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SELECTIVE ACQUISITION OF MEAT CATTLE BREED IN UKRAINE – UKRAINIAN BEEF CATTLE

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The aim of the research was to determine the main stages of the creation of the Ukrainian beef cattle breed, taking into account the level of economically valuable traits, the dynamics of the genealogical structure, and the analysis of breeding techniques and methods of improvement based on genetic studies. The research was carried out using an analytical method, relying on literature and scientific sources. The Ukrainian beef cattle is the first beef breed of cattle officially approved in Ukraine in 1993. However, this was preceded by extensive work to identify the best combinations (only the Institute of Animal Breeding and Genetics studied more than 100 crossing variants involving 39 domestic and 15 specialized breeds) and the development of a methodology in 1972 by prominent scientists P. L. Pohrebniak, F. F. Eisner, and M. A. Kravchenko. Their method aimed to combine the valuable traits of Simmental cattle (1/8) with those of Grey Ukrainian (1/8), Kianina (3/8), and Charolais (3/8) breeds.

In total, seven variants for obtaining the desired genotypes were developed, though only the first five were practically used. The next stage in creating a beef cattle population involved forming a breeding nucleus consisting of 10 elite breeding farms. The genealogical structure of the Ukrainian beef cattle breed is widely branched. Thus, in 1978 two intrabreed types were approved: the Chernihiv type (Sh3/4S1/4, Sh3/4GU1/4, Sh1/2L1/4GU1/4, Sh1/2Ch1/4S1/4) and the Prydniprovs'kyi type (Ch3/4S1/4, Ch3/4GU1/4, Ch1/2Sh1/4S1/4, Ch1/2Sh1/4GU1/4). Later, the Holovynkivskyi (Sh5/8Ch1/8S1/8GU1/8) and Lokhvytsia–Zolotonosha (3/8Ch3/8Sh1/8S1/8GU) breeding types were approved. In addition to the officially recognized types, the Polyvanivskyi breeding type (Ch3/8K3/8SU1/4) was also developed.

Regarding the lines, at the initial stages of breed formation, the so-called "primary" lines were established, consisting of related groups of Charolais bulls: Universal 71012 U-06, Uran 71019 U-08, Champion 58197 KhShA-28, Aspirant 71416 A28 KhShA-22, Eoiziano 81 ChRU-7, Euphemio 382 ChRU-6, and Desant 274. Later, selection work focused on outstanding crossbred bulls, which served as founders of new lines, including Losos 2391, Osokir 0109, Anchar 1988, Som 0418, Tainyk 1821, Pagin 0354, and Khyzhyi 1549.

The level of development of economically useful traits in the Ukrainian beef cattle breed demonstrates consistent and purposeful breeding work at all stages of the breed's development. In industrial crossbreeding, alongside Ukrainian beef cattle, Lebedyn, Red Steppe, Simmental, Ukrainian Black-and-White Dairy, and Ukrainian Red-and-White Dairy breeds were used. As of January 1, 2025, the Ukrainian beef cattle breed is maintained exclusively in the breeding farm of the SERF "Polyvanivka" of SI IGC of NAAS in Dnipropetrovsk region, where 336 animals are kept, including 5 breeding bulls and 166 cows. Today, within the overall structure of beef cattle breeds, the Ukrainian breed accounts for 1.5%.

Keywords: **breed, intrabreed types, breeding types, breeding traits, related groups, lines, breeding programs, herdbooks, target standards, improvement, conservation**

СЕЛЕКЦІЙНЕ НАДБАННЯ МЯСНОГО СКОТАРСТВА УКРАЇНИ – УКРАЇНСЬКА МЯСНА ПОРОДА

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Метою дослідження було встановлення основних етапів створення української м'ясної породи враховуючи рівень господарськи корисних ознак, динаміку генеалогічної структури та аналіз селекційних прийомів і методів удосконалення за врахування генетичних досліджень. Дослідження проведені за допомогою аналітичного методу використовуючи літературні та наукові матеріали. Українська м'ясна худоба – перша порода великої рогатої худоби м'ясного напряму, яка затверджена в Україні у 1993 році. Однак, цьому передувала тривала робота з виявлення кращих поєднань (лише Інститутом розведення і генетики було вивчено понад 100 варіантів схрещування, де залучено 39 вітчизняних та 15 спеціалізованих порід) і розробки методики у 1972 році видатними вченими П. Л. Погребняком, Ф. Ф. Ейснером та М. А. Кравченком, яка передбачала поєднати цінні властивості сименталів з умовною часткою 1/8, сірої української (1/8), кінанської (3/8) та шаролезької (3/8) порід. Загалом, було розроблено 7 варіантів отримання бажаних генотипів, однак практично використано 5 перших. Наступним етапом зі створення популяції м'ясної худоби було формування племінного ядра у кількості 10 кращих племінних господарств. Генеалогічна структура української м'ясної породи широко розгалужена. Так, у 1978 році затверджено два внутрішньопородні типи, а саме чернігівський (Ш3/4С1/4, Ш3/4СУ1/4, Ш1/2Л1/4СУ1/4, Ш1/2К1/4С1/4) та придніпровський (К3/4С1/4, К3/4СУ1/4, К1/2Ш1/4С1/4, К1/2Ш1/4СУ1/4). В подальшому, затверджено головеньківський (Ш5/8К1/8С1/8СУ1/8) та лохвицько-золотоніський (3/8К3/8Ш1/8С1/8СУ) заводські типи. Крім офіційно затверджених типів було виведено поливанівський (Ш3/8К3/8СУ1/4) заводський тип. Щодо ліній, то на початкових етапах створення породи були сформовані, так звані «первинні» лінії, споріднені групи шаролезьких бугаїв Універсала 71012 U-06, Урана 71019 U-08, Шампіона 58197 ХША-28, Аспіранта 71416 А28 ХША-22, Еоізіано 81 ЧРУ-7, Еуфеміо 382 ЧРУ-6, Десанта 274. Далі, селекційну роботу почали проводити з відбору видатних помісних бугаїв на яких було закладено лінії, а саме Лосося 2391, Осокора 0109, Ангара 1988, Сома 0418, Тайника 1821, Пагіна 0354 та Хижого 1549. Рівень розвитку господарськи корисних ознак української м'ясної породи свідчить про цілеспрямовану селекційно-племінну роботу на усіх етапах становлення м'ясної худоби. У промисловому схрещуванні поряд з українською м'ясною використовували лебединську, червону степову, симентальську, українську чорно-рябу молочну та українську червоно-рябу молочну породи. На 1 січня 2025 року українська м'ясна порода розміщена лише у племінному заводі ДПДГ «Поливанівка» ДУ ІЗК НААН Дніпропетровської області, де утримується 336 голів, у тому числі 5 бугаїв-плідників та 166 корів. На сьогодні у загальній структурі порід м'ясного напряму продуктивності українська порода займає 1,5%.

