

REVIEW ARTICLE

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BEEF CATTLE BREEDING IN UKRAINE

Renata Pilarczyk¹, Stakh Vovk², Barna Kruzhel³

¹West Pomeranian University of Technology, Szczecin, Poland ²National Academy of Agricultural Sciences of Ukraine ³Lviv National Agrarian University, Lviv Dublyany, Ukraine

Abstract. The most of Ukrainian cattle is obtained through fattening the calves deriving from the dairy cows. During the last two decades, due to the reduction in local cattle population, the beef production has drastically decreased and most of the meat comes from the import. The problem of low beef production can be solved only through developing the beef cattle farming and creating the new beef breeds. The first four national Ukrainian breeds (Ukrainian Beef, Volyn Meat, Poliska Beef and Southern) and one Znamenski type of Poliska Beef were created as well as development of Ukrainian Beef Simmental is at the final stage. The largest populations of beef cattle in Ukraine in January 2012 were the Aberdeen Angus (30%) and Volyn Meat (28%) and then Poliska Beef (16%) and Simmental (9%). The largest populations of beef cattle are located in the following districts: Volyn (26%), Czernihow (11%), Rivne (10%), Lviv (8%), Khmelnytskyi and Zhytomyr (7%).

Key words: Ukraine, beef cattle, livestock, breeds

INTRODUCTION

The problem of low beef and meat products quality in the well-developed countries is solved through the developing the highly specialized beef cattle breeds. The most of Ukrainian beef is obtained from fattening the calves deriving from the

Corresponding author: Renata Pilarczyk, Department of Ruminant Science, Western Pomeranian University of Technology, Szczecin, Doktora Judyma 10, 71-466 Szczecin, Poland, e-mail: renata.pilarczyk@zut.edu.pl

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dairy cows [Dzitsyuk 2012, Lohosha, 2012]. During the last two decades, due to the reduction of cattle livestock including cows as well as the decreased farming efficiency, the cattle production has decreased which resulted in the necessity to compensate it with the meat import [Denusenko 2012, Dorotyuk et al. 2011].

The cattle livestock in 2011 in Ukraine has decreased in comparison to 1990 by more than 80% (81.2%), by 76.8% in comparison to 1995, by 55.4% in comparison to 2000 and by 31.1% in comparison to 2005 [Mostenska et al. 2011]. Since 2006 to 2009 the population decreased by 29.1% and the number of cows by 20.9%. In January 2010 the population of beef cattle was 91.7 thousand individuals, including 40.9 thousand cows. Despite the small reserve of beef cattle, its population in the last few years was reduced by 34.7 thousand individuals (27.5%), which includes 15.6 thousand cows (27.6%) [Lohosha 2012].

In the last 15 years the central and eastern regions of Ukraine faced a gradual decrease in the total number of cattle as well as beef and veal production, while the western regions are characterized by an increase in these fields. In that period the share of cattle in the eastern regions has decreased by more than 10%, particularly in the Dnipropertovsk and Donetsk, which before were the leaders in cattle production. Since 1st January 2010 the most livestock is located in the Vinnytsia, Lviv, Poltava, Khmelnytskyi and Chernihiv Oblasts [Lohosha, 2012]. The development of beef cattle in Ukraine was initiated by the import of foreign beef breeds and bulls semen. In the 1955-72, 981 individuals of specialized beef breeds were imported, including 342 bulls of Angus, Charolais, Limousine, Hereford, Santa Gertrudis and Chianina. Later also a small amount of Marchigiana and Galloway animals and semen were bought. Many studies on biological and farming features were undertaken regarding the aspects of animal environmental-climatic adaptation and crossbreeding of imported beef bulls with the cows from native populations. The animals of almost all the imported beef breeds were characterized by good adaptation potential to the diverse conditions in Ukrainian climate. The positive results in crossbreeding allowed their further use to create the specific local breeds and types, while the crossbreeding is the most efficient way of developing the new beef breeds. High genetic potential and climatic adaptation ability are the determinants which predispose the animals with valuable features to crossbreeding in this case [Dzitsyuk 2012]. The international experiences show that the problem of low beef production may be solved only through the development of beef cattle farming and creating the new beef breeds [Burkat 1997, Dorotyuk 1998, Dorotyuk 2006, Kolesnik 2014]. For this reason four national Ukrainian breeds were created, which are the Ukrainian Beef, the Volyn Meat, the Poliska Beef and the Southern and also the Znamenski type of Poliska Beef. Moreover the development of Ukrainian Beef Simmental is approaching the final stage [Zubets 1997]. The pure beef breeds like Charolais, Hereford, Blonde d'Aquitaine and Limousine are farmed too, but still are less popular [Dorotyuk et al. 2011].

On 1st January 2012 the most numerous populations of beef cattle in Ukraine were the Aberdeen Angus and Volyn Meat (30% and 28% respectively) and then Poliska Beef (16%) and Simmental (9%) (Table 1). In contrast to the Polish population of beef cattle, dominated by the Limousine breed which is more than 70% of the total livestock, in Ukraine cows of this breed are only 1,5% of total number of beef animals. The analysis of breed distribution in particular regions of Ukraine showed a large diversity, caused mainly by the different adaptation of studied breeds to varying environmental and climatic conditions as well as by the level of development of cattle farming in every region (Table 2). The most common cattle breeds are maintained in Ukraine as follows: Aberdeen Angus in the Rivne and Khmelnytskyi regions, Volyn Meat in the Volyn region, Poliska Beef in the Zhytomyr and Lviv regions, Simmental Beef in the Chernihiv and Kiev regions, Southern in the Odessa region, Ukrainian Beef in the Chernihiv and Poltava regions, Ukrainian Grey in the Dnipropetrovsk region, Charolais in the Kharkiv and Chernihiv regions, Limousine in the Lviv, Odessa and Sumy regions, Blonde d'Aquitaine in the Sumy region and finally Hereford with Piedmontese in the Kiev regions. The biggest population of beef cows residued in the following regions: Volyn (26%), Chernihiv (11%), Rivne (10%), Lviv (8%) and Khmelnytskyi with Zhytomyr (7%). The analyzes indicate that in Ukraine even with the low milk yield of 2000 kg per cow, there still will be a beef deficiency and it is necessary to have 10–20 times more beer cattle than today. Together with an increase in milk yield a deficiency in beef arises, which can be eliminated only through increasing the livestock of beef cattle [Dzitsyuk 2012].

