possibility of finding such evidences is significantly limited due to the lack of written sources. The remains of long-horned cattle are found in Podillya and all over the modern Ukraine from the 7th millennium BC.*

**Keywords:** Podolic cattle, Grey Ukrainian cattle, Podillya, history of the breed, cattle trade relations

## СІРА УКРАЇНСЬКА ПОРОДА ВЕЛИКОЇ РОГАТОЇ ХУДОБИ ЯК РОДОНАЧАЛЬНИК ПОДІЛЬСЬКОЇ ГРУПИ

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*Починаючи з 19 століття, в Європі існує думка, що подільська група великої рогатої худоби сформувалася за назвою та генетикою худоби, яка існувала на Подільській височині. Нині це положення дискутується в наукових колах європейських країн, які розводять тварин подільської групи. З огляду на зазначене, в статті було надано обґрунтування, що сіра українська порода великої рогатої худоби, яка розводиться на території Подільської височини та всієї України, належить до подільської групи та може бути її родоначальником.*

*Поділля є частиною України та межує із західними регіонами сучасної України, які на час найінтенсивнішої торгівлі худобою були частинами іноземних держав. Саме з цієї причини худоба з території всієї України для експорту збиралася на Поділлі та відгодовувалася місцевими поміщиками. За письмовими свідченнями, торгівля великою рогатою худобою відбувалася з 15 століття, проте тоді вона вже зазнала свого розвою, тобто початок торгівлі слід шукати раніше. Можливість пошуку підтверджень такої значно обмежена з огляду на обмеженість письмових свідчень. Залишки довгорогої худоби знаходять на території Поділля та всієї сучасної України з VII тис. до н. е.*

**Ключові слова:** подільська худоба, сіра українська худоба, Поділля, історія породи, торгівля великою рогатою худобою

**Introduction.** The Podolic group is a population of related cattle breeds, which are characterized with grey colour of coat and often long horns, phenotypically close to the aurochs ancestors [75, 90], so with often darker and well-developed chest and black rings around eyes and muzzle, black horn tips, with well-expressed sex dimorphism, including in colour, red colour of calves, that characterized an auroch [65, 66, 82]. Cattle of the group are spread at the territory of Central and partially Eastern Europe. Cattle, which have certain signs of the group can be met in western Europe as well, but all the signs gathered, including red colour of calves and grey coat of adults are reliable indicators of belonging to the group.

Based on the evidences of 19 century there was strong conviction about the origin of the whole Podolic group from the breed, spread at the territory, which since 12 century became known as Ukraine [67, 74, 90, 91]. Particularly, Moritz Wagner (German researcher, collector, geographer and natural historian) in 1836 to depict sub-species of grey long-horned cattle used taxonomic name *Bos primigenius podolicus* [86]. Searches of the source of this name in all the works of Wagner gave no results [86]. Most likely, that at the time of Wagner's book forming, the issue of belonging the grey long-horned cattle to the type was unquestionable.

Earlier than in Moritz Wagner's work, the name "Podolic cattle" is mentioned in the work of Josef Schonn "Staatswirthschaftliche berechnungen in bezug auf die vieh-z-ille und quarantine Preussens insbesondere Schlesiens" [86]. The author notes that in Silesia, cattle driven by Polish traders were called "podolische" – Podolic. Similar, although somewhat confusing and inconsistent information is currently available on sites that describe the cattle of the Podolic group of the Italian root (Maremma, Romangola, Podolica) [78–80, 88].

Podillya (Podolia) – historical region of Ukraine, which at different times occupied territories of different size, but generally reflects central-western part of Ukraine (Vinnytsya, Hmelnytskii, Ternopil and some parts of Cherkassy, Kirovograd and Odessian oblasts) and borders with Volynian region. The name "Podillya" emerged in 14 century [1]. But breed, which was later (at the end of XIX-beginning of XX century) known as Grey Ukrainian was spread at the territory from ancient times with the population, that inhabited the land since Paleolithic times.

Now the name of the group and its origin from Podolian (Podolic) region of Ukraine is severely discussed [65, 82, 83, 86, 87], which forced to undertake the work on the point.

**Materials and methods of the research.** Analytical, axiomatic, hypothesis-deductive, empiric, inductive, synthetical, generalizing methods and the method of isolative abstraction were used in the work. The work consists of several parts, each of which resolves and proves certain problem or dispute. Widen part on the trade of Rus-Ukraine with foreign countries reveals the ways on which Grey Ukrainian cattle paved its way to Europe and disseminated there.

**Results of the research. Dissolving of the disputes on the belonging of Grey Ukrainian to the Podolic group.** Grey Ukrainian breed is an ancient breed of Ukraine, which with certain share of assumption traces back Trypillian times (7 th. BC) [25, 29]. Process of forming of Grey Ukrainian breed was done under difficult (dry and hot in summer and rather severe in winter, pastures burnt out early) steppe conditions. These factors were main ones, which formed the breed [28, 51]. These cattle have "significant power... huge endurance and large size and the ability to be steady in the work till rather deep age, up to 15 years" [46]. Oxen pair rather easy deeply plough 0.5 ha of land or drive load, which is 1000–1500 кг [26]. "At the same time, they are characterized with great agility, dexterity and smartness in the work" [46]. Such characteristics can be attributed not only to Grey Ukrainian of the beginning of the previous century, but to modern as well. Besides written evidences, which will be considered, the communication with the people, working on the farms on Grey Ukrainian, proved, that these animals are exclusively robust, first of all, as well as calm and enduring. These traits were formed historically. Investigations of ancient (the second half of the I th. AD) animal-breeding of the area of left banks of Dniiper allowed to make an assumption, that animals were kept whole-year outside in stalls [13]. Such tradition was saved later as well.

Cattle of Grey Ukrainian is characterised with all afore-mentioned phenotypical signs of the Podolic group (Fig. 1 – ancient and modern Fig. 2). Sex dimorphism is well-developed amongst the animals of the breed as well (Fig. 3).

It has been claimed [86], that Grey Ukrainian “is not robust, the coat colour is not solid, and not only grey, and the horns are not too long”.



Fig. 1. The length of the horns of Grey Ukrainian at the beginning of the XXth century.

Main attribute of local breeds is “being robust”, and Grey Ukrainian is not an exception. Modern **robustness** of Grey Ukrainian was proved by different investigations at physiological and cell levels [8, 11, 18–22, 28, 37, 40, 44, 48, 56, 60, 72].

Endurance and robustness of Grey Ukrainian can be confirmed by the resistance of the cattle against diseases. At the beginning of the previous century Pridorohin [46] reported, that the general mortality of these cattle was 2.5–4% per year. This author testifies about lower than other breeds mortality from plague. Recently robustness of Grey Ukrainian cattle partially was proved by the investigations of its reproductive ability and longevity [49]. Animals of Grey Ukrainian cattle are distinguished with rather high reproductive ability and total absence of abortions and stillbirths in cows of the third and higher calving.