Ключові слова: **порода, внутрішньопородні типи, заводські типи, селекційні ознаки, споріднені групи, лінії, селекційні програми, племінні книги, цільові стандарти, удосконалення, збереження**

Introduction. The development of beef cattle breeding in Ukraine as a separate sector began in the 1950s. Taking into account international experience, Ukrainian scientists from leading institutions began early crossbreeding work to identify the best combinations of local dairy and dual-purpose breeds with the most advanced specialized beef breeds of that time. A strategically well-founded idea of forming a promising sector made it possible to systematically create structural elements at all levels–from theoretical foundations to practical implementation in production (Shpak, 2011). In addition, as early as the 1970s, the basis was laid for forming a population of beef cattle as a separate breed (Pogrebnyak & Kravchenko, 1974), taking into account the specific features of each

region of the country, namely Polissia (Speka, 1988), Western Polissia (Yanko, 1981), and the southern region (Buina, 1977).

It should be remembered that the sector encompasses not only the breed itself but also other important factors that precede it, including food-related (ensuring the population's supply of valuable animal protein), social, energy, environmental, resource-based, price, and economic factors (Humennyi, 2008). The efficiency of beef cattle development in general, and the profitability of farms in particular, is associated with the availability of natural pastures; among all natural and climatic zones of Ukraine, the Polissia zone is the most notable (45.1%) (Uhnivenko & Nosevych, 2012).

Alongside this, the issues of technology and management practices deserve attention. All of them have their specific features depending on the farm and region, but the key elements of the classical technology include: obtaining one calf per cow per year, year-round loose housing for no fewer than 220 days, calf rearing under cows (6–8 months), and finishing young stock to high market condition (Burkat, 2005).

However, all the above factors could have been negated during the formation of the beef industry if corresponding programs, concepts, and future strategies had not been developed, along with continued financial support from the state (Zubets at al., 1999; Zubets at al., 2005).

Therefore, the aim of the study was to identify the main stages of creating the Ukrainian beef cattle breed, taking into account the level of economically useful traits, the dynamics of the genealogical structure, and an analysis of selection techniques and breeding methods for improvement, considering genetic research.

Materials and methods of research. The following methods were used in the study: analytical (information from official sources of leading institutions), statistical (materials from the State Register of Breeding Livestock Entities (State Breeding Register) for 2002–2024), and comparative methods.

Research results. Practice shows that there are two ways to develop the beef cattle industry. The first is resource-intensive and involves purchasing imported stock of specialized breeds and establishing farms for their further distribution. The second is longer-term and aims to form a population of crossbred animals obtained from industrial crossbreeding of local dairy and dual-purpose breeds with low milk productivity using high-value breeding bulls of specialized beef breeds. After identifying the best genotype combinations, methods and programs are developed for targeted crossbreeding and for consolidating the resulting population into a group and, eventually, a breed. Thus, the Institute of Animal Breeding and Genetics alone summarized 100 crossbreeding variants, involving 15 specialized beef breeds and 39 domestic breeds (Okopnii, 1993).

In 1972, according to the methodology developed by P. L. Pohrebniak, F. F. Eisner, and M. A. Kravchenko, complex reproductive crossbreeding was proposed to obtain genotypes based on local breeds – Simmental (S), Grey Ukrainian (GU), and foreign specialized beef breeds Charolais (Sh) and Chianina (Ch). The desired final genotype was 3/8K3/8Sh1/8S1/8SU (Uhnivenko, 2009).

Kravchenko M. A. notes that to create the final planned four-breed crossbreds of Ukrainian beef cattle, seven variants of reproductive crossbreeding were developed (Figures 1–7), but in practice only the first five were used. The main originators of these schemes were F. F. Eisner, M. A. Kravchenko, P. L. Pohrebniak, V. I. Sokol, and I. M. Nedokus (Kravchenko, 1979).

The characteristic features of the breeds involved in the formation of Ukrainian beef cattle were as follows:

- **Simmental** (country of origin – Switzerland), used in crossbreeding as a *maternal* breed. Its advantages at the time of creating the new breed included being the most numerous breed in Ukraine and having high milk and meat productivity. In addition, it is genetically related to the Charolais breed (Burkat at al., 1998);
- **Grey Ukrainian** (a local indigenous breed of Ukraine), used as a *maternal* breed. It possesses excellent acclimatization abilities and good meat quality (Hodovanets at al., 1998);
- **Chianina** (country of origin – Italy), used as a *paternal* breed. Among its characteristics are a strong skeleton and good meat qualities, whereas disadvantages include low acclimatization

ability, low milk production, demanding feeding requirements, and a temperamental disposition (Zubets at al., 1998);