Table 1. The livestock of beef cattle in Ukraine	e*
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Durad Dara	Total livestock	Cows – Krów			
Breed – Kasa	Razem pogłowie	n	%		
Aberdeen Angus – Aberdeen angus	13270	6464	29.55		
Volyn Meat – Wołyńska mięsna	12432	6038	27.60		
Poliska Beef – Poleska mięsna	8337	3453	15.78		
Simmental Beef - Simental miesny	4097	1974	9.02		
Southern Beef – Południowa mięsna	3760	1537	7.03		
Ukrainian Beef – Ukraińska mięsna	2400	1015	4.64		
Ukrainian Grey – Szara ukraińska	1157	449	2.05		
Charolais - Charolaise	856	385	1.76		
Limousine – Limousine	687	322	1.47		
Blonde d'Aquitaine – Blonde d'Aquitaine	297	202	0.92		
Hereford – Hereford	71	30	0.14		
Piedmontese – Piemontese	23	8	0.04		
Total – Razem	47387	21877	100		

Tabela 1. Pogłowie bydła mięsnego na Ukrainie*

* as of 1 January 2012; *stan na dzień 01.01.2012 roku

	Ukrainy*			
Kazem pogłowie n Vinnytsia – Winnicki 514 180 Vinnytsia – Winnicki 1354 820 1 Donetsk – Doniecki 136 68 2 Dytomyr – Zytomierski 133 469 1 Ivano-Frankivsk – Ivano-Frankowski 506 248 1 Kirovohrad – Kirowohradzki 792 404 4 Kirovohrad – Kirowohradzki 307 128 1 Rivne – Rówieński 207 128 1 Rivne – Rówieński 3060 1746 2 Sumy – Sumski 107 100 1 1 Khmelnytskyi – Chnielnicki 3615 1315 2 Khmelnytskyi – Chmielnicki 250 57 57 Volyn Meat – Wolyńska mięsna 107 1 1 Vinnytsia – Winnicki 250 57 57 Volyn – Wolyński 1654 831 1 Rive – Rówieński 1654 831 1 Rive – Rówieński 12	Oblasts – Obwód	Total livestock	Cows – Krowy	
Aberdeen Angus – Aberdeen angus Vinnytsia – Winnicki 514 180 Volyn – Wolyński 1354 820 1 Donetsk – Doniecki 136 68 Zhytomyr – Żytomierski 1133 469 Ivano-Frankivsk – Ivano-Frankowski 506 248 Kiev – Kjowski 792 404 Kirovohrad – Kirowohradzki 379 232 Rivne – Rówieński 207 128 Rivne – Rówieński 3060 1746 2 Sumy – Sumski 0107 100 Kharkiv – Charkowski 337 172 Khmelnytskyi – Chmielnicki 3615 1315 2 Chernihiv – Czernihowski 944 481 Volyn – Wolyński 1250 57 Volyn – Wolyński 1250 57 Volyn – Wolyński 1654 831 1 Rivne – Rówieński 152 80 Vinnytsia – Winnicki 352 145 Donetsk – Doniecki 352 145 Zhytomyr – Żytomierski 648 295 Kirovohrad – Kirowohradzki 984 392 1 Livir – Lwowski 152 80 Kirovohrad – Kirowohradzki 984 392 1 Livir – Lwowski 152 80 Kirovohrad – Kirowohradzki 984 392 1 Livir – Kijowski 152 80 Kirovohrad – Kirowohradzki 984 392 1 Livir – Kijowski 2361 764 22 Rivne – Rówieński 130 155 Donetsk – Doniecki 352 145 Zhytomyr – Żytomierski 2365 1023 2 Kirovohrad – Kirowohradzki 984 392 1 Livir – Lwowski 152 80 Kirovohrad – Kirowohradzki 984 392 1 Livir – Lwowski 152 80 Kirovohrad – Kirowohradzki 984 392 1 Livir – Lwowski 2361 764 2 Rivne – Rówieński 1201 556 2 Livir – Lwowski 87 38 Cherkasy – Czertaski 704 302 1 Vinnytsia – Doniecki 255 258 1 Chernihir – Czernihowski 1356 715 3 Southem Beef – Sinental Vinnytsia – Doniecki 291 170 1 Mykolair – Mikołajewski 98 39 Odessa – Odeski 2102 793 5 Khreson – Chersoński 546 220 1 Chernihir – Czernihowski 571 166 1 Polarya – Poławski 571		Razem pogłowie	n	%
Volyn - Wolyński 134 180 Volyn - Wolyński 135 68 Donetsk - Doniecki 136 68 Ivano-Frankivsk - Iwano-Frankowski 506 248 Kiev - Kijowski 792 404 Kirovohrad - Kirowohradzki 379 232 Luhansk - Lugański 207 128 Rivne - Rówieński 3060 1746 2 Sumy - Sumski 107 100 Khmelnytsky - Chmielnicki 3615 1315 2 Cherkasy - Czerkaski 206 101 Cherkasy - Czerkaski 206 101 Cherkasy - Czerkaski 900 4861 8 Volyn Meat - Wolyński 944 481 102 11 11 11 11 11 11 12 11 12 11 12 11 12 12 13 13 13 13 13 13 13 13 13 13 13 13 14 13 14 14 14 14	Aberdeen Angus – Aberdeen angus Vinnytsia – Winnicki	514	180	28
Toopin - Woynski 135-4 6.0 Donetsk - Doniecki 133 669 Zhytomyr - Zytomierski 1133 469 Ivano-Frankivsk - Ivano-Frankowski 506 248 Kiev - Kijowski 792 404 Kirovohrad - Kirowohradzki 379 232 Luhansk - Lugański 207 128 Rivne - Rówieński 3060 1746 2 Sumy - Sumski 107 100 10 Kharkiv - Charkowski 337 172 Khmelnytskyi - Chmielnicki 3615 1315 2 Cherkasy - Czerkaski 206 101 Chernihiv - Czernihowski 944 481 Volyn - Wolyńska mięsna 107 100 171 18 Unnytsia - Winnicki 250 57 Volyn - Wolyński 1654 831 1 Rivne - Rówieński 149 118 18 18 18 Poliska Beef - Poleska mięsna 152 80 155 100 Kirovohrad - Kirowohradzki 256	Volun – Wołyński	1354	820	12.0
Zhytomyr – Zytomierski 1133 469 Ivano-Frankivsk – Ivano-Frankowski 506 248 Kiev – Kjiowski 792 404 Kirovohrad – Kirowohradzki 379 232 Luhansk – Lugański 207 128 Rivne – Rówieński 3060 1746 2 Sumy – Sumski 107 100 Kharkiv – Charkowski 337 172 Khmelnytskyi – Chmielnicki 3615 1315 2 Cherkasy – Czerkaski 206 101 Chernihiv – Czernihowski 944 481 Volyn Meat – Wołyńska mięsna 7 Volyn – Wołyńska mięsna 57 Volyn – Wołyński 979 4861 8 113 1 Rive – Kjowski 149 118 18 Volyn – Wołyńska 1654 831 1 1 135 2 145 103 2 145 103 2 145 118 118 118 118 118 118 118 118 118 118 118 118 111 115 <td>Donetsk – Doniecki</td> <td>136</td> <td>68</td> <td>12.7</td>	Donetsk – Doniecki	136	68	12.7