Robustness of Grey Ukrainian partially can be proved as well by their large power at rather poor feeding. It was reported [20], that at the state exhibition before the World War II bulls refused to take qualified feed (hay, grain, corn), proposed by visitors, though being hungry (drivers forgot to take feed), as they were used only to cane, mat and straw. Bulls were led about 1300 км (from Falts-Fein’s estate). At Dekonskiy (prominent owner of Grey Ukrainian breed of the beginning of the previous century) farm, bulls were fed with hay and chaff with the addition of ground barley. Cows were given in winter straw and chaff as feed, in the morning – some oilcake and in the evening – hay. Pregnant ones have hay instead of straw [46]. Keeping a Simmental bull in the late 19th century costed 100 rubles a year, Gray Ukrainian – 20; per day – 17.2 kopecks [20]. However, the value of Gray Ukrainian oxen was quite high. In particular, farmer sold for 28 rubles two horses, which were usually valued quite highly, and bought for the same amount a pair of oxen from “passing

townspeople" (i. e. Cossacks from the Hetmanate). The horse could be bought in 1746 for 8 rubles 50 kopecks.



**Fig 2. Bulls of Grey Ukrainian of the end of XX century [12].**



**Fig. 3. Cows of Grey Ukrainian (photo made by the author in “Polyvanivka” farm in 2013)**

But at the same time Zorin [26] characterizes animals of Grey Ukrainian as “rather large and high animals, with long body, **enough strong skeleton**, well-developed chest, mid-developed stomach and rather developed muscles of front and medium part of body”. Especially front, which was characteristic for the auroch [66, 82]. The rear part is badly developed. There were oxen (Kirov farm), which in pair can drive thresher or lokomobile (about 4000 kg), that is equal to loadlifting ability of 6 pairs of horses [26]. Oxen of the breed live up to 12–14 years, which is as well proof of robustness, as idle oxen wouldn't be kept in a farm.

And in such conditions, they had dressing percentage 53.4%, in certain cases – up to 65.6% [46]. At the better conditions, there was a stock of 40 heads with their medium dressing percentage of 65.9%. But lard constitutes 7–10% [46]. “Large fattened oxen of Grey Ukrainian are considered to be the best goods at the capital markets of beef cattle” [33]. Capital in this context means Saint-Petersburgh as the capital of the Russian Empire (21.8 mln sq. km), as at that time Ukraine was a constituent of the Russian Empire on the results of Pereyaslav Rada (Council) in 1654.

Robustness of Grey Ukrainian was noticed and different breeds were created at its ground: Red Steppe, Lebedyn, Southern Beef, Ukrainian Simmental, Ukrainian beef. This step was undertaken to increase productivity at the solid background. Grey Ukrainian is typical for Steppe region, but its versatility caused its distribution throughout the whole Ukraine during the beginning and medium of the previous century, even in mountainous regions. In mountainous regions of Ukraine at the beginning of previous century Grey Ukrainian was crossed with local small brachyceros cattle Ryzhka (104–110 cm wither height), that resulted in Mokan variety (my horse in local language) – strong, robust, able to plough in mountains.

Especial value of Grey Ukrainian is its skin, as Plinius stated, that as well is the distinguishing feature of aurochs [90]. It was depicted as very thick (like silicon). Skin of Grey Ukrainian was valued greatly at the markets of Moscow and Saint-Petersburg and costed several times more expensive, than skin of other breeds for its thickness, size and elasticity [26, 46]. Thickness of their skin allows it not only be steady to different seasonal fluctuations, but as well be resistant against insects' beat [46]. Grey Ukrainian's skin exceptional thickness is proved by the possibility to go in neck yoke, when other breeds, including foreign, could use only forehead yoke [46], which is more sparing for the neck and skin. Neck yoke makes wounds on other breeds' skin. Skin of Grey Ukrainian could comprise 8.5% of its live weight [26].

Concerning coat colour of Grey Ukrainian breed and especially bulls, it should be admitted, that it cannot be **solid**, as they are “phenotypically close to aurochs”, which had certain coat peculiarities, inherent to modern Podolian cattle group and Grey Ukrainian especially, namely “darker and well-developed chest, black rings around eyes and muzzle, black horn tips, lighter stripe on back, darker limbs and neck” [66].

**Not too long horns** of modern Grey Ukrainian breed are exclusively caused by multiple long-termed crossings with imported “improving” foreign breeds. Such situation was connected with the late beginning of selection work in Russian Empire, which later was completely directed into crossing with foreign breeds, which were reported to have higher productivity (because of earlier beginning of selection work). One of the best farms on the breeding of Grey Ukrainian breed (owner – E. K. Brodskiy) widely crossed Grey Ukrainian with Charolais to improve meat properties [33, 46] for rather long time. Pridorohin emphasizes, that experience of crossing of Grey Ukrainian with foreign breeds testify, that it greatly decreases workability and endurance of the breed, results in variety in stock, destroys the specific type and the whole event became lossmaking [46].

That's a great pity, that such devoted to the breed people as S. Dekonskii, Pridorohin, Liskun and Kooleshov, who insisted greatly not to cross Grey Ukrainian with foreign breeds and work with the breed, selecting it in the direction of their own improvement [38, 46] were not numerous. The number of Grey Ukrainian in 1916 was 2 mln. 813 th. [58], it was spread at the whole territory of Ukraine and it could survive till nowadays, though there was its large-scale crossing with more productive foreign breeds since 1930 [28]. But for instance, Polissian cattle, which was not so numerous

and was local for Polissya, on the Order of Soviet Committee was totally crossed without the possibility of revival, though it was very hardy and resistant breed, highly adapted to specific swampy conditions of Polissya [2, 27].

At the Exhibition of Agricultural Achievements in Moscow (the second largest city in Russian Empire) in 1896 amongst 22 exhibited best bulls of the Empire (21,8 mln. sq. km) 11 bulls were crosses of Grey Ukrainian with different foreign breeds (3 – with Shorthorns, 2 – with Charolais, 3 – with Chianina, 3 – with Grey Hungarian) and only 3 – pure bred. But even crosses with Shorthorn breed were distinguished with rather long horns (Fig. 4).

But even at the beginning of the previous century, horns of Grey Ukrainian were magnificent (Fig. 1).

Moreover, there was a statement, that length of horns is determined by feeding as well [6–7]. A. A. Brauner reported, that in Kiev province he observed for 30 years transformation of the type primigenius (domestic) under the influence of unfavourable conditions, mainly feeding, into the type “brachyceros” with all its craniological features.