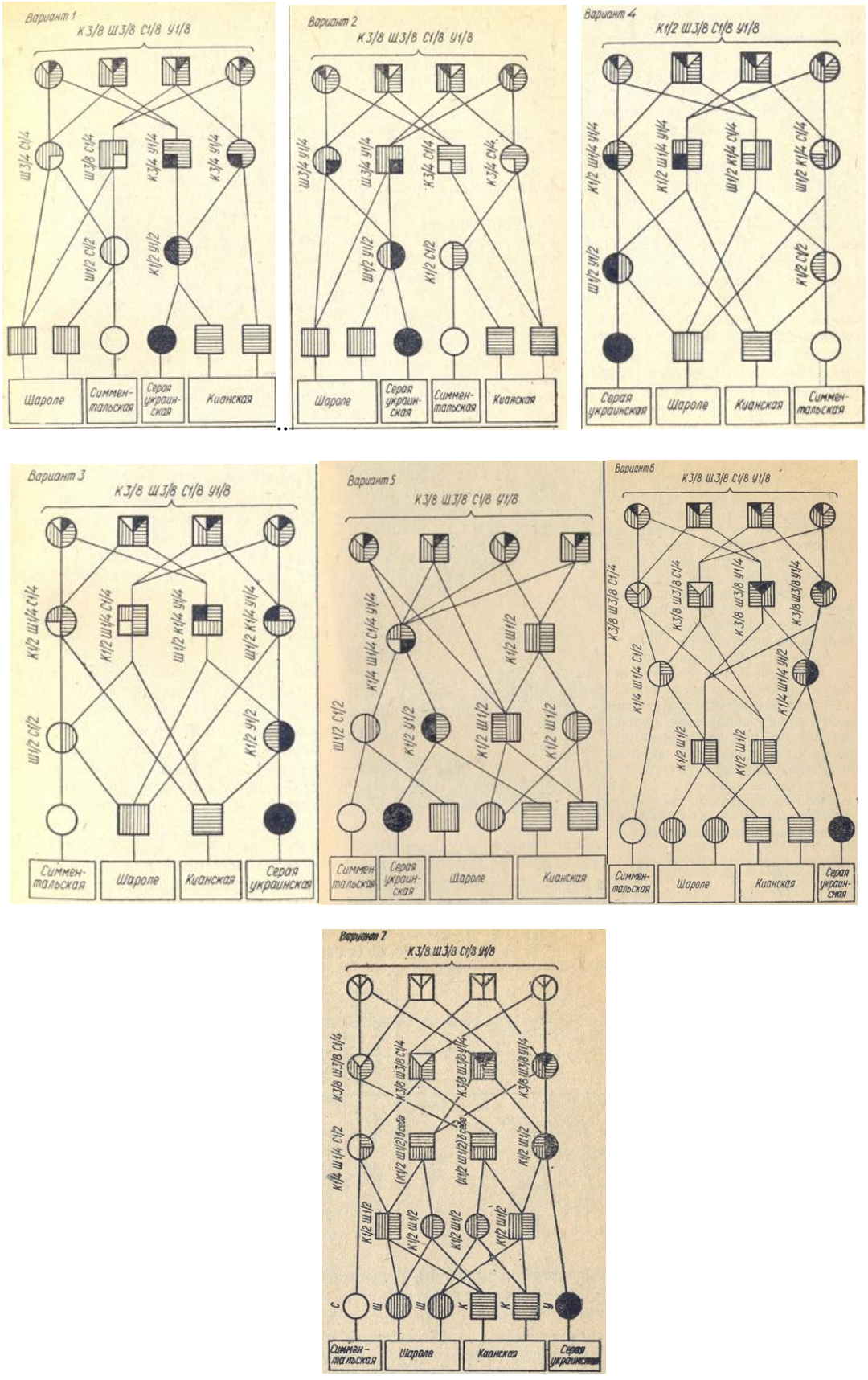

Fig. 1–7. **Variants of breeding Ukrainian beef breed** (***Kravchenko., 1979***).

– **Charolais** (country of origin – France), used as a paternal breed. Among its valuable features are high meat productivity and good acclimatization ability. However, alongside its advantages, the breed has several drawbacks, such as calving difficulties and some exterior faults (Zubets at al., 1998).

According to the order of the Ministry of Agriculture, ten breeding farms for beef cattle were established in 1973 (Eisner & Chala, 1980). The following farms had the greatest influence on the creation of the beef type and, subsequently, the breed:

– "Peremoha Komunizmu", Lokhvytsia District, Poltava Region, in 1973 more than 1,000 first-generation heifers were purchased. As of December 1, 1976, 2,567 head were kept, including 987 cows (Chala, 1978);
– Hohol Farm, Myrhorod District, Poltava Region;
– Postysheva Farm, Zolotonosha District, Cherkasy Region (the herd was formed in 1972 by supplying two-breed heifers (Sh1/2S1/2, Ch1/2S1/2, Ch1/2GU1/2). By 1985, 1,984 head were kept, including 709 cows) (Ugnivenko, 1987);
– Frunze Farm, Chernihiv Region;
– "Shliakh do Komunizmu", Borzna District, Chernihiv Region (since 1973, heifers from Ivano-Frankivsk, Kharkiv, and Chernihiv Regions were supplied – 1,000 crossbred heifers in total; already in 1978 the farm received the status of a breeding reproducer of beef cattle) (Chyrkova & Yashchenko, 1980);
– "Ukraina", Bobrovytsia District, Chernihiv Region (477 head were kept, including 215 cows of different blood levels, 19% of which had the desired final genotype) (Boroda at al., 1987);
– Sverdlova Farm, Dobrovelychkivka District, Kirovohrad Region (the herd was formed in 1972 and supplied with 1,000 two-breed heifers) (Garmash, 1983);
– "Zoria Komunizmu", Kirovohrad Region (a breeding reproducer; two variants of mating were used: Sh1/2S1/2×Sh, Sh1/2S1/2×Ch, and later Sh3/4S1/4×Ch3/4GU1/4) (Vislanko & Chekhovskii, 1983);
– "Zapovit Illicha", Radomyshl, Zhytomyr Region (specialization in beef cattle began in 1974 with the supply of 476 heifers aged 6–12 months; further supplies occurred in 1975–406 head, and in 1976–96 head from Vinnytsia, Ivano-Frankivsk, Zhytomyr, Cherkasy, and Kharkiv Regions. Over 90% of the heifers were Charolais–Simmental crosses) (Speka, 1988);
– "Polyvanivka", Mahdalynivka District, Dnipropetrovsk Region (approved as a base farm in 1972, and by 1978 became a breeding reproducer for the creation of the beef type. It should be noted that crossbreeding Grey Ukrainian cows with Charolais and Shorthorn bulls was carried out here as early as 1961) (Chirkova, 1983).

According to Yu. D. Ruban, an analysis of cattle population dynamics showed that beef breeds did not exceed 0.33% in 1935. Subsequently, this share declined, and by 1985 and 1990 it amounted to 0.18% and 0.15%, respectively. Among beef cattle, the largest share consisted of animals of the Chernihiv and Prydniprovia beef types: 0.11% in 1985 and 0.10% in 1990 (Ruban, 1995).

The modern (since the 2000s) distribution area of the Ukrainian Beef breed, where a controlled portion of the population was historically maintained, has been concentrated in the following regions:

– Vinnytsia Region: LLC "Urozhai" (breeding reproducer; 222 breeding animals including 2 breeding bulls and 60 cows);
– Dnipropetrovsk Region: SE Experimental Farm "Polyvanivka", Institute of Animal Breeding and Genetics NAAS (breeding plant; average herd size over 23 years – 478 head, including 4 bulls and 163 cows);
– Kyiv Region: JSC "Agrofort" (breeding reproducer; 131 head, including 59 cows); LLC AF "Kyivska" (breeding reproducer; average herd size over 5 years – 75 head, including 34 cows); LLC "Heozem-Makariv" (breeding reproducer; 133 head, including 2 bulls and 74 cows);
– Luhansk Region: PE "Volya" (breeding reproducer; 79 head, including 1 bull and 35 cows);

- Lviv Region: ALLC “Avanhard” (breeding reproducer; average 187 head over 5 years, including 3 bulls and 52 cows); FE “Hazdynia” (breeding reproducer; 135 head, including 1 bull and 35 cows);
- Poltava Region: LLC “Peremoha Plus” (breeding reproducer; average of 427 head over 8 years, including 2 bulls and 158 cows); PJSC “Raiz-Maksymko” (breeding reproducer; 372 head, including 2 bulls and 196 cows);
- Sumy Region: LLC AF “Ukraina” (breeding plant; average of 255 head over 12 years, including 11 bulls and 155 cows);
- Cherkasy Region: ALLC “Volya” (breeding plant; average of 490 head over 7 years, including 4 bulls and 145 cows);
- Chernihiv Region: LLC “Saan-Agro” (breeding plant; average of 1,366 head over 2 years, including 27 bulls and 492 cows); LLC “Kozatske” (breeding reproducer; average of 165 head over 9 years, including 4 bulls and 64 cows); LLC “Zadesnianske” (breeding reproducer; average of 64 head over 8 years, including 2 bulls and 46 cows); LLC “Holovenkivske-Plus” (breeding plant; average of 964 head over 15 years, including 15 bulls and 391 cows); LLC “Vorobivske” (breeding reproducer; average of 30 head over 3 years, including 2 bulls and 13 cows); LLC “Vidrodzhennia-SV” (breeding reproducer; average of 64 head over 2 years, including 1 bull and 36 cows).