Iryano-Frankivsk – Iwano-Frankowski 506 248 Kiev – Kijowski 792 404 Kirovohradzki 379 232 Luhansk – Ługański 207 128 Rivne – Rówieński 3060 1746 2 Sumy – Sumski 107 100 100 Kharkiv – Charkowski 337 172 172 Khmelnytskyi – Chmielnicki 3615 1315 2 Cherkasy – Czerkaski 206 101 100 Cherkasy – Czerkaski 206 101 100 Volyn Meat – Wolyński mięsna 944 481 101 Volyn – Wolyński 9979 4861 8 Kiev – Kijowski 1654 831 1 Lviv – Lwowski 1654 831 1 Poliska Beef – Poleska mięsna 149 118 Vinnytsia – Winnicki 309 155 Donetsk – Doniecki 352 145 Zhytomyr – Zytomierski 256 1023 2 Kirev – Kijowski 152 80 1 Lviv – Lwowski 2	Zhytomyr – Żytomierski	1133	469	73
Kiev – Kijowski 792 404 Kirovohrad – Kirowohradzki 379 232 Luhansk – Lugański 207 128 Rivne – Rówieński 3060 1746 22 Sumy – Sumski 107 100 100 Kharkiv – Charkowski 337 172 Khmelnytskyi – Chmielnicki 3615 1315 22 Chernáhy – Czerkaski 206 101 100 Chernáhy – Czerkaski 944 481 Volyn Meat – Wolyńska mięsna 250 57 Vinnytsia – Winnicki 950 57 Volyn – Molyński 400 171 Lviv – Kijowski 1654 831 1 Rivne – Rówieński 149 118 18 Poliska Beef – Poleska mięsna 309 155 155 Donetsk – Doniecki 352 145 2 Zhytomyr – Zytomierski 152 80 1 Kirovohrad – Kirowohradzki 984 392 1 Lviv – Lwowski 152 80 1 2 Simental Beef – Simental	Ivano-Frankivsk – Iwano-Frankowski	506	248	3.8
Kirovohrad – Kirowohradzki 379 232 Luhansk – Lugański 207 128 Rivne – Rówieński 3060 1746 2 Sumy – Sumski 107 100 746 2 Sumy – Sumski 107 100 746 2 Khmelnytskyi – Chnielnicki 3615 1315 2 Cherkasy – Czerkaski 206 101 000 Chernihiv – Czernihowski 944 481 000 Volyn – Wolyński miesna 9079 4861 88 Kiev – Kijowski 400 171 110 Lviv – Lwowski 1654 831 1 Poliska Beef – Poleska mięsna 149 118 75 Donetsk – Doniecki 352 145 745 Zhytomyr – Żytomierski 2256 1023 2 Kirovohrad – Kirowohradzki 984 392 1 Lviv – Lwowski 2361 764 20 Rirowe – Rówień	Kiev – Kijowski	792	404	6.3
Luhansk – Ługański 207 128 Rivne – Rówieński 3060 1746 2 Sump – Sumski 107 100 100 Khmelnytskyi – Charkowski 337 172 172 Khmelnytskyi – Chmielnicki 3615 1315 2 Cherkasy – Czerkaski 206 101 107 100 Cherkasy – Czerkaski 206 101 107 100 Cherkasy – Czerkaski 206 57 11 11 Volyn Meat – Wolyńska mięsna 250 57 57 Volyn – Wolyński 9979 4861 88 Rivne – Rówieński 149 118 11 Poliska Beef – Poleska mięsna 119 118 118 Vinnytsia – Winnicki 309 155 152 80 Donetsk – Doniecki 352 145 145 145 145 Zhytomyr – Zytomierski 2256 1023 2 145 145 145 145 145 145 145 145 145 145 145 145 145 145	Kirovohrad – Kirowohradzki	379	232	3.6
Rivne - Rówieński 3060 1746 2 Sumy - Sumski 107 100 100 Kharkiv - Charkowski 337 172 Khmelnytskyi - Chmielnicki 3615 1315 2 Chernihiv - Czernihowski 944 481 101 Obernihiv - Czernihowski 944 481 101 Vinnytsia - Winnicki 250 57 57 Volyn - Wolyńska mięsna 400 171 11 Lviv - Lwowski 1654 831 1 Rivne - Rówieński 149 118 118 Poliska Beef - Poleska mięsna 91 18 118 Vinnytsia - Winnicki 309 155 155 Donetsk - Doniecki 352 145 145 Zhytomyr - Żytomierski 2256 1023 2 Kirovohrad - Kirowhradzki 984 392 1 Lviv - Lwowski 152 80 1 Kirovohrad - Skirowski 1201 556 2 Kirovohrad - Skirowski 1201 556 2 2 2 <	Luhansk – Ługański	207	128	2.0
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Khmelnytskyi - Chmielnicki 3615 1315 2 Cherkasy - Czerkaski 206 101 Chernihiv - Czernihowski 944 481 Volyn Meat - Wolyńska mięsna 250 57 Volyn - Wolyński 9979 4861 8 Kiev - Kijowski 400 171 1 Lviv - Lwowski 1654 831 1 Rivne - Rówieński 149 118 18 Poliska Beef - Poleska mięsna 7 309 155 Donetsk - Doniecki 352 145 2 Zhytomyr - Żytomierski 2256 1023 2 Kirovohrad - Kirowohradzki 984 392 1 Lviv - Lwowski 2361 764 2 Rime - Rówieński 648 295 1 Kirovohrad - Kirowohradzki 855 405 1 Lviv - Lwowski 2261 764 2 Kirove - Kijowski 1201 556 2 Ivano-Frankivsk - Iwano-Frankowski 224 105 1 Simental Beef - Simental 87 3	Kharkiv – Charkowski	337	172	2.7
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Volyn Meat – Wolyńska mięsna 250 57 Vinnytsia – Winnicki 250 57 Volyn – Wolyński 9979 4861 8 Kiev – Kijowski 400 171 1 Lviv – Lwowski 1654 831 1 Rivne – Rówieński 149 118 1 Poliska Beef – Poleska mięsna 309 155 1 Vinnytsia – Winnicki 309 155 1 Donetsk – Doniecki 352 145 1 Zhytomyr – Żytomierski 2256 1023 2 Kirovohrad – Kirowohradzki 984 392 1 Lviv – Lwowski 648 295 1 Kirovohrad – Kirowohradzki 855 405 1 Simental Beef – Simental 1 1 1 Ivano-Frankivsk – Iwano-Frankowski 224 105 1 Kiev – Kijowski 1201 556 2 Lviv – Lwowski 1356 715 3 Chernityis – Czerniowiecki <	Chernihiv – Czernihowski	944	481	7.4
Vinnytsia – Winnicki 250 57 Volyn – Wołyński 9979 4861 8 Kiev – Kijowski 400 171 Lviv – Lwowski 1654 831 1 Rivne – Rówieński 149 118 9 Poliska Beef – Poleska mięsna 7 7 7 Vinnytsia – Winnicki 309 155 15 Donetsk – Doniecki 352 145 14 Zhytomyr – Żytomierski 2256 1023 2 Kiev – Kijowski 152 80 152 80 Kirovohrad – Kirowohradzki 984 392 1 Lviv – Lwowski 2361 764 2 Rivne – Rówieński 420 194 105 Khmelnytskyi – Chmielnicki 420 194 105 Kiev – Kijowski 1201 556 2 105 Simental Beef – Simental 1201 556 2 105 102 105 Kiev – Kijowski 1356 715 3 39 104 104 104 104 104	Volyn Meat – Wołyńska mięsna	250		0.0
Volyn – Wołynski 99/9 4861 8 Kiev – Kijowski 400 171 Lviv – Lwowski 1654 831 1 Rivne – Rówieński 149 118 118 Poliska Beef – Poleska mięsna 309 155 5 Donetsk – Doniecki 352 145 2 Zhytomyr – Żytomierski 2256 1023 2 Kirovohrad – Kirowohradzki 984 392 1 Lviv – Lwowski 2361 764 2 Rivne – Rówieński 648 295 6 Khmelnytskyi – Chmielnicki 420 194 194 Chernihiv – Czerkaski 855 405 1 Simental Beef – Simental 1201 556 2 Ivano-Frankivsk – Iwano-Frankowski 1201 556 2 1 Chernikti – Czerniowiecki 525 258 1 Chernikti – Czerniowiecki 2102 793 5 Chernikti – Oludniowa mięsna 1356 715 3 Donetsk – Doniecki 98 39 9 0	Vinnytsia – Winnicki	250	57	0.9