Feeding of Grey Ukrainian cattle during several last centuries did not facilitate to the development of long horns, but nevertheless, horns of the breed were rather long (Fig. 1).

It should be indicated, that horn length is rather steady trait of Grey Ukrainian, as it is guessed, that people wanted to eliminate it during centuries as inconvenient in cattle keeping feature, but it is available till now. Apparently, horn length is a breed peculiarity as cattle remains of Olvia (Greek colony in the south of Ukraine of the beginning of the new era) indicate prevailing majority of polled cattle [43].

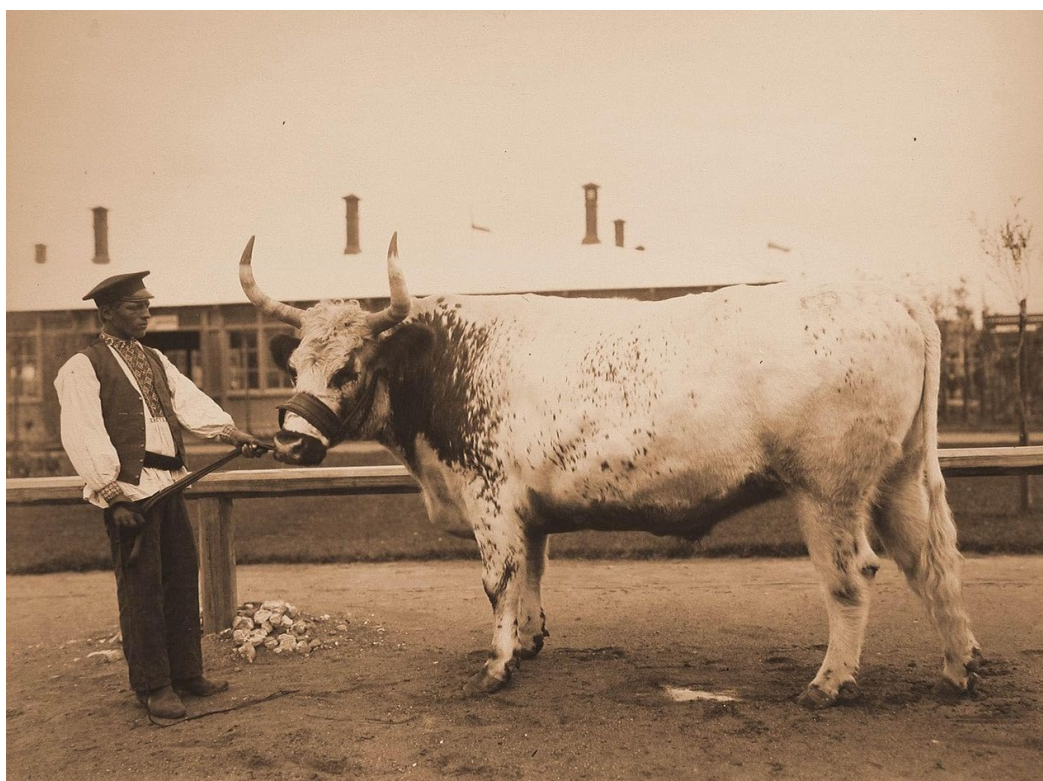


Fig. 4. Cross of Shorthorn-Ukrainian.

It is claimed, that Grey Ukrainian is named not so, as the group [86]. But in this case the situation is the same, as with other Ukrainian toponym – Rus. Now the territory, which encompassed previously Rus, is mostly (without two principalities) covered by Ukrainian territory with the centre in Kiev. But the name Russia was appropriated by Moscovia in 1721 by Peter I from “Rus” to give more historical weight to conceived future Empire justifying it with joining the small part of lands (Ukraine), entering the Empire. At that time (1721) lands, which encompassed previous Rus (X–

XII c.) could be estimated as 1/20 of lands of conceived future Empire. In such a way the name of small part of the whole was arrogated to the whole.

Generally said, name “Grey Ukrainian” was assigned to the cattle of breed only at the beginning of the XX century-end of XIX century. But at the beginning of XX century the cattle of Grey Ukrainian were not consolidated. There were different varieties, known as Malorossian, Cherkassian, Chornomorian (Black Sea area cattle), Poltavian, Podolian (Podolic), Grey Steppe, Gutsulian (Gutsulic), Bessaribic [28, 37]. All the work with breeds began in the world in about 17 century, but in Russian Empire even later and the consolidation of breeds, especially Grey Ukrainian as the most robust, strong, promising in possibilities and “not elegant” was concluded as crossing with more productive breeds.

But in certain sources of the end of XIX century there is mention of “Grey Ukrainian” cattle of southern provinces of Russian Empire [33], connected with the breeding the most robust cattle. Moreover, the first herdbook of Grey Ukrainian breed was issued in 1909 [28], which means, that by 1909 Grey Ukrainian was mainly formed.

So, Grey Ukrainian is typical representative of the group, which have certain pre-requisites to be the ancestor. But to be more sure about the possible ways of Podolic cattle distribution and origin, it is crucial to investigate trade relations of Rus (Ukraine) with neighbouring countries through centuries.

**Trade with other countries.** The first way and the reason of possible distribution of Podolic cattle from Ukraine was trade relations with western countries, which were caused by favourable situation of the country and richness in resources. Since ancient times Ukraine was at the crossing of trade routes, which often negatively influenced its destiny.

Evidences on first economic relations are known since one of the most outstanding in the history of Ukraine periods – Trypilian times [59]. It is interesting, that ploughs were found in the material evidence of Trypillia residents. The use of traction force of animals in Trypillya is proved not only by the findings of the plough from the horn, but as well by numerous images of "oxen" on painted vessels, the findings of clay figurines of bulls drawn in a sleigh. Wood ploughs could hardly have survived for millennia, and heavy building materials were likely to be delivered by oxen as well, which is obvious. It is interesting, that in Trypillya there were several cattle breeds (on oral communications with archeozoologist of the Institute of archeology of Ukraine O. P. Zhuravliov), up to 24, of two different sizes and different lengths of horns. One of these breeds, very large, equal in size, as V. Gromova notes, “to our Cherkasy (Grey Ukrainian) bull” (!!!!!), and sometimes exceeding it and reaching the size of a wild auroch (*Bos primigenius* Boj.) with large, strongly flattened horns and massive limbs [4].

Owing to being at the crossing of trade routes, Kyjiv even at difficult times did not lose its role. According to Plano Carpini [45], who was in Kyiv in 1246–1247, it became clear that even after the Tatar devastation in 1240, Kyiv had not lost its significance in trade: Carpini saw merchants from France, Italy, the Levantine, German, and others.