Previous studies have established that the highest number of breeding animals of the Ukrainian Beef Cattle breed was recorded as of January 1, 2003. The total population amounted to 3,062 head, including 31 breeding bulls and 1,051 cows. Subsequently, the number of the breed gradually declined both in terms of breeding animals and the herds maintaining them. Accordingly, the relative share of the breed in the overall breed structure also decreased. Thus, while at the beginning of 2003 it accounted for 11.7%, by January 1, 2022, it had dropped to 2.2% (Pochukalin & Pryima, 2023).

As of early 2025, the breed mentioned above is maintained only at the pedigree plant of the SRPF “Polyvanivka” of the Institute of Animal Science of NAAS. The herd currently consists of 336 animals, including 5 breeding bulls and 166 cows. In the overall structure of beef breeds, the Ukrainian breed accounts for 1.5%.

In 1978, two interbreed types were approved: the Chernihiv type and the Prydniprovia type. The Chernihiv type was developed with a predominance of Charolais blood (Sh3/4S1/4, Sh3/4GU1/4, Sh1/2L1/4GU1/4, Sh1/2Ch1/4S1/4). Its genealogical structure is represented by six related groups and over 65 breeding families. The Prydniprovia type has a predominance of Chianina blood (Ch3/4S1/4, Ch3/4GU1/4, Ch1/2Sh1/4S1/4, Ch1/2Sh1/4GU1/4). Animals of this type belong to two related groups and 60 families (Nedava et al., 1982, Speka, 1988). The main authors of these intrabreed types were P. L. Pohrebniak, M. A. Kravchenko, F. F. Eisner, O. M. Okopnyi, H. D. Kudria, O. I. Khalimon, V. S. Kharchenko, M. V. Zubets, V. H. Sokol, H. M. Nedokus, and H. D. Chala. Scientific support was provided by researchers of the Ukrainian Agricultural Academy (now NUBiP), the Research Institute of Animal Husbandry of the Forest-Steppe and Polissia (Institute of Animal Science), and the Research Institute of Breeding and Artificial Insemination of Cattle (Institute of Animal Breeding and Genetics nd. a. M. V. Zubets of NAAS) (Husakovska, 1979).

After the Ukrainian Beef Cattle breed was officially approved, two breeding types with different proportions of the foundation breeds were established: the Holovenkivskyi type (Sh5/8Ch1/8S1/8GU1/8) and the Lokhvytsia–Zolotonosha type (3/8Ch3/8Sh1/8S1/8GU) (Vasylets, et al., 1994, Dorotiuk et al., 1998). The Holovenkivskyi breeding type was created on the basis of the “Holovenkivskyi” pedigree plant in Chernihiv region. The main authors of this breeding achievement were E. M. Dorotiuk, H. A. Hlotova, O. A. Sova, and I. P. Loboda. The characteristic features of this type included high reproductive ability, growth intensity, and strong constitution. The selection–genetic parameters of the main economically valuable traits showed high levels. Methodical work was carried out to create sire lines and related groups such as Tainyk 1821 (14.5% of the cow population), Osokir 0109 (16%), Slavnyi 7333 (12.8%), and Holub 8230 (23%). Alongside line development, selection work was conducted to establish maternal families, with the best founders being Roja 5031,

Rezeda 1038, Lira 2135, Malyna 0118, Vorozhka 1602, Mriia 7242, Malva 118, and Liliia 2084 (Dorotiuk & Hlotova, 1994, Izviekov, 1995 Izviekov et al., 1998).

The Lokhvytsia–Zolotonosha breeding type was developed on the basis of KDT "Chysta Krynytsia" in the Lokhvytsia district of Poltava region and the KSP "Volia" in the Zolotonosha district of Cherkasy region, and included 666 cows and 20 breeding bulls. The main contributors to developing this type were A. M. Uhnievenko, V. M. Tkachuk, M. T. Yurchenko, M. A. Parfeniuk, D. T. Vinnychuk, O. H. Zaluzhnyi, V. M. Lazorska, P. P. Oliinyk, L. M. Romanov, and H. O. Tsyluiko. According to the main selection traits (live weight, milkiness), the animals exceeded the values of both the Prydniprovia and Chernihiv intrabreed types. In the leading farms of this type, six breeding lines were developed–Osokir 0109, Anchar 0988, Pahin 0354, Khyzhyi 1599, Losos 2391, and Som 0418–and six families (Uhnivenko, 1995, Ministerstvo, 1993).

In addition to the officially approved types, the Polyvanivka breeding type was developed, with a conditional blood share of Sh3/8Ch3/8GU1/4 and characteristic features including adaptability to the steppe zone and technological suitability. The type was formed at the "Polyvanivka" pedigree plant in Dnipropetrovsk region. Research confirmed high growth intensity of young stock during standard age periods and longevity (the cows remained in the herd for 10.2 years, producing 7 calvings) (Dorotyuk et al., 1998).

The history of the development of the Ukrainian Beef Cattle breed – initially in the form of two intrabreed types (Chernihiv and Prydniprovia), and later as a fully established breed – naturally influenced the formation of its genealogical structure. At first, the so-called primary lines were developed, represented by related groups of Charolais bulls Universal 71012 U-06, Uran 71019 U-08, Champion 58197 KhShA-28, Aspirant 71416 A28 KhShA-22 belonging to the Chernihiv intrabreed type, and Chianina breeding bulls Eoiziano 81 ChRU-7, Eufemio 382 ChRU-6, and Desant 274 of the Prydniprovia type (Eisner & Chalaya, 1982, Chyrkova, 2005).

The genealogical structure of the cow herd of the "Shliakh do komunizmu" farm in Chernihiv region was represented by the related groups of Champion 58197 (22%), Ideal 87593 (20.7%), Orleans 35665 (15.7%), Eoiziano 81 (9.3%), Universal 71012 (7.1%), as well as Armonik 71053, Aspirant 71416, Eufemio 382, and Uran 71019. The assessment of related groups by cow live weight demonstrated intergroup variability, with cows of the Ideal 87593 group showing the best performance (first calving – 490.9 kg, second – 529.5 kg, third – 588.4 kg), while cows of Universal 71012 showed the lowest values among the five studied groups (421.5 kg, 474.2 kg, 548.4 kg respectively) (Dorotyuk et al., 1986).