Klev - Kljowski 400 $1/1$ Lviv - Lwowski 1654 831 1 Rivne - Rówieński 149 118 Poliska Beef - Poleska mięsna 309 155 Donetsk - Doniecki 352 145 Zhytomyr - Żytomierski 2256 1023 2 Kirovohrad - Kirowohradzki 984 392 1 Lviv - Lwowski 2361 764 2 Rivne - Rówieński 648 295 Khmelnytskyi - Chmielnicki 420 194 Chernihiv - Czerkaski 855 405 1 1 Simental Beef - Simental 1201 556 2 Ivano-Frankivsk - Iwano-Frankowski 1201 556 2 Lviv - Lwowski 87 38 1 Chernivtsi - Czerniowiecki 525 258 1 Chernivtsi - Czerniowiecki 1356 715 3 Southern Beef - Południowa mięsna 102 793 5 Kherson - Chersoński 248 114 14 Ukrainia Beef - Ukraińska mięsna 248 114 14	Volyn – Wołynski	9979	4861	80.5
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Initial Poliska Beef – Poleska mięsna119113Vinnytsia – Winnicki309155Donetsk – Doniecki352145Zhytomyr – Żytomierski225610232Kiev – Kijowski15280Kirovohrad – Kirowohradzki9843921Lviv – Lwowski236176422Rivne – Rówieński648295Khmelnytskyi – Chmielnicki420194Chernihiv – Czerkaski8554051Simental Beef – Simental12015562Ivano-Frankivsk – Iwano-Frankowski224105105Chernikis – Czerniowiecki5252581Chernikiv – Czerniowiecki5252581Donetsk – Doniecki2911701Mykolaiv – Mikołajewski98390Odessa – Odeski210279355Kherson – Chersoński5462201Chernityi – Czerniowiecki4752011Uraniki – Czerniowiecki5711661Poltava – Połtawski5711661Poltava – Połtawski5711661Poltava – Połtawski5362232Stutti – Stutti5362232Stutti – Stutti – Stutti5362232Stutti – Stutti – Stutti5362232Stutti – Stutti – Stutti5362232Stutti – Stutti – Stutti5362232Stutti – St	LVIV – LWOWSKI Divrog Dówioścki	1034	031 119	15.8
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Lviv – Lwowski8738Cherkasy – Czerkaski7043021Cherkasy – Czerkaski7043021Chernity – Czerniowiecki5252581Chernihiv – Czernihowski13567153Southern Beef – Południowa mięsna983939Donetsk – Doniecki2911701Mykolaiv – Mikołajewski983939Odessa – Odeski210279355Kherson – Chersoński5462201Chernivtsi – Czerniowiecki4752011Ukrainian Beef – Ukraińska mięsna11414Ukrainian Beef – Ukraińska mięsna5711661Poltava – Połtawski5362232Sumu< Sumucia	Kiev – Kijowski	1201	556	28.2
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Cherniniv – Czerninowski1356/153Southern Beef – Południowa mięsna2911701Donetsk – Doniecki2911701Mykolaiv – Mikołajewski983939Odessa – Odeski210279355Kherson – Chersoński5462201Chernivtsi – Czerniowiecki4752011Ukrainian Beef – Ukraińska mięsna1414Dnipropetrovsk – Dniepropietrowski5711661Poltava – Połtawski5362232Sumu – Sumelie2001861	Chernivtsi – Czerniowiecki	525	258	13.1
Southern Beel – Polutiniowa mięsnaDonetsk – Doniecki2911701Mykolaiv – Mikołajewski9839Odessa – Odeski210279355Kherson – Chersoński5462201Chernivtsi – Czerniowiecki4752011Ukrainian Beef – Ukraińska mięsna248114Dnipropetrovsk – Dniepropietrowski5711661Poltava – Połtawski5362232Sumu – Sumeki2001861	Cherniniv – Czerninowski Southarn Boof – Babydniawa miasna	1356	/15	36.2
Dohecki291170170Mykolaiv – Mikołajewski9839Odessa – Odeski210279355Kherson – Chersoński5462201Chernivtsi – Czerniowiecki4752011Chernihiv – Czernihowski248114Ukrainian Beef – Ukraińska mięsna5711661Poltava – Połtawski5362232Sumu2001861	Donatsk Doniaski	201	170	11.1
Mykolaly – Mikolajewski3637Odessa – Odeski21027935Kherson – Chersoński5462201Chernivtsi – Czerniowiecki4752011Chernihiv – Czernihowski24811414Ukrainian Beef – Ukraińska mięsna5711661Poltava – Połtawski5362232Sumu – Sumeki2001861	Mukolaiy Mikokiewski	291	170	2.5
Kherson – Chersoński5462201Chernivtsi – Czerniowiecki4752011Chernihiv – Czerniowski248114Ukrainian Beef – Ukraińska mięsna5711661Poltava – Połtawski5362232Sumu< Sumucia	Odessa – Odeski	2102	793	51.6
Chernivtsi – Czerniowiecki2752011Chernivtsi – Czerniowiecki4752011Ukrainian Beef – Ukraińska mięsna114Dnipropetrovsk – Dniepropietrowski5711661Poltava – Połtawski5362232Sumu – Sumaki200187166	Kherson – Chersoński	546	220	14.3
Chernikiv – Czernikowski248114Ukrainian Beef – Ukraińska mięsna114Dnipropetrovsk – Dniepropietrowski571Poltava – Połtawski53622322Sumu – Sumali200	Chernivtsi – Czerniowiecki	475	201	13.1
Ukrainian Beef – Ukraińska mięsna210Dnipropetrovsk – Dniepropietrowski571Poltava – Połtawski53622322Sumu – Sumalii200	Chernihiy – Czernihowski	248	114	74
Dnipropetrovsk – Dniepropietrowski5711661Poltava – Połtawski5362232Sumu – Sumaki200186186	Ukrainian Beef – Ukraińska miesna			
Poltava – Połtawski 536 223 2 Sumu Sumali	Dnipropetrovsk – Dniepropietrowski	571	166	16.4
Sumz Sumstri 200 197 1	Poltava – Połtawski	536	223	22.0
Suniy – Suniski 290 186 1	Sumy – Sumski	290	186	18.3
Chernihiv – Czernihowski 1003 440 4	Chernihiv – Czernihowski	1003	440	43.3
Ukrainian Grey – Ukraińska szara	Ukrainian Grey – Ukraińska szara			
Dnipropetrovsk – Dniepropietrowski 765 266 5	Dnipropetrovsk – Dniepropietrowski	765	266	59.2
Donetsk – Doniecki 162 71 1	Donetsk – Doniecki	162	71	15.8
Kiev – Kijowski 73 36	Kiev – Kijowski	73	36	8.0
Kherson – Chersoński 157 76 1	Kherson – Chersoński	157	76	16.9