However, during the Lithuanian-Polish era, Rus-Ukraine’s trade relations were somewhat limited. Thus, in 1354, Casimir III granted the Cracow merchants the right that provided them with a monopoly on goods, and therefore Wroclaw and German merchants had to buy goods only through Polish merchants. Only after the annexation of East Prussia with Krolewets (Koenigsberg) to Poland, Ukraine became able to have free trade with Prussian cities.

By order of Kings Yahailo and Casimir, safeguarding their own interests closed the way to Ukraine for foreign merchants. Foreign goods were sent only to Polish merchants, and they already had the right to trade in Ukraine. Large cities, such as Krakow, Lublin, and later Lviv, had the "right of storage," where foreign merchants had to sell all imported goods.

Trade of the XIV–XV centuries was mostly by land – the goods were transported by large caravans (valky) with protection. Rubruk [50] tells how in the XIII century merchants from Rus brought precious furs to the Crimea in covered wagons drawn by **oxen**, and took away salt.

There were trade ties between Galicia and Hungary in XIIIth century. In a charter of 1344, King Ludovik (Louis) mentions merchants coming from Rus to Hungary. They took horses, metal products, etc. from Hungary. Since the XIII century relations with German cities began [57].

The Bug and the Vistula served as convenient routes, connecting Volhynia and Galicia with Torun and Kulm, and later with Gdansk, which became predecessors in trade with Flanders and the North Sea coast, northern France, and England. There are many indications that German merchants lived in Lviv, Volodymyr, Sanok and other cities. Merchants traveled through Western Ukraine to Krakow, Germany, Nuremberg, and Italy. Nuremberg merchant of the second half of the XIV century in his diary compares the weight in Tanya, Lviv and Nuremberg.

In 1390 the Prussian border was finally closed. This had a severe impact on Volyn and Galicia.

Since the XV century became widespread fairs-auctions, periodically organized in a traditionally designated place, which connected different regions of Ukraine. They became the first sign of the formation of the inner market and were initially universal, but over time their specialization increased [35, 36].

There were three days' fairs, weeks', and some lasted even a few weeks. The largest fairs in Western Ukraine were in Yaroslav. They took place before the Lent, on the Assumption and on Saint Andrew days and gathered merchants from the Baltic to the Black Sea coast. At the end of the XVI and in the first half of the XVII century bishop Piasetskii considered them the largest in Europe, after the fairs in Frankfurt am Main. During a fire in 1625 was burnt at one of these fairs goods worth 10 million zlotys.

Large fairs were held in Ryashev, Przemyśl, Korosna, and Sanok. Merchants from Hungary and Shlonsk came there. German, Hungarian, Greek, Wallachian, Armenian, Tatar, and Turkish merchants came to Lviv fairs, which were held twice a year. These fairs supplied all Poland with silk fabrics, wax, honey and wine [57].

Merchants drove large herds of cattle from the east (in terms of the location of fairs in the west) of Ukraine, brought furs, honey, wax, skins, fish, handicrafts. An interesting example from the royal lustrations-revisions in the land of Sanitsky in 1564: "... a lot of nobles became involved in a large merchant force under the «cloak» (cover) of domestic needs and, buying large numbers of **cattle** and horses, drove them across the border" [14, 36]. It is evident, that the tricks with such trade operations could not be undertaken at the beginning of cattle trade, it is obvious, that it was done, when the profit of the whole deal was evident and the whole deal was set up in a great scale.

Merchants from different parts of the Right Bank territory of Dniper and Western Ukraine, as well as from the Belarusian lands actively traded at the fairs of Nizhyn, Romny, Chernihiv, Starodub. Through Vasylykivska, Staykivska, Sorokashitska, Kamyanska and other customs, goods from Russia, Slabozhanshchyna and the Left Bank of Dniper came to the western Ukrainian lands.

Through an extensive system of fairs, auctions and markets, goods were distributed throughout the Ukrainian lands, despite various obstacles: state borders, economic policies of governments, natural borders, customs, and so on.

Concerning the Left Bank of Ukraine, researchers counted forty fairs, which operated only in 1665, despite frequent armed clashes, numerous attacks by Tatar hordes on the Left Bank of Ukraine [42]. Gradually formed a kind of trade chain connecting the Left Bank, Slobozhanshchina, Right Bank, Western Ukraine.

At the end of the XVIII century 8680 bazaars and auctions operated annually on the territory of the Left Bank territory of Dniper in Ukraine.

Merchants from all Ukraine were mentioned in the descriptions of fairs and auctions of the Hetmanate. B. Khmelnytsky in his Universal in 1657 ordered that the Cossack leaders "should treat the people of Lviv as our own, and in any trade did not hinder the merchants." The cities of the Poltava (center of Podillya) regiment established regular contacts with the cities of the neighboring Kharkiv regiment, Gadyatsky and Nizhyn – with the cities of the Sumy (Sloboda) regiment.

Sloboda merchants sold bread, vodka, dried fish, glue, leather, belts, **cattle**, as well as goods brought from the Russian cities at the Left-Bank fairs. Bread, goods from the Left Bank of Dniper



territory and goods from the Right Bank, from Western Ukrainian lands, Poland, Silesia, Gdansk, Germany, and other countries came to the Sloboda market.

The next branch in domestic trade was bidding, specializing in the sale of certain goods (Hlukhiv – bread, Romny – tobacco, Lviv – **cattle**). In particular, the turnover of Nizhyn and Romny fairs reached 4 million rubles [5, 31].

Another form of trade relations were shops. For example, in Kremenets and Volodymyr-Volynskiy in the middle of the XVI century there were 70 and 30 shops, respectively. In Kamianets-Podilskiy (1570) – 40, Ovruch (1629) – 30.

From the XVI century Ukraine's foreign trade relations with the western countries intensified significantly. Due to the rapid development of manufactories in the western countries and the growth of cities, the volume of agricultural production there decreased. As a result, countries such as England and the Netherlands became a huge market for raw materials and agricultural products from Ukraine. At the same time, Ukraine was a market for the products of the manufacturing industry of western countries. The largest port on the Baltic Sea, Gdansk, played a major role in Ukraine's trade with the West [42, 57].

Among the main centers of foreign trade was such cities as Kiev, Lviv, Kamyanets-Podilskiy, Lutsk. Lviv took the leading place in trade with both the East and the West. Kamyanets-Podilskiy was Lviv's competitor in southern trade. However, these cities did not gain a monopoly on trade like Lviv.

In the development of trade played a certain role river ways – the Dnieper, Dniester, Tisza.

First of all, many forest materials were exported to the West – beams, boards, rivets, masts, ashes, as well as **oxen**, horses, grain, **skins**, honey, wax, Transcarpathian wines, linen, yarn, potash, salt, etc. [3]. Concerning export, in the markets you could find German, English, Dutch, and French goods – jewelry, weapons, fine fine and canvas cloth, knick-knackery, books, and so on [9].