The genealogical structure of the cow herd of the "Peremoha komunizmu" farm in Poltava region included animals from Universal 71012 and Robiust 71040 of the Chernihiv type, and Desant 274, Eoiziano 81, and Don 8099 of the Prydniprovia type. A comparative evaluation of breeding bulls from the related groups based on the main selection traits identified the best bull successors. For instance, the bull Ulov 448 from the Universal 71012 group had daughters with a live weight of 618 kg and milk yield of 244 kg; the founders Robiust 71040 and Don 8099 produced cows with respective values of 643 kg and 256 kg, and 584 kg and 236 kg (Eisner & Chala, 1981).

The bulls Eoiziano 81 ChRU-7 and Eufemio 382 ChRU-6 made a significant contribution to the formation and development of the Ukrainian Beef Cattle breed. The founder of the primary line, Eoiziano 81, had a live weight of 1510 kg at 4 years of age (height at withers 178 cm, oblique body length 231 cm). The evaluation of the founder through his successors revealed: live weight at 15 months – 601.3 kg, average daily gain from 8 to 15 months – 1247 g, feed conversion per 1 kg gain – 7.4 feed units, meat conformation score – 49.1 points. The line was continued through 13 successors, among which the best were Osokir 0109, Zmiieholovnyk 0135, Medonos 0274, and Anchar 0988. The breeding bull Eufemio 382 had a live weight of 1380 kg at 4 years of age (height at withers 176 cm, oblique body length 235 cm). To consolidate high breeding trait values of the founders, various types of complex inbreeding were widely used (Sokol & Garmash, 1982). At the P. P. Postyshev farm in Cherkasy region, primary lines Eoiziano 81 ChRU-7 and Eufemio 382 ChRU-6 were tested. The results showed high growth energy and live weight of young bulls at various ages.

Thus, the live weight of the descendants of the Eoiziano 81 and Eufemio 382 lines at birth and at the ages of 6, 8, 12, 15, 18 months, and 2, 3, 4, 5 years was respectively: 33.8 kg, 190 kg, 262 kg, 412 kg, 521 kg, 628 kg, 829 kg, 1047 kg, 1188 kg, 1236 kg; and 33.6 kg, 175 kg, 250 kg, 397 kg, 525 kg, 616 kg, 787 kg, 1022 kg, 1191 kg, 1213 kg (Kravchenko et al., 1987).

The founders of the secondary lines were crossbred breeding bulls of the second and third generations. The methodology for establishing breeding lines included a stepwise selection process. The first stage involved identifying the founders; the second – branching of the lines through evaluation of sons and grandsons; the third – line typification; the fourth – fixation of founder traits and genotypic consolidation; and the fifth – interline crossing. Seven breeding lines were officially approved: Losos 2391, Osokir 0109, Angar 1988, Som 0418, Tainyk 1821, Pahin 0354, and Khyzhyi 1549 (Table 1). Each founder was genetically tested: Anchar 0988 (A2O1A'G'G"/I1E'2j'C'W/CFVZ'U1H'/U'Z), Khyzhyi 1599 (A2BY2A'G'P'G"/bC1/CFS/U1H'U'H"), Pahin 0354 (A2BY2A'B'P'Y'/BOY2D'C/C2X1; FH'U"/U1U'Z), Som 0418 (BY2D'G'/bC1EWX2/CS/S), Osokir 0109 (OG'G"/bC1W/CU1H'/S), Losos 2391 (A1b/BY2A'P'Y'W/C2EFV3/SH'Z).

The above-mentioned founders exhibited excellent beef conformation, stable heritability, and were evaluated based on their own performance as well as the development of their offspring (Tables 2 and 3). (Zubets et al., 1988, 1994; Uhnivenko et al., 2003; Biki-proizvoditeli).

In addition to the stud lines, selection work was also carried out with other related groups such as Medonos 0274 (average daily gain from 8 to 15 months – 1738 g), Zmiieholovnyk 0135 (1095 g), Paslon 0085 (1085 g), Maier 922, Zvirko 2870/2661, Enei 023, Slavnii 7333, Holub 8230, and Saturn 2254 (Lysenko & Sokol, 1978, Chala et al., 1985, Izviekov, 1995, Izviekov et al., 2008, Dorotiuk & Hlotova, 1993).

The main guideline in the development of the breed should be considered the target standard, which must be periodically reviewed and updated with new parameters to ensure the breed's advancement and progress. Thus, according to the 1991 and 2018 target standards concerning the main parameters of economically valuable traits of the Ukrainian Beef Cattle breed, the benchmarks were increased (Tables 4). These improvements are achieved through selection and mating, together with proper management and feeding conditions (Okopnii et al., 1991; Dzhus & Porkhun, 2018).

Young animals of the Ukrainian Beef Cattle breed show high growth intensity. The dynamics of live weight of bull calves and heifers of the Chernihiv intrabreed type revealed that, depending on the farm, at the age of 8 and 18 months their weight varied from 245 kg to 255 kg and from 391 kg to 480 kg for bull calves, and from 210 kg to 228 kg and from 326 kg to 386 kg for heifers. The corresponding live weight of bull calves and heifers of the Dnipro intrabreed type ranged from 241 kg to 252 kg and from 410 kg to 484 kg, and from 215 kg to 222 kg and from 310 kg to 373 kg, respectively (Eisner et al., 1983).

A particularly important period in rearing young stock is from birth to 6–8 months (milkiness of cows). This indicator is highly variable and depends on genotypic and paratypic factors. A comparative assessment of milkiness of cows belonging to intrabreed types in farms of Poltava region showed variation across calvings. In the best herd, the milkiness of cows of the Chernihiv and Dnipro types during the 1st–3rd calvings averaged 254 kg, 262 kg, and 269 kg, and 246 kg, 253 kg, and 256 kg, respectively. Along with the average values, high variability was also noted (Chala, 1982).

Studies of milkiness in breeding types are of particular interest. It was established that cows of the Lokhvytsia–Zolotonosha type had higher milkiness compared to the Polyvany type during the first three lactations by 29 kg, 49 kg, and 34 kg, respectively. The milkiness of first-calf heifers, second-lactation cows, and mature cows of the Lokhvytsia–Zolotonosha type averaged 1175 kg, 1345 kg, and 1420 kg, with average daily yields of 4.89 kg, 5.60 kg, and 5.91 kg, respectively. According to the lactation curve, cows of the Holovynky stud type reached peak monthly yields in the 3rd–4th month. Similar data were obtained for the Lokhvytsia–Zolotonosha and Polyvany types. The chemical composition of milk of Ukrainian Beef Cattle cows shows low values: fat content – 3.69%, protein content – 3.05% (Vasylets et al., 1994, Solovev, 1996, Honcharenko, 1998).