Table 2. The livestock of beef cattle breeds in the selected regions of Ukraine*

Tabela 2. Liczebność pogłowia mięsnych ras bydła w poszczególnych obwodach

- Table 2. The livestock of beef cattle breeds in the selected regions of Ukraine* continued
- Tabela 2. Liczebność pogłowia mięsnych ras bydła w poszczególnych obwodach Ukrainy* c.d.

	Total livestock	Cows – Krowy		
Oblasts – Obwod	Razem pogłowie	n	%	
Charolais – Charolaise				
Volyn – Wołyński	75	35	9.1	
Zhytomyr – Żytomierski	138	58	15.1	
Kiev – Kijowski	113	52	13.5	
Kharkiv – Charkowski	282	126	32.7	
Chernihiv – Czernihowski	248	114	29.6	
Limousine – Limousin				
Lviv – Lwowski	201	121	37.6	
Odessa – Odeski	230	86	26.7	
Sumy – Sumski	157	80	24.8	
Chernihiv – Czernihowski	99	35	10.9	
Blonde d'Aquitaine – Blonde d'Aquitaine				
Dnipropetrovsk – Dniepropietrowski	128	43	21.3	
Sumy – Sumski	169	158	78.2	
Hereford – Hereford				
Kiev – Kijowski	71	30	100	
Piedmontese – Piemontese				
Kiev – Kijowski	23	8	100	

^{*} as of 1 January 2012; *stan na dzień 01.01.2012 roku

To accelerate the growth in cattle livestock and high-quality beef and veal production in the commercial farms, two main pathways may be used [Lohosha, 2012]:

- 1. Expansion of highly specialized beef breeds with a high reproductive potential (not less than 85–90%), which ensure the daily weight gain for every age group and sex, reaching respectively 750–800 grams and 450–500 kg of beef per cow annually;
- Application of crossbreeding as well as alternating and rotational breeding of 30% of dairy and beef-dairy mothers with beef bulls, which can help to improve the mean daily weight gain for about 25–30%, lower the fodder cost per 1 kg of weight gain for 30–35%, increase the dead weight for 10–15% and the slaughter yield for 2–5% and improve the flavor of meat.

In the recent years Ukraine has collected a considerable experience in husbandry and farming the local and foreign breeds of beef cattle and the efforts leading to select the new, specialized breeds characterized by high meat quality are constantly undertaken.

BEEF CATTLE BREEDS IN UKRAINE

Ukrainian Beef

The first local beef breed developed from the complex crossing of the Ukrainian Grey and Simmental with Chianina and Charolais bulls. Tested and approved by the Ukrainian Ministry of Agriculture in July 1993. The final genotype: 3/8 (37.5%) Chianina $\times 3/8$ (37.5%) Charolais $\times 1/8$ (12.5%) Simmental $\times 1/8$ (12.5%) Ukrainian Grey [Baranowski and Gerasimov 2005]. Bright to fawn white coat (Photo 1). Proportional body structure, sufficiently developed chest (81 cm deep and 61 cm wide), bulls withers height 150 cm, cows 130 cm, flat and long topline, well developed rump, strong skeleton, massive posture.



Phot. 1. Ukrainian beef cow [ASU, http://agroua.net/animals/catalog/ag-1/a-3] Fot. 1. Ukraińska mięsna [ASU, http://agroua.net/animals/catalog/ag-1/a-3]

Bulls body weight: 1000–1200 kg, cows: 600–700 kg, 18 month heifers: 420– -440 kg, 18 months bulls: 560–600 kg, calves after birth: 30–45 kg, calves after weaning in 6th month: 220–240 kg, mean daily weight gain: 1200 g [Tsvigun et al., 2009]. Slaughter yield: 59–63%. Fertility 83–98%. Mean age of first calving: 30 months. Calving interval: 400 days in average. Parturitions are usually simple, without complications. The percentage of difficult parturitions is about 2.9%.

Characterized by the positive impact on meat performance of the offspring obtained from the crossbreeding of bulls with cows of dairy and beef breeds.

Volyn Meat

Developed as a result of crossbreeding of the local black-and-white and polish red cows with Aberdeen Angus, Limousine and Hereford bulls. Tested and approved by the Ukrainian Ministry of Agriculture on 30 December 1993. The final genotype: 3/8 Limousine (37.5%) \times 3/16 (18.75%) Aberdeen Angus \times 3/16 Hereford (18.75%) \times 1/4 (25%) of local breeds [Baranowski and Gerasimov 2005, Kolesnik 2014].





Animals with tough body structure, mainly without horns, with a red coat (light to dark). Possible white spots on the forehead, abdomen, legs and tail tip (Photo 2–3). External features: strong constitution, wide, rounded and slightly elongated body, well-developed muscles, average thick skin, short neck, round and well developed jowl, flat and long topline, wide and muscular back, broad and deep chest, well developed and full rump, strong skeleton. The bulls weight: 950–1050 kg, cows: 500–550 kg, 18 months heifers: 390–410 kg, 18-months bulls: 500–570 kg, calves after birth: 28–32 kg, calves after weaning in 6th month: 180–220 kg, mean daily weight gain: 1010–1200 g [Tsvigun et al. 2009]. Slaughter yield: 62–65%, fertility above 95%.

The characteristic features of this breed are the high fertility, easy calving and ability to adapt to West Ukrainian climatic conditions (Polysia and Prykarpattya), pronounced by the good adaptation to all year pasture grazing and high toleration to low temperatures [Fedoruk et al. 2008, Fedoruk et al. 2009, Potapchuk 2012].