However, according to M. Grushevskiy [17], who thoroughly investigated great amount of sources on the history of Ukraine and the first wrote it in VI volumes (which became prohibited by Russian authorities), the greatest demand was for cattle in the 16th century, and only then – for the forest. Livestock was of the greatest importance and development in the steppe zone, where the Grey Ukrainian was spread and created. As early as 1426, a protective royal privilege in written form was given in response to complaints from Lviv burghers who drove **oxen** to Wroclaw fairs. Cattle gathered in Galicia and partly in Lviv, Podillya and southern Volhynia. Later, with the expansion of the lord's economy, they began to drive from Pobuzhya (territory near Bug river) and near Dnieper (Podillya including). Thus, in the season of 1534, according to unpublished invoices for payments collected for pasture, through Gorodok (station on the way to Silesia) according to these notes passed only in June 12 (!!!) thousands of **oxen**, and before the Yaroslav fair for a month (!!!) – more than 18 thousand [17]. "From the middle of the 17th century the Yaroslav fair was told that **40,000 oxen** were driven to it. Only one nobleman of the Galician land drove 3.000 oxen, 600 beef, and 6.000 sheep and rams to the Lutsk fair."

For the comparison here should be given volumes of cattle trade in even 18 century from the main cattle trade cities of Hungary (Table 1) [76].

**1. Cattle trade from main market towns of Hungary**

	Kechkemet	Debrecen	Sze- ged	Cegled
<b>Number of cattle exported, 1563–1564</b>	<b>1661</b>	<b>2132</b>	<b>1718</b>	<b>1718</b>
<b>Number of cattle exported, 1586</b>	<b>1750</b>	<b>4211</b>	<b>474</b>	–
<b>Number of cattle exported, 1587–1588</b>	<b>17881</b>	<b>12918</b>	<b>1142</b>	<b>145</b>

As well, “almost no data survived on cattle trade in Szegeed in the seventeenth century”, though it was trade city.

M. Grushevskiy [17] also notes, grounding on an in-depth analysis of the sources of the previous centuries that “cattle exports became noticeable in the second quarter of the 15th century, but then they were already significantly developed, so its development had to begin earlier. Its main market was Schleswig even then and stay it until the 18th century” (from the 15th century, long-horned cattle became to appear in Hungary).

XVI – first half of the XVII century were also characterized by further strengthening of Ukraine's trade ties with Moldova, the Crimean Khanate, Asian countries – Persia, India and Arabia. In particular, Ukrainian merchants often received privileged trade certificates from Moldovan farms.

Wine, iron products, copper, silver, gold, nitrate, and canvas cloth occupied a prominent place in imports from Hungary, while salt and pottery were the main exports. Hungarian merchants came for goods to Stary Sambor, the main trade center in Ukraine near the border.

It should be noted that the foreign trade relations of Western lands in the XVIII century were at a much lower level than by the middle of the XVII century [47], very often because of supervising countries prohibitions. Foreign trade turnover of Lviv in the XVIII century decreased by 6 times, and the export of goods – by 29 times. Brody became the center of traditional trade between West and East. But the trade with the Czech and German lands expanded. The export of grain to the West decreased, and trade in **cattle**, cloth, and linen, which were bought for the Austrian army, the British, and the French fleets, increased.

However, even in the XVIII century volumes were significant. Thus, in 1745, Russian General I. Gorchakov wrote to the Governor of Kyiv, Chief General M. Leontiev, that in Starodub come to sell bread “many as foreigners of Polish region, and other people living near the border ... not a small number». And then Polish traders resold the goods further west.

According to the description of 1783, merchants from the “Turkish region”, Constantinople, the Archipelago islands, the Crimean peninsula, Cherkasy, Don villages, the Kharkiv governorate, Poltava and some other places came to the fairs and auctions of the Azov province.

But mostly traded in **cattle**, horses and sheep. Many goods from central Russian Empire’s cities came to Volyn, Podillya, and Galicia through Kharkiv, Romny, Kyiv, and Berdychiv fairs. Western Ukrainian cities had trade relations primarily with Moscow, Kyiv, Nizhyn, Putivl, and Sevsk. In particular, in addition to traditional **livestock** and bread products, salted fish, hares, goat skins, lambs’ skin, caviar, and others were brought to Northern Bukovina from the Russian Empire. They were sold at North Bukovinian fairs and auctions, as well as exported to other provinces of Austria.

In the territory of the western Ukrainian lands, fairs initially remained the dominant form of trade organization. About a thousand fairs were held annually in Eastern Galicia, Northern Bukovina and Transcarpathia. Large specialized fairs in Eastern Galicia and Northern Bukovina took place in the largest commercial and industrial centers – Lviv, Brody, Ternopil, Stanislaviv, Chernivtsi. Famous St. George's and woolen fairs were hold in Lviv, in Brody and Ternopil – large horse fairs, Stanislav and Chernivtsi – linen and **cattle**. Trade operations of the fair in the village Ulashkivtsi in Ternopil region sometimes involved up to 60 thousand people. In 1856, 31 Moldavian, 19 Hungarian, 17 Russian, 10 Czech, and 7 German merchants traded here. In 1859, the trade turnover of the Ulashkiv Fair amounted to more than 2.7 million gold rynsky [24].

At the 19th and 20th centuries, Eastern Galicia played an important role in the foreign trade of Austria-Hungary as an important producer and supplier of food and raw materials. In particular, the main articles of the region's export trade were **cattle** (in the first place), bread, salt, wood, flour, hop, flax seeds, leather, fur, feathers, lard, potash, flax, poultry, eggs, meat canned food, alcohol, ozokerite. Canvas, pottery, cotton, woolen fabrics, etc. made up a very small share. Exports went mainly to Germany, the Russian Empire, the root territories of Austria-Hungary [3], as well as to Romania, Moldavia, Turkey, and other countries of Northern and Western Europe. **Cattle** went to Lviv, Vienna, through Wroclaw and Gdynia to England, Norway, Sweden, Denmark, as well as through the Black Sea ports – to Constantinople. In particular, at the beginning of the twentieth century, in 1902–1904, 22.6 thousand **oxen** and 72 thousand pigs were exported from Northern Bukovina every year, **mainly to Vienna and Germany**.

Traders who mediated foreign trade in **oxen** drove them to Vienna and Olomouc [51]. In particular, in 1835 more than 55.000 oxen were delivered from Galicia to the Olomouc Fair, in 1836 – almost 90.000, in 1837 – more than 74.000, and in 1844 – about 60,000. In 1837, 5.5 thousand oxen were sent to Vienna, and in 1844 – almost 30 thousand [15]. The role of Zhuravny's merchants (A. Frichman, Z. Frichman, M. Tabak, Gersh Poole, M. Allegard), who actually monopolized the **intermediary trade of cattle** going from Eastern Galicia to the Czech Republic to the Olomouc Fair, was also quite important during this period. In Lviv, the Economic Society established associations for the sale of agricultural fertilizers and machinery, cooperatives for the bulk trade of livestock (Pecus), poultry and eggs (Ovum), and the trade union "Narodna torhivlya" [61].