1. Characteristics of the founders of the Ukrainian Beef Cattle breed

Indicator	The ancestor of the breeding line:					
	Anchar 0988	Losos 2391	Khyzhyi 1599	Som 0418	Osokor 0109	Pagin 0354
Blood composition	Ch1/2Sh1/2	Sh1/2Ch1/4GU1/4	Sh1/2Ch1/4SU1/4	Sh1/2Ch1/4U1/4	Ch1/2Sh1/4S1/4	Ch1/2Sh1/4S1/4
Farm	Named after Postyshev (STOV 'Volia'), Cherkasy Region					
Year of birth	1974	1977	1976	1974	1974	1974
Color	light fawn					
Live weight (kg) at age:						
8 months	394	280	425	292	330	302
12 months	605	445	566	410	500	502
15 months	675	560	625	490	620	610
18 months	770	660	659	530	694	690
Best weight (kg)	4 yrs. – 1150	3 yrs. – 1250	4 yrs. – 1220	3 yrs. – 980	5 yrs. – 1270	4 yrs. – 1160
Measurements (cm) at age:	4 year	3 year	4 year	3 year	3 year	4 year
Height at withers	159	155	152	160	155	158
Height at chest	87	80	82	75	78	87
Width of chest	66	56	65	64	76	70
Width of rump	54	59	55	60	65	67
Length of body	210	179	190	195	210	205
Girth of the chest	240	231	250	225	240	245
Circumference of the shin	23	24	23	22	26	25
Sire	Eoiziano 81	Emir 58596	Alpinist 26	Korsar 71695	Eoiziano 81	Eufemio 81
Sire line	Eoiziano 81	Kamarada 64955	Monaco 30341	Drapo 68012	Eoiziano 81	Eufemio 81
Dam	Arina 58057	Lymonka 2242	Khytra 2676	Serezhka 2302	Osoka 8268	Popelka 6174
Dam line	Aspirant 71416	Eoiziano 81	Eufemio 81	Eoiziano 81	Monaco 30341	Reactor 18036
Line continuers	Synior 5087 Poltorak 6954 Navodchyk 6887	Lionok 7070 Trosnyk 6591 Chaiun 02225	Lanum 6784 Theodor 3575 Kumyr 8287 Kozak 10295 Symbol 09784	Metelyk 5295 Kosmos 5392 Chyzh 5410 Tykhtii 019	Sultan 10468 Balamut 10740 Tiulpan 8773 Pion 8810	Vernisazh 3199 Sidach 6767 Chaber 6628

2. Evaluation of the Founders of the Ukrainian Beef Cattle Breed

Nickname and individual number of the founder	Evaluation:	
	for own performance	for progeny quality:
Khyzhyi 1549 ChRUM-14	625–1132–4,5–49	10–529–1225–7,4–52
Pahin 0354 ChRUM-8	630–1462–5,6–48	–
Som 0418 UChRUM-11	490–925–8,7–49	7–431–891–9,3–52
Anchar 0988 ChRUM-12	675–1325–5,2–49	8–413–793–10–52
Osokor 0109 ChRUM-5	620–1367–-7,1–48	–
Losos 2391 ChRUM-18	560–1320–7,2–60	10–518–1171–8,3–55,6

3. Evaluation of the Lines Based on the Development of Young Bulls

Line	n	Live weight at age (months), kg					
		0	8	12	15	18	24
Osokor 0109	13	45	278	418	512	595	707
Losos 2393	13	43	277	407	517	604	795
Khyzhyi 1599	14	50	268	410	519	609	752
Anchar 0988	4	44	282	440	513	621	850
Som 0418	5	41	302	451	512	630	760

4. Comparison of the Target Standard of the Ukrainian Beef Cattle Breed

Indicator	Цільовий стандарт:	
	1991 year (Okopnii et al., 1991)	2018 year (Dzhus & Porkhun, 2018)
Live weight: mature bulls	1100	1100–1400
mature cows	600	670–690
newborn calves	36–40	30–37
Bull calves at the age of months:		
8	280	252–294
12	400	360–422
15	500	460–532
18	570	600–640
Heifers at the age of months:		
8	260	230–242
12	340	325–360
15	400	365–410
18	440	360–400
Growth energy during the fattening period	1100	1200–1400
Carcass weight, kg, not less than	350	340
Dressing percentage, % not less than	60%	63–65
Fat content, %	2–3	1,3–4
Bone content in the carcass, %	17	17–18
Meat quality, points	4	4,5
Calving ease, points	4,5	4,5
Feed consumption per 1 kg of gain, feed units	6,5–7	6–7
Calf crop per 100 cows, not less than	–	85

To determine the potential for meat productivity in crossbreds of different combinations and types, a series of scientific and production trials were conducted in Kyiv (Nedava et al., 1982, 1984), Kirovohrad (Sich & Makarenko, 1984), Poltava (Vasilets et al., 1988), Chernihiv (Marchenko, 1984, Chyrkova et al., 1980), and Cherkasy regions (Nedava et al., 1983, Uhnivenko, 2015). Further studies

compared the meat productivity of Ukrainian Beef Cattle with dairy breeds (Vasylkivskyi, 1996, Tymchenko, 2015) and specialized beef breeds (Kozyr, 2015, Khmelnychyi & Salohub, 2012, Reznikova 2016). Alongside primary production, the beef industry – and the Ukrainian Beef breed in particular – provides valuable raw materials to other sectors, primarily high-quality hides (Minenko, 2003, Kozir et al., 2012, Kozir 2016). Considering the pasture-based rearing system, studies on the condition of bone tissue are especially relevant (Kozir, 2012).

One of the most critical reproductive traits in the Ukrainian Beef Cattle breed remains the high proportion of cows with difficult calvings, which can be explained by the use of Charolais and Chianina bulls. Research by D. T. Vynnychuk and colleagues showed that calf size is one of the significant factors influencing this trait. It was noted that the desirable calf birth weight should be below 40 kg. Higher values were recorded in Chianina–Simmental (17.1%) and Charolais–Simmental (7.2%) crosses. A positive correlation was also found between the live weight of cows and their offspring (dam–daughter). The influence of the sire on calf size was minor, especially for Eoiziano 81 and Eufemio 382, considering the development of their lines (Vinnychuk et al., 1980).

V. M. Tkachuk and D. T. Vynnychuk analyzed nearly 9,000 calvings and noted that over time, the proportion of difficult calvings and fatal cases in both cows and first-calf heifers decreased. This was facilitated by strict culling of cows with narrow pelvises and maintaining "closed" breeding of animals with desirable genotypes (Tkachuk, 2003, Tkachuk & Vinnichuk, 1995).

The profitability of beef cattle production is closely linked to reducing the rearing period of heifers. It was found that the optimal age at first calving is up to 25 months (Luk'ianchuk, 2005).

Gestation length in cows of different combinations was similar and did not depend on the sex of the calf (Begma, 1981). The average gestation period is 287.4 days, ranging from 265 to 300 days (Zabludovskyi, 2000, Yefimenko et al., 2003). The proportion of cows with a gestation length of 280–289 days ranged from 48.1% to 52.9%, depending on the intrabreed type (Demchuk & Dorofieiev, 2003).