Phot. 3. Volyn Meat cows and calves [http://www.volynnews.com] Fot. 3. Wołyńskie bydło mięsne [http://www.volynnews.com]

Poliska Beef

Created through crossing the Simmental cows with Charolais, Aberdeen Angus and Chianina bulls. Tested and approved by the Ukrainian Ministry of Agriculture on 22 February 1999. The final genotype: 3/8 (37.5%) Charolais $\times 1/4$ (25%) Aberdeen Angus $\times 1/4$ (25%) Simmental $\times 1/8$ (12.5%) Chianina [Baranowski and Gerasimov 2005]. The animals with white coat (Photo 4). The external features: long and wide body, small head and short neck, deep chest, well developed rump, relatively short limbs, well-marked beef features. The most similar in type to the American Aberdeen Angus. The bulls weight: 900–1000 kg, cows: 550–600 kg, 18 months heifer: 385–410 kg, 18 months bulls: 510–540 kg, calves after birth: 28–34 kg, calves after weaning in 6th month: 220–240 kg, mean daily weight gain: 1000–1200 g [Shkurin and Minenko 2000, Tsvigun et al. 2009]. Slaughter yield: 62–65%. High reproduction capability, fertility above 85–93%. The parturitions are easy, calving difficulty at 4.5–5 points. The bulls are used for crossbreeding with black-and-white, red-and-white, Simmental and Red Steppe cows as well as Ukrainian Beef and Volyn Meat cows.

Znamenski type of Poliska Beef

Developed in Ukraine through the complex crossbreeding of Red Steppe and Simmental cows with Aberdeen Angus and Charolais bulls [Baranowski and Gera-



Phot. 4. Poliska Meat cows [ASU, http://agroua.net/animals/catalog/ag-1/a-3] Fot. 4. Poleska miesna [ASU, http://agroua.net/animals/catalog/ag-1/a-3]

simov 2005]. Tested and approved by the Ukrainian Ministry of Agriculture on 16 January 2009. The coat is light-brown (Photo 5–6). Strong body structure with the well-developed rump. The bulls weight: 800–1100 kg, cows: 550–600 kg, 18 months bulls: 550 kg, calves after birth: 58–35 kg, calves after weaning in 6th month: 190–230 kg, mean daily weight gain: 1000 g [Tsvigun et al. 2009].

Slaughter yield: over 62–64% (7–9% fat). Characterized by the high content of muscle in the carcasses (83.2–84.8%) and the average bone content (15.2–16.8%). Fertility: 85–99%. The parturitions classified as easy in 99% cases. Mean age of first calving: 29 months. Znamenski type is well adapted to the climatic conditions of the intensive farming in the Ukrainian steppes while it can graze all year round [http://www.agronauka.com.ua].

Southern Beef

Developed in the south of Ukraine with Red Steppe cows (maternal breed) and Ukrainian Beef, Hereford, Charolais, Santa Gertrudis, Aberdeen Angus and Cuban zebu bulls [Baranowski and Gerasimov 2005]. Tested and approved by the Ukrainian Ministry of Agriculture on 16 January 2009. The three types were created: Tauride, Black Sea and Crimea. The Tauride type was created in the Kherson Oblast and in the Zaporizhia basing on the Red Steppe, Shorthorn, Santa Gertrudis, Charolais, Chianina and Cuban zebu [Groza 2012, Voronenko et al. 2009]. The Black Sea type was developed in the Odessa Oblast from Red Steppe,



- Phot. 5. Znamenski type of Poliska Beef bull [KNRFRS, http://www.agronauka.com.ua]
- Fot. 5. Buhaj rasy poleska mięsna typ Znamenski [KNRFRS, http://www.agronau-ka.com.ua]



- Phot. 6. Znamenski type of Poliska Beef cattle [KNRFRS, http://www.agronauka.com.ua]
- Fot. 6. Bydło rasy poleska mięsna typ Znamenski [KNRFRS, http://www.agronauka.com.ua]

Hereford, Charolais and Cuban zebu. The Crimea type origins from the Red Steppe, Ukrainian Beef and Cuban zebu.



Phot. 7. Tauride type of Southern bull [Omelchenko et al. 2013]

Fot. 7. Buhaj rasy południowej typu Tauride [Omelchenko et al. 2013]



Phot. 8. Tauride type of Southern cattle [Omelchenko et al. 2013]Fot. 8. Bydło rasy południowej typu Tauride [Omelchenko et al. 2013]

The body shape similar to zebu (Photo 7–8), coat mainly red. External features include the strong constitution, light bones, balanced body shape, well-shaped muscles of the hip and shoulder, long thorax, especially in the rump part. The head is light with large jowl, topline straight, tough limbs, skin smooth and flexible [Groza 2012, Voronenko et al. 2009].

The bulls weight: 900–1100 kg, cows: 500–600 kg, 18 months heifers: 380– -430 kg, 18 months bulls: 500–600 kg, calves after birth: 25–35 kg, calves after weaning in 7th month: 220–280 kg, mean daily weight gain: 990–1300 g [Naidenova and Omelchenko 2011, Tsvigun et al. 2009]. Slaughter yield: 59–62%, fertility above 85%.

The breed is well adapted to hot climate and extremal conditions of the steppes. It is resistant to diseases. The growth intensity is high as well as the meat yield and good quality of beef. The roughage is used effectively [Groza 2012, Omelchenko et al. 2013, Vdovichenko et al. 2013 a,b].

Ukrainian Grey

A very old beef cattle breed. According to the scientists it has preserved the features of its wild ancestor: the European aurochs. Previously common in the large part of the country. The process of creation and development of this breed proceeded in rough conditions of the steppes. Earlier it was known as Malorus, Cherkassy or Black Sea breed, but it was officially called the Ukrainian Grey at the beginning of XX century. The breed is resistant to hard environmental conditions and is durable which predisposes it to the small farming. The oxen may work constantly for 10–12 hours a day. The meat and skin are valued due to their superior features. The skin is thick, dense and flexible [Gumennyi et al. 2014].

The coat is grey in shades from light to dark-brown. Horns are very long and black tipped (Photo 9). Cows are rather big (withers height 135 cm), with a wide and deep breastbone (chest 75 cm deep and 46 cm wide). Well-developed muscles. The bulls weight: 900–920 kg, cows: 500–570 kg, 18 months bulls: 540–600 kg, calves after birth: 23–35 kg, 8 months heifers and bulls after weaning: 216 and 232 kg respectively; mean daily weight gain of calves to 8th month of life: 871 g for bulls and 795 g for heifers [Gumennyi et al. 2014, Vdovichenko et al. 2012]. Slaughter yield: 64%, milk yield: 2900–3145 kg, high fat content in milk: 4.45–4.52% and acceptable protein content: 3.45%. Fertility: 90–99%.

The Ukrainian Grey was the basis for creation of Ukrainian beef cattle breeds [Tsvigun et al. 2009].