Among the items of import to Bukovina, the **leading position** was occupied by **cattle**, which came mostly from Bessarabia and Podillya province, and in the western Ukrainian lands were only fattened for a while. The fattening of the cattle was mainly done by the landowners of Podillya (in the first place), Podnistrovia (territory near Ukrainian Dnister) and Prykarpattia (by-Carpathian region), who used wastes of distillery, as well as rich pastures [34].

**Cattle** were brought to the fairs of Bukovina, and then sent to Lviv, Prague, Vienna, Germany. In the first half of the XIX century an average of 6.500 small livestock (calves, sheep, goats, and pigs) went to Bukovyna annually through the customs of the Podillya province, and in the 1950's and 1970's they were almost twice as many (up to 11.500) [41].

In 1856–1864, 652.6 thousand heads of cattle and horses were exported through the Novoselytsia customs in the direction of Austria-Bessarabia, which accounted for the largest share of all goods exports.

As for Transcarpathia, in the first half of the XIX century its role in Austria's foreign trade was rather insignificant, but cattle were exported. The export of cattle as well was in the first place among the export items.

Livestock was actively traded in Northern Bukovyna and Zakarpattia. To the fairs of Uzhgorod, Beregovo, Mukachevo in 1897–1900 ones drove in average 123 thousand heads of cattle, horses, sheep, in 1901–1905 pp. – 130 thousand, in 1906–1910 pp. – 120 thousand.

Livestock delivery to the west after the construction of railways was significantly cheaper, which allowed significantly increase livestock exports.

In the recent period of large-scale exports of live animals from Eastern to Western Europe, Podillya-Polish cattle dealers have been known and important partners in the cattle markets of Vienna and Nurenberg [86]. This was their final point of movement in the late 19th century. It is easy to assume that from these markets grey cattle were distributed throughout Western Europe.

**Chumaky.** Rather huge period of trade relations of Ukraine and western countries, which directly touches the topic, is related to the unique in the world phenomena – chumaks (chumaky). Chumaky mainly used Grey Ukrainian cattle, as it was the main cattle of the territory, where the phenomenon was spread, and made world trade.

Word “chumaky” is treated differently in certain cases – most known linguists’ treatments concern the origin of the word from Turic *čomak* (mace, long stick), Oyhur *čomak* (strong, mighty) or Turkish *čumakdar* (one, which have mace) [10].

Chumaky were people who on mazha (carts drawn by a pair of oxen) from different regions of Ukraine (mostly central) travelled for various goods to the south (mostly salt and fish), sometimes abroad. Especially active for chumaks was the area around Kyiv and along the "salt" roads from the city to Kolomyia (western Ukraine).

Documentary evidence of the existence of chumaks dates back to the first half of 17 c., while information about salt and fish traders is available in written sources dating back to Kyivan Rus (10–14 centuries) [39].

At 17 – first half of 19th century the territory of the spread of chumaky craft within Ukraine was quite wide. A particularly large number of chumaks were recorded in Chernihiv, Kyiv, Slobozhanshchyna (Sloboda region), Poltava and Podillya regions. Chumaks transported a variety of goods (salt, fish, wood, leather, clay, glassware, grain, tobacco, vodka, etc.) from the places of their

digging or extraction to the points of sale – fairs of large trade centers on oxen [54]. Chumaks travelled on optimal, often self-paved routes (now all routes of Ukraine are laid by chumaky ways), connecting the Right Bank and Left Bank of Ukraine with its southern provinces (Kherson, Tavria), as well as Crimea, Galicia, Russia, including cities such as Rostov-on the Don, Taganrog. Thus, the activities of the Chumaks not only provided the interior trade, but also expanded external economic connections.

The nature of the chumaky craft required super-powerful and reliable means of transportation. Such folk project was mazha, mazhara – a large-capacity freight cart, the body and running gear of which (hubs, axles, wheels), taking into account the main items of transportation – salt and fish, were made exclusively of wood [39].

An integral means of harnessing was a yoke, often, like a cart, finely decorated. It was usually harnessed to a pair of oxen, that's why the cart was often called parovytsya (harnessed by pair of oxen). Preference was given to Grey steep-horned cattle (Grey Ukrainian, most widely spread at the territory of that-day Ukraine), known for their strength and endurance. Chumaks spent a lot of time caring for oxen: washing them, rubbing them with straw to make their hair curly, and gilding their horns, that indicates almost cult of oxen, which traces Trypillian times [4].

Historian-archivist Apollon Skalovskyi noted, that "Chumaks had a special, even superstitious respect for grey oxen (!!!)" [58].

During the year, oxen transported almost 2 million poods (pood is 16.38 kg, ancient measure) of various goods – from salt and fish to grain and timber. The animals had numerous folk names, which again proves special attitude to oxen. In Borys Hrinchenko's dictionary there are more than fifty of them: "White" is a white ox, black is a "caraman", "wild" is capricious, "sorrel" is stubborn, "halabuda" is an **ox with big horns**" [16]. The same honor was given to horses among the Kumans [76, 77].

The chumaks industry reached its apogee during the flourishing of Zaporizka Sich (cradle of Cossacs). On the one hand, the Cossacks were the patrons of the Chumaks: if necessary, provided their troops, accompanied, gave shelter. On the other hand, cossaks took part in chumaks' craft equally with chumaks, or made external trade directly through the Chumaks, which were Cossacks [39].

Chumaks, who traded actually throughout Ukraine and far beyond, played a major role in strengthening the country's economic ties with Russia, Belarus, Crimea, and Moldova.

Zaporizhia also maintained close trade contacts with Russian and Belarusian lands. Zaporozhian horses, **bulls**, and sheep were in great demand. Outside Zaporizhia, leaders and wealthy Cossacks sold livestock products – leather, yuft, lard, butter, cheese, wool and so on.

The most important branch of the Zaporizhia economy was **cattle** breeding. Cossacks bred horses, cattle, pigs, and sheep. There is information that Grey cattle was an important part of the wealth of the Zaporozhian Sich [57].

Using the Dnieper waterway leading to the Black Sea, Constantinople and further East, the Cossacks held in their hands important trade areas of Poland, Lithuania, Ukraine and southern Moscovian State in the XVI–XVIII centuries. Zaporozhian Cossacks concluded trade agreements with foreigners. Boats (seagulls or galleys) served as a means of water traders' travelling, and "mazhi" or "parovitsy" served as land means. Besides these land means there were "palubtsi" – the same carts, but covered from bad weather, drawn by a pair of **oxen**.