In natural mating, the reproduction of breeding bulls also remains important. Based on quantitative and qualitative indicators of semen production in 48 Ukrainian Beef bulls, the following values were established: ejaculate volume – 4.57 ml, sperm concentration – 1.02 billion/ml, total number of sperm cells per ejaculate – 4.66 billion, and motility – 8.2 points. Semen production traits show high repeatability and depend on body type (Boiko & Demchuk, 2021, Koropets, 2001, Koropets & Uhnivenko, 2019).

In animal breeding, breed progress is based on extensive use of male breeding stock. This is achieved through high standards for sires, strict selection, and the strong influence of male ancestors in breeding. The most effective and proven method of sire evaluation is stepwise assessment – initially based on individual performance, followed by progeny testing. For the Ukrainian Beef Cattle breed, during its formation, a methodology was developed describing in detail the system of selecting and evaluating sires (Zubets et al., 1993).

Assessment of 16 young bulls from two intrabreed types based on their individual performance was conducted on the Postyshev farm in Cherkasy region. The average live weight at 15 months was 443.4 kg, with an average daily gain from 8 to 15 months of 941 g. The highest daily gains (1000–1343 g) were recorded in the offspring of bulls Dantyst 507, Yasyr 5061, Kasyr 5074, and Synior 5087 (Vlasova et al., 1982).

In the herds "Peremoha Komunizmu" and named Hohol in Poltava region, 8 bulls were evaluated based on progeny quality. The best were Ulov 448 (live weight at 15 and 18 months – 445 kg and 684 kg), Akord 7011 (433 kg and 544 kg), and Desant 274 (462 kg and 531 kg) (Chala, 1982). Similar studies were conducted at the "Holovenkivske" farm in Chernihiv region. Four bulls were evaluated, whose progeny had live weights at 15 and 18 months ranging from 400.4 to 488.5 kg and from 478.2 to 579.4 kg, respectively. The best daily gains and slaughter yields at 18 months were 1000 g (Lider 5673) and 60% (Hranit 1034) (Izvekov et al., 1998).

According to the "Regulation on the Development of Beef Cattle Breeding," evaluation of Ukrainian Beef Cattle sires is conducted at performance-testing stations in Kirovohrad (30 head tested), Mensk (60 head), and Uman (30 head) breeding enterprises (Zubets et al., 1999).

In terms of exterior traits, a strong, compact constitutional type characterizes the Ukrainian beef cattle breed; the animals are large with a well-proportioned body structure (Fig. 8–9). Among the exterior characteristics, it is important to note the strong bone structure and the well-developed hind third of the body. The development of height and width parameters is evidenced by data from herd-books of different years. According to Volume I (Lukash & Chirkova, 1981), breeding bulls at the age of 2 years had the following body measurements: height at withers – 137 cm, *height at rump* – 141 cm, height at chest – 64 cm, width of chest – 54 cm, width of rump – 54 cm, length of body – 170 cm, length of rump – 54 cm, girth of the chest – 204 cm, and circumference of the shin – 22 cm. According to Volume III (Chirkova, O. P., & Shevchenko, 1987), 2-year-old bulls of the Prydniprovskyi and Chernihiv intrabreed types had the following measurements, respectively: 142 cm, 147 cm, 77 cm, 56 cm, 51 cm, 172 cm, 59 cm, 213 cm, 24 cm and 136 cm, 145 cm, 72 cm, 51 cm, 51 cm, 159 cm, 54 cm, 201 cm, 23 cm. Full-aged bulls (5 years and older) of the Chernihiv type recorded in Volume III had the following values: 152 cm, 152 cm, 86 cm, 67 cm, 57 cm, 184 cm, 63 cm, 247 cm, 29 cm. Regarding the body measurements of full-aged cows, according to Volume I (Uhnivenko et al., 2009), their average values were as follows: height at withers – 130 cm, *height at rump* – 135 cm, height at chest – 68 cm, width of chest – 45 cm, width of rump – 50 cm, length of body – 160 cm, length of rump – 51 cm, girth of the chest – 193 cm, and circumference of the shin – 21 cm. It should be noted that animals of the Prydniprovskyi type are characterized by higher height measurements but are narrower and less massive compared to those of the Chernihiv type. The Ukrainian beef cattle breed is characterized by light fawn and fawn coat colors.

Laboratory blood tests of Ukrainian Beef Cattle showed that no significant deviations were observed in total protein content, aspartate aminotransferase activity, alanine aminotransferase activity, or alkaline phosphatase activity, and their values remained within the normal range (Khalak et al., 2022).

An integral component of breeding programs based on complex reproductive crossing is immunogenetic research of blood group factors. This allows, even at the early stages of breed development, analysis of gene polymorphism in the parental breeds, crossbreds with different conditional blood proportions, breeding herds, related groups, and types. Research on the Ukrainian Beef Cattle breed began in 1978, which later made it possible to conduct subsequent stages of breed formation under continuous immunogenetic control (Tsyluiko & Romanov, 1987; Tsiluiko, 1994).

Analysis of markers in the founders of the Ukrainian Beef Cattle lines confirmed their genetic relationship with the Ukrainian Grey breed through the bull Losos 2391 ChRUM-18 (marker BY2A'P'Y') and his sons Lionok 7070 and Taimyr 02286. Other lines also possess specific alleles: Anchar – O1A'G'G" and I1E2'J; Osokir – QG'G"; Pagin – BY2A'B'P'Y' and BOY2D; Khyzhyi – BY2A'G'P'Q'G and UH'U'H"; Som – BY2D'G' (Tsiluiko, 1994, 1999).

Regarding line consolidation, the highest values were found in the Osokir line (Ca = 0.2130), Khyzhyi line (Ca = 0.2082), and Losos line (Ca = 0.212), while the lowest consolidation was observed in the Anchar (Ca = 0.1646), Som (Ca = 0.1523), and Pagin (Ca = 0.1004) lines (Tsiluiko, 1999). Based on marker analysis of the hereditary material of the parental breeds, it was established that longevity in productive use is influenced by the Ukrainian Grey and Chianina breeds (Tsiluiko et al., 1995, Tsiluiko 1995).

It was established that the gene pool of the Ukrainian Beef Cattle breed consists of markers characteristic of the founding breeds. Additionally, the intensity of use of individual animals also influenced marker distribution. In the gene pool of the Ukrainian Beef Cattle breed, the largest contribution was made by Charolais markers (30–37%), followed by Chianina (23–25%), Simmental (21–25%), and Ukrainian Grey (17–19%) (Zubets et al., 1996). The allele pool of the Ukrainian Beef Cattle breed includes 55 alleles, with 22 main alleles identified and a homozygosity coefficient of 0.043 (Tsiluiko & Ivanchykov, 2000).