- Phot. 9. The herd of Ukrainian Grey cattle [http://racesbovines.canalblog.com/archives/2014/04/28/29757068.html]
- Fot. 9. Stado bydła ukraińskiego szarego [http://racesbovines.canalblog.com/archives/2014/04/28/29757068.html]

Aberdeen Angus

During the years 1958–75, 121 Aberdeen Angus individuals were imported to Ukraine, including 57 bulls. Today an important local Abredeen herd is maintained in Kiev. The herd was created on the basis of Canadian and Scott Aberdeen Angus, brought to Ukraine in 1961 and 1962. The 26 heifers and one bull were imported from Canada whilst 16 heifers and two bulls came from the UK. The animals adapted to the new conditions very fast, retaining all the breed-specific features. In the 1992–93, 224 Aberdeen Angus frozen embryos were brought to Ukraine from Colorado (USA). In the next three year all the embryos were implanted to cows from seven different regions of Ukraine [ASU 2012]. The main features characterising this breed include: bulls weight: 800–900 kg, cows: 480–500 kg, 18 months bulls: 450–500 kg, calves after birth: 20–26 kg, calves after weaning: 210–220 kg, mean daily weight gain: 900 g [Dorotyuk et al. 2008, Dorotyuk et al. 2011, Tsvigun et al. 2009]. Slaughter yield: 56–67%, high fat content (8–9%), fertility above 90%, easy parturitions [Tsvigun et al. 2009].

Currently the Aberdeen Angus in Ukraine is represented by three types [Kolesnik 2014]: 1) small, compact type from the British selection line, with strong body, deep chest and short, widely spaced limbs; 2) relatively large and tall type from the North-American selection line, with well-developed body and long limbs; 3) consolidated compact one from the Ukrainian selection line, which originates from crossing the animals of British and American lines. This breed was the basis for creation of the following Ukrainian meat cattle breeds: Volyn Meat, Poliska Beef and Znamenski type of Poliska Beef breed.

Charolais from Ukrainial selection line

Created to solve the problem of difficult parturitions, which are typical for the pure Charolais. Developed from the crossing of Ukrainian Grey (UG) with Charolais (CH) from the French selection line (UG 1/32, CH 31/32) [Baranowski and Gerasimov 2005]. In the 1955–1975, 300 individuals were imported from France, including 262 heifers and 38 bulls. The Ukrainian Charolais is characterized by the good potential of climatic adaptation. The body weight of bulls: 1100– -1200 kg, cows: 650–700 kg, 18 month bulls 570–600 kg, calves after birth: 35– -37 kg, mean calf daily weight gain: 1000–1100 g [Tsvigun et al. 2009]. Fertility: more than 90–95%. Easy parturitions. Bulls of this breed are used to create the national beef breeds and for crossbreeding.

Simental Beef

The breed bases on the local Simmentals improved with the selection lines from Canada, Germany, Poland and Austria. The point was to obtain the animals with high level of meat yield [Vdovichenko et al. 2007]. Bulls body weight: 1000– -1300 kg, cows: 700–800 kg, calves after birth: 38–42 kg, 8 month calves: 290– -320 kg, 17 month bulls: 650 kg. The growth rate during the fattening: 1200–1500 g [Tsvigun et al. 2009]. Slaughter yield: at least 60%, carcass bone content: not more than 17% [Vdovichenko et al. 2004]. Fertility: more than 90%. Cows are characterized by the high milk yield and easy parturitions.

Limousine

In 1993, 64 heifers and 4 bulls of Limousine breed were imported from Colorado (USA) [ASU 2012]. In the selection process, the Hungarian and American individuals of this breed are used. Bulls body weight: 1000–1100 kg, cows: 600–650 kg, 18 month bulls: 500–550 kg, calves after birth: 38–40 kg, calves after weaning: 220–230 kg [Tsvigun et al. 2009]. Slaughter yield: 59–60%. Fertility: more than 85–95%. Easy parturitions, so it is used in crossing as a maternal breed to avoid the parturition problems [Fedoruk et al. 2008, Fedoruk et al. 2009, Potapchuk 2012].

Hereford

In the 1961–1970, 351 Hereford heifers were imported to Ukraine. In the 1992–1993 the 35 additional heifers and 13 bulls were introduced from Canada and the USA, including the hornless individuals [ASU 2012]. Two main types are used in the selection process: small Hungarian line and large (massive) American and Canadian line. The Hungarian line bulls body weight: 880 kg, cows: 490 kg, 6 month calves after weaning: 200 kg, 18 month calves: 509 kg, slaughter yield: 60%. Meat is soft and marbled. The American line bulls body weight: 950 kg, cows: 560 kg, 6 months calves after weaning: 235 kg, calves after birth: 34–38 kg [ASU 2012, Tsvigun et al. 2009]. High slaughter yield: 60%. High intramuscular fat content: 7%. Fertility: 90–95%. Easy parturitions. Bulls commonly used in creating the native cattle breeds in crossbreeding.

Blonde d'Aquitaine

The first animals of this breed were imported to Ukraine in 1977 [ASU 2012]. Bulls body weight: 1000–1200 kg, cows: 600–750 kg, 18 month bulls: 600–670 kg, calves after birth: 45 kg, calves after weaning: 280 kg, mean daily weight gain: 1000–1200 g [Tsvigun et al. 2009]. Slaughter yield: 62–66%. Fertility: more than 85–88%. Calving in 98% of cows occur without human intervention. The difficult parturitions were observed by crossing with Simmental, black-and-white and Red Steppe cows in 2.7% cases. Used for crossbreeding.

Piemontese

In the 1995–1996 6 bulls and 12 heifers were imported from Italy [ASU 2012]. The calves grow quickly and have well developed muscle tissue, thin skeleton and skin. This results in the delicate and tasty meat with low content of fat and fiber. Bulls body weight: 1000 kg, cows: 500–600 kg, 15–18 month bulls: 550–600 kg, calves after birth: 43 kg, calves after weaning: 170–200 kg [Tsvigun et al. 2009]. Slaughter yield: 68–72%. While crossing the Holstein-Friesian cows with Piemontese bulls the hybrids were obtained, which were characterized by the mean daily weight gains reaching 1.2–1.3 kg and slaughter yield 60–63%. No parturition difficulties were observed.

The characteristics of the national Ukrainian beef breeds is given in Table 3.

The studies of Melnik [2010] showed that the newly developed beef breeds and their types were characterized by the very high results of meat performance (Table 4), comparable or even higher in comparison to the specialized western breed maintained in Ukraine.