Weapons, horse harness, lead, canvas, sapyan (dyed fine horse leather for shoes), scythes, knives, razors, glass, silk fabrics, wine, lemon juice, raisins, lemons, coffee, and nuts were imported to Zaporizhia from Turkey.

The Poles traded directly with the Cossacks or through the Cossacks with the Turks and Crimean Tatars. The main centers of Polish-Zaporozhye trade were Uman, Lysyanka, Torhovytsia, and others. Cossacks traded with Poland horses, **cattle**, wax, lard, furs and other goods.

Numismatic finds are important in connection with trade. They testify that, in addition to coins of local Kyiv and Lviv production, on the Ukrainian money market of the XIV–XV centuries Czech,

Tatar, Lithuanian, Polish, Hungarian, Italian, Moldavian, and Genoese-Crimean coins were in circulation. Finds of Polish coins of the late XIV–XV centuries are numerous. Coins of the principalities of North-Eastern Russia of XIV–XV centuries are known only as isolated finds mainly in Chernihiv and Slobidska Ukraine (Sloboda) [23].

The area of Ukrainian money circulation in the XVI century became more compact. Its epicenter in relation to the money market shifted from Kyiv and Pereyaslav lands to the west – to Volyn and Podillya. At the end of the XVI century large silver coins of Western European origin appear on the Ukrainian money market – thalers, a kind of world money of the late Middle Ages. At the end of the XVI–XVII centuries coins of Prussia, Brandenburg, Braunschweig, Elbing, Hungary, Silesia, Swidnica, German provinces and cities were in circulation in Ukraine.

Coins of the Recz Pospolita are found in almost every coin hoard of the XVII century. Thalers also occupy a significant place. About the same time, a significant number of gold ducats appeared on the Ukrainian market.

So, Grey Ukrainian cattle exported to the west could represent only Podolic (by territory) variety (as the most typical and representing the heart of the country) of the breed (which is much less probable and sources investigation declines this theory) or represent only the bordering region, where were collected cattle from the whole Ukraine, which was proved by documents. Grey Ukrainian was spread throughout the whole territory of Ukraine [32] (in the middle of XIX c. it comprised 5.8 mln. heads [28], which was three times more, than horses) but “Podolian” name was fixed for these cattle abroad, as Podolian area borders with Bessarabia and encompassed it in the centuries, preceding XVI, from which cattle was exported to Romania and Hungary. Podillya borders with Volynia, Romania through Moldova and Hungary through modern Transcarpathian region.

Of course, as it is claimed [86], the name “Podolic” could be assigned to the cattle, which was exported by the traders from Podolian region, but it is much less plausible, that **only** traders, selling **foreign** cattle could give name to the whole group of cattle. Moreover, as it was stated, that time it was prohibited for Ukrainian people to do any external trade operation (neither export nor import) by that-day authorities.

Mountainous regions, where was spread Moganitsa (Mogan) variety (crossing of local Ryzhka and Grey Ukrainian), which are mainly occupied by Transcarpathian region were part of Austro-Hungarian Empire or Czech Republic till the end of World War II, that as well could be the way for Grey Ukrainian distribution.

**Related breeds across Europe. Hungarian Grey.** There are several theories of Hungarian Grey origin. One of it is Cuman’s cattle leading from their Motherland to Hungary, but during the excavations there were not found any remains of long-horned, which is the Hungarian Grey, cattle till (slight beginning) the 14th-15th centuries in the Carpathian Basin, although from the 16th century "Hungarian" cattle were exported in large herds to the urban markets of southern Germany (or Grey Ukrainian cattle in transit through Hungary).

The earliest finds of relatively long cattle remains near Kecskemét date back to the 17th century [76]. Other fossils show that in the 18th century in Hungary there were individuals with longer horns than those found near Kecskemét, however, these individuals also had much smaller horns than in modern Grey Hungarian. Perhaps it was a cross between a local and a Grey Ukrainian. The horns of the Grey Ukrainian are noticeably smaller than those of Grey Hungarian. Although, as already mentioned, there is evidence that the length of the horns of Gray Ukrainian oxen was often 61–92 cm, and the distance between their ends sometimes reached 213 cm. In adult bulls, the length of the horns exceeded the length of their heads by 2/3 [19].

The fact that Hungarian cattle is the local autochthonous breed of Hungary is not denied at all. Moreover, it has really magnificent horns, which can hardly be found in Grey Ukrainian, especially modern. But that Grey Hungarian resulted as the crossings of local Hungarian cattle with Gray Ukrainian (preferably bulls, as notably bulls were traded abroad) could not be denied at all as well. And this statement complies with Felius’s et al. [70] investigation, that the west cattle influence was male-mediated.

The fact that Grey Hungarian is a separate breed with their distinct characteristics is proved by the fact that Pridorohin [46] insistently warns not to cross Grey Ukrainian with any of foreign breeds, including Grey Hungarian, which introduces into Grey Ukrainian certain features, not typical for it, which are thinboneness, highleggness and the development of muscles of Grey Ukrainian became lesser.

In the publication of Pridorohin [46] there is an indication of Hungarian breed as Podolo-Hungarian variety. Moreover, Pridorohin indicates that as you move from Ekaterinoslav province (the best herds at the beginning of XX century at the south) to the west and to the south-west from Poltavian province (part of Podillya), the cattle, which is now known as Grey Ukrainian (Grey Steppe in his work) become more high-legged, dexterous, thin boned, with worse developed muscles, what is the consequence of crossing with Podolo-Hungarian variety, as the author conclude. But in the book there is a mention of "Hungarian cattle" as well.

A fairly clear difference between Podolic and Hungarian breeds is given in Meyers Großes Konversations-Lexicon, Vol. 16, Leipzig, 1908 [86]. This paper states that at that time there were two types of "steppe cattle: steppe grey (eastern) and southern European". According to this source, there were Hungarian-Transylvanian, Podolian-Bessarabian and Italian types of this group. The image of the Hungarian-Transylvanian type resembles today's pure Grey Hungarian [86]. This statement can be confirmed by modern genetic research.

In 1872, Engelbrecht gave a clear description of the Podolic-Moldavian breed – smaller with shorter horns and Hungarian-Transylvanian – grey with long horns.

It should be mentioned that for many centuries Romanians (representatives of the Danube principalities and Transylvania), leaving the borders of their homeland for various reasons, lived mainly in the ethnic lands of Ukraiyny. According to medieval sources, the oldest Romanian settlements in Ukraine began to appear relatively actively in the late XIII–XV centuries. They were founded mainly by peasants from northwestern Wallachia (Maramures) and southern Transylvania. Particularly active resettlement of Romanians was observed within the Hetmanate during the National Revolution and the liberation struggle of the Ukrainian people in the mid-seventeenth century. So, there was moving, which could be done with cattle.