Fig. 8. **Anchar 0988 ChRUM – 12***

Fig. 9. **Buk 0099 ChRUM-3***

***** – Photo from State herd book of the Dnieper and Chernigov types of beef cattle

Assessment of polymorphism in genes of quantitative traits remains relevant. For beef cattle, marbling and meat tenderness are important but difficult to predict. Therefore, genetic studies have already been conducted to evaluate thyroglobulin, calpain, and myostatin genes in the Ukrainian Beef Cattle breed (Kopylova et al., 2011, Berezovskyi & Dobrianska, 2014).

Alongside purebred breeding of Ukrainian Beef Cattle, industrial crossbreeding has also been used in breeding practice. This approach allows solving urgent tasks ranging from increasing beef production to forming the foundation of beef cattle farming. Elements of rotational crossbreeding are also noted in the concept of beef cattle development. For Ukrainian Beef Cattle, it is advisable to use Simmental, Ukrainian Black-and-White Dairy, Ukrainian Red-and-White Dairy, Lebedyn, Polish Red, Carpathian Brown, and Red Steppe breeds (Zubets et al., 1999).

A series of experiments was conducted to assess the combining ability of sires of the Dnipro intrabreed type (related groups Eoiziano 81 and Eufemio 382) with Lebedyn and Red Steppe cow herds (Mushkarev et al., 1987). V. V. Myros and coauthors also reported positive results from industrial crossbreeding between Ukrainian Beef Cattle and Red Steppe cattle (Myros et al., 2006).

Crossbreeding Ukrainian Beef Cattle with Simmental in various natural and climatic zones of Ukraine is considered appropriate. Researchers note that such crossbred progeny ensures a high level of profitability and also represents a selection step in the development of the Simmental beef breed (Uhnivenko et al., 1999; Kohut, 2002).

The development of the beef cattle industry has also influenced cattle breeding in the Polissia region. Several factors that shape the industry accelerated the creation of beef cattle via industrial crossbreeding of specialized beef breeds and Ukrainian Beef sires, particularly with Ukrainian Black-and-White Dairy cows. As a result, substantial data were obtained on high levels of key breeding traits in the crossbred stock, which could further serve as the basis for the formation of beef herds (Tkachuk, 2003, 2010; Siratskyi et al., 2010).

One of the pathways for forming beef herds is the use of crossbred heifers obtained from beef sires mated to dairy cows. It is important to note that low-productive dairy cows are used, and their proportion should not exceed 10–20%. For this purpose, studies were conducted comparing economically valuable traits of animals obtained from crossing beef sires with Ukrainian Red-and-White Dairy cows (Prudnikov et al., 2004, Hurskyi et al., 2005; Fedorovych et al., 2011; Siratskyi et al., 2011; Myros et al., 2020) and Ukrainian Brown Dairy cows (Kotenzhi et al., 2003).

It is worth emphasizing the breed-testing studies conducted by Yu. F. Melnyk. According to his data, the live weight of Ukrainian beef breed bull calves at the ages of 0, 9, 12, 15, 18, 21, and 24 months amounted to 33.3 kg, 253.8 kg, 325.3 kg, 420.3 kg, 528.3 kg, 565.3 kg, and 601 kg, respectively (Melnyk, 2006). For a comprehensive evaluation of young bulls, exterior assessment is applied alongside growth intensity indicators, as it characterizes the animals' development. According to Yu.F. Melnyk, the dynamics of bull calves' growth from 9 to 18 months were established. Thus, at 9 months, the height at withers was 106.3 cm, and by 18 months it increased to 123.6 cm. A similar increase was observed in other measurements: height at chest from 56.5 cm to 66 cm, width of chest from 32.6 cm to 44.3 cm, length of body from 127.8 cm to 142 cm, girth of the chest from 157 cm to 193.2 cm, and circumference of the shin from 18.3 cm to 21.6 cm (Melnyk, 2006, 2008).

According to the slaughter results of Ukrainian beef breed young bulls, taking into account the morphological composition of anatomical parts of the carcass sides, an increase in the proportion of muscle tissue with age was recorded. At 15 months, the neck part of the carcass weighed 17.81 kg, with a lean meat percentage of 86.7%; the shoulder–scapular part 25.18 kg – 79.7%; the dorsal–rib part 47.77 kg – 83.5%; the lumbar part 9.36 kg – 76.4%; and the pelvic–femoral part 47.01 kg – 83.8%. At the age of 24 months, the anatomical parts of the carcass weighed, including lean meat content, respectively: 22.85 kg (89.3%), 30.90 kg (81.8%), 46.97 kg (83.5%), 17.13 kg (85.5%), and 51.37 kg (83.8%) (Melnyk, 2008).

Considering the reduction of the Ukrainian Beef Cattle population, the issue of finding breeding strategies to address this problem arises automatically. As noted by I.V. Huziiev (2000), one such approach may involve the use of Charolais bulls of French selection. In the future, this would ensure a genetic shift in the key economically valuable traits. One of the ultimate measures for solving this issue is the accumulation of biological material from the best representatives and its preservation in

cryobanks. According to recent data, the Animal Genetic Resources Bank of the Institute of Animal Breeding and Genetics stores 12.28 thousand doses of semen from 23 bulls of 14 lines (Sydorenko, 2014).

The organization of breeding work with any breed is inherently connected with the development of breeding programs and the maintenance of herd books. For the period from 2002 to 2010, a breeding program for the Ukrainian Beef Cattle breed was developed, which considered all components essential for successful beef cattle production (housing technology, feeding) as well as the current status of the breed, including population size, levels of breeding traits, and genealogical structure (Pochukalin et al., 2024). In addition, during the breed's development and planned improvement, state herd books were published. Thus, in 1981, Volume I of the State Herd Book of the Chernihiv and Dnipro intrabreed types of beef cattle was issued, containing information on 1,282 breeding animals, including 44 bulls and 1,238 cows (Lukash & Chirkova, 1981). Later, in 1983 and 1987, Volumes II and III were published, including 785 and 641 animals, respectively. Registration of breeding animals was carried out between 1979 and 1985 (Lukash & Chirkova, 1983: Chirkova & Shevchenko, 1987). In 2009, the State Herd Book of Ukrainian Beef Cattle was published, containing 459 animals, including 48 breeding bulls and 411 cows from four breeding farms (Uhnivenko et al.). It is also worth noting that due to the scale of work on establishing the breed population, methodologies for breed development and evaluation of Ukrainian Beef Cattle bulls were created, as well as instructions for the classification of Ukrainian Beef Cattle (Dorotyuk & Glotova, 1988; Okopnii et al., 1991).

Conclusions. The Ukrainian Beef Cattle Breed is a selective achievement of Ukraine, which has combined the valuable traits of the indigenous Ukrainian Grey, the widely distributed Simmental, and the imported Chianina and Charolais breeds. The long-term selective breeding work aimed at developing beef cattle has ensured the formation of a fully developed genealogical structure consisting of intrabreed and breeding types, lines, and families. The Ukrainian Beef Breed combines a high level of key breeding traits with excellent acclimatization ability across all regions of Ukraine.

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