Possible ways and reasons of Gray Ukrainian distributions are given in Felius's work. According to M. Felius et al. [70], after the Great Famine (1315–1317) and Black Death epidemics (1349–1351), the people of Europe recovered quickly and needed new resources from nearby lands. These were the north-west coast, the Alps and the steppes of Eastern Europe (!).

According to sources [63, 64, 85, 93] from the 14th century grey long-horned cattle of the so-called Podolic type appeared in the steppes (Pushta !!! And so it is written) and replaced the local small cattle during 14–15 centuries. Indeed, if the grey steppe came from the Pushta, it would be so called (Gray Puszta), as the Pushta is very typical of Hungary. The Grand Dukes of Tuscany sent breeders from their holdings to Hungary to reinvigorate the Pustza breed (Hungarian Gray is called Puszta breed, not Steppe).

Moreover, Felius writes that in the 18th century the Gray Hungarian brought cattle plague to Europe. So it wasn't so resistant, as later...

It was stated that long-horned cattle as Hungarian Gray came with steppe nomads into Hungary [66] in the ninth century, which also does not exclude the above theory of the origin of Grey Hungarian from Grey Ukrainian, because Hungarians from their historical homeland (Khanty-Mansiysk district) went to Hungary in two ways [52], which is determined by the graphoanalytical method [54]. One of this ways was led through the steppes of Ukraine, that clearly can be traced in the toponymics of the places, through which migrated Hunfarian settlers: Valyuki, village Gotal + ukr.ske, Shebek (ino) village, Rosszos (Rossosh), city Arat (iv), river and village Tereblya (hung. Terebes). It is interesting, that toponyms with Uhr (village Uhryn with city Uhorsk, Uhersko, Uhryniv and Uhrinkivtsi) are situated in Ternopil oblast, which is a great constituent of Podillya (!!!) region of Ukraine, as well as Terebizh (hung. Terep) village of Vinnytsya oblast. There are even thoughts, that the Motherland of Hungarians was situated in steppe regions of Ukraine [53, 77]. K. Lyublyanovich as well name

Cumans – “people of the Eurasian steppe region” [77]. Gyorffy [71] at the base of wordlist of Cumans places put them in Crimea. Crimean city Sudak was under the control of Cumans, as well as steppe Kherson [62, 68, 84, 89]. Excavations of Orgondaszentmiklos’s cemenry showed that the way of burial is similar to burials from the region of the Donets river.

But the theory of migration of Grey Ukrainian cattle with ancient nomads through Ukrainian steeps to Hungary failed, as besides the fact, that there are no *Bos primigenius*-like cattle skulls on Hungarian territory till 16 century [64, 76], steppe nomads, which contributed greatly to the history of Hungary (Cumans) were not devoted adherents of cattle. The analysis of remains of domestic animals of sites, where these nomads lived, witnesses, that they were adherents of horse-breeding [76]. In Trypillian settlements "with some exceptions, the number of horses was 1/10" [13] of farm animals. But there was also 1/3, which was the maximum. At the Volyntsevsko-Romen excavations – no more than 12%. The of Middle-Tisza period excavations showed from 20 to 55% of horse bones among all the bones. It is logical, as “hunter could not draft with him cattle. For breeding livestock one needs at least a relative settlement” [30].

Moreover, V. Stetsyuk, detecting the origin of Finn-Ungrian tribes by his graphoanalytical method [52], indicates that “the remoteness of the Finno-Ugric settlements from the centers of agrarian civilization and the natural conditions did not contribute to the borrowing of crops and technologies, and the development of agriculture in general. The economy was dominated by fishing and hunting, and such an economic system required the development of large areas”. In addition, the calculation of genetic distances [81] between individual Podolian breeds calls into question the theory of eastern imports of domesticated cattle by the Polovtsians (Cumans) even in the Middle Ages.

**Italian breeds.** Quite interesting is the fact that Tormey in 1874 notes that Hungarian cattle were white. In this case, Ciani and Matassino's [66] assumption about the origin of Hungarian cattle from Italy might be correct, because, according to Archimedes [70], there were many white cattle in Italy before the beginning of our era (200 BC): “Sicilian cattle were characterized by different sample of coat – white, black and yellow and spotted”).

Felius et al. [70] cites the data of Aristotle, who claims that the pastures of Epirus were known for the size of the cattle that grazed on them at that time. However, these cattle produced about 30 liters of milk per day, that is, they were dairy, which is not very similar to the ancestors of today's beef Italian cattle. However, the author notes that cattle did not live up to the Middle Ages, but disappeared with the fall of the Roman Empire. That is, it is important to have long-range cattle throughout the study period, not a certain point in the past.

Indeed, archaeological finds indicate the presence in the 7–8 centuries AD cattle, the height at the withers of which was 115–135 cm. These cattle were exported to various regions of Italy and southern France [70]. The author concludes that these cattle were ancestors of the large Roman cattle. Assumptions have been made about the possibility of the origin of the Gray Hungarian from the Italian breeds [66], so, the geneflow was not westwards, but eastwards, though in the works of Felius et al. [70] it is proved that westward.

**Podolica** cattle is a breed which directly in its name resembles ancestral origin from Grey Ukrainian breed, but there are now some proposals to change the name of the breed into “BovGRAI” [66], which could be logical, as Podolica cattle, “was created in the 80s of the last century from Italian local breeds: Apulian, Pugliese, Abruzzoso, Montanara, Puglieso del Basso Veneto [86].

Review of sources on the Italian breeds origin [66] reveals, that, as it was stated, in their formation *Bos taurus macroceros* took part. But available testimonies, including Vasilyev et al. [92] show, that *Bos taurus macroceros* is *vatussi*. There is evidence, that *Bos taurus macroceros* is long-horned cattle, but that should be made clarification as well.

**Istrian** as it is known was a part of Podolica cattle population. Istrian breed appeared genetically very close to the Italian breeds, more similar to Podolian stereotype, than to geographically closer beef type breeds [69, 73].

A targeted introduction of Italian Podolian breeds from Romagna, Puglia, Marche and Polesine in the late eighteenth century to improve production characteristics left a mark on the genetic profile of the breed.

**Conclusions.** 1. Grey Ukrainian cattle is robust, (as many scientific investigations in the field prove it), representative of genetically long-horned cattle and represents the ancient cattle, which was spread at the territory of Podolic Upland.

2. Cattle trade relations investigations since ancient times prove the wide export of the cattle from the territory of Podolic Upland.

3. Podolic cattle group distribution throughout Europe was male-mediated and westward-directed, that proves the theory of origin of the group from the initial country of Eastern Europe – Ukraine.

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