Tabela 3. Charakterystyka krajowych ras mięsnych utrzymywanych na Ukrainie								
	Rasa – Breed							
Parametr – Parameter	Ukrainian Beef	Volyn Meat	Poliska Beef	Znamenski type	Southern Beef	Ukrainian Grey		
	Ukraińska mięsna	mięsna	Poleska mięsna	Typ znamenski	Południowa mięsna	Szara ukraińska		
Body weight, kg – Masa ciała, kg								
bulls – buhajów	1000-1200	950-1050	900-1000	800-1100	950-1100	900–920		
cows – krów	600-700	500-550	550-600	550-600	500-600	550-570		
18 month heifers 18 miesięcznych jałówek	420–440	390-410	385-410	390–430	380-430	390-420		
18 months bulls 18 miesięcznych buhajów	560-600	500-570	510-540	550	500-600	540-600		
calves after birth cieląt po urodzeniu	30–45	28-32	28-34	25–35	25-35	25-35		
calves after weaning in 6th month cieląt po odsadzeniu w 6 miesiącu	220-240	180–220	220-240	190–230	220-280	190–200		
Daily weight gain, g Dobowe przyrosty masy ciała, g	1200	1010	1000-1200	1000	990-1300	800–900		
Slaughter yield, % Wydajność rzeźna, %	59–63	62–65	62–65	62–64	59–62	64		
Fertility, % – Płodność, %	83–98	>95	85-93	85–99	>85	90–99		

 Table 3.
 Characteristics of the national Ukrainian beef breeds

 Table 4.
 The mean body weight of bulls from different breeds in the selected months of life [Melnik 2010]

Tabela 4. Średnie masy ciała buhajów różnych ras w poszczególnych miesiącach życia [Melnik 2010]

	At birth		6 months		9 months		12 months			
Bread Pasa	Przy urodzeniu		6 miesięcy		9 miesięcy		12 miesięcy			
Biccu – Rasa	n	Mean ±sd	n	Mean ±sd	n	Mean ±sd	n	Mean ±sd		
	п	Średnia ±sd	п	Średnia ±sd	п	Średnia ±sd	п	Średnia ±sd		
Simmental – Simental	20	35.3 ± 0.44	20	175.3 ± 1.41	19	259.0 ± 2.22	16	331.2 ± 2.21		
Ukrainian Grey – Szara ukraińska	20	36.7 ± 0.42	20	163.7 ± 1.00	18	227.8 ± 1.81	16	$304.3\pm\!\!0.85$		
Aberdeen Angus – Aberdeen angus	20	36.7 ± 0.40	20	168.3 ± 0.64	18	247.0 ± 2.21	15	324.7 ± 2.74		
Hereford – Hereford	12	33.3 ± 0.41	12	153.7 ± 0.98	12	202.7 ± 2.61	12	273.7 ± 3.10		
Limousine – Limousin	20	38.9 ± 0.33	20	191.8 ± 1.20	20	292.7 ± 2.10	17	365.7 ± 2.52		
Volyn Meat – Wołyńska mięsna	20	29.7 ± 0.45	20	162.3 ± 1.22	19	230.3 ± 1.25	19	306.0 ± 2.44		
Ukrainian Beef – Ukraińska mięsna	14	33.3 ± 0.40	14	174.3 ± 1.87	14	253.8 ± 3.64	14	325.3 ± 3.33		
Poliska Beef – Poleska mięsna	20	30.0 ± 0.59	20	168.5 ± 1.00	17	245.2 ± 2.50	15	323.2 ± 2.10		
Znamenski type – Typ znamenski	20	30.6 ± 0.33	20	181.4 ± 1.85	19	245.1 ± 3.70	16	334.7 ± 3.06		
Southern Beef – Południowa mięsna	17	$33.8\pm\!\!0.34$	17	173.3 ± 1.96	15	296.0 ± 3.60	15	$377.9~{\pm}4.09$		
	1	15 months	18 months		21 months		24 months			
	15 miesięcy		15 miesięcy		18 miesięcy		21 miesięcy		24 miesiące	
Simmental – Simental	16	430.7 ± 4.20	13	503.0 ± 3.82	10	574.0 ±2.64	4	624.0 ± 6.80		
Ukrainian Grey – Szara ukraińska	16	400.7 ± 2.10	13	477.0 ± 1.43	10	544.4 ± 2.65	4	$631.0\pm\!\!4.96$		
Aberdeen Angus – Aberdeen angus	13	424.2 ± 3.93	10	520.7 ± 2.50	7	553.0 ± 1.82	3	587.4 ± 4.34		
Hereford – Hereford	9	381.0 ± 3.71	9	485.0 ± 5.50	6	571.0 ± 2.78	3	636.3 ± 2.55		
Limousine – Limousin	16	489.2 ± 4.52	12	553.0 ± 2.60	8	593.0 ± 3.52	4	650.8 ± 10.6		
Volyn Meat – Wołyńska mięsna	19	412.9 ± 3.53	15	493.0 ± 7.00	11	571.3 ±4.11	7	$647.0\pm\!\!8.38$		
Ukrainian Beef – Ukraińska mięsna	11	420.3 ± 3.55	11	528.3 ± 5.10	6	565.3 ± 3.51	3	$601.0\pm\!\!9.29$		
Poliska Beef – Poleska mięsna	12	418.5 ± 2.32	9	491.4 ± 3.62	6	558.0 ± 3.46	3	633.3 ± 7.35		
Znamenski type – Typ znamenski	15	433.6 ± 2.72	11	564.7 ± 2.71	8	593.8 ± 4.32	3	$626.0\pm\!\!6.28$		
Southern Beef – Południowa mięsna	15	472.2 ± 6.71	11	$546.0{\scriptstyle\pm}4.93$	8	$583.0\pm\!\!1.55$	4	621.0 ± 6.17		

Cattle breeding in Ukraine (including beef cattle breeding) has not been and is not subsidized, as evidenced by the huge decline in numbers of animals since 1990 (80%), and in the current situation of Ukraine, especially economic, there is no any possibility.

Most of the beef cattle producers cannot afford to buy purebred cattle from western countries. Therefore considerable portion of beef cattle constitutes a domestic breed (Volyn Meat, Poliska Beef, Ukrainian Beef), and the process of creating these breeds has started in the 1970s. The only chance hope for Ukrainian farmers and cattle producers to subsidize their production is the entry of this country into the European Union. The status of cattle breeding presented in this paper, with the division into regions, is the last before the Russia's annexation of Crimea and armed conflict in the east of Ukraine.

Cattle breeding in Ukraine (including beef cattle) has never been subsidized, as evidenced by the huge decline in cattle numbers since 1990 (80%), and the current situation of Ukraine, especially economic. Most beef cattle producers can not afford to buy pure-bred cattle from the Western countries, therefore a large part of the animals are of domestic breeds (Volyn Beef, Poliske Beef, Ukrainian Beef), the process has already started in the 1970s. The only hope for the farmers and cattle producers in Ukraine to get support for their production is in the accession to the European Union. The presented report on the condition of cattle breeding, by region, is the last one carried out before the annexation of the Crimea by Russia and before the armed conflict in east Ukraine.

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HODOWLA BYDŁA MIĘSNEGO NA UKRAINIE

Streszczenie. Większość wołowiny na Ukrainie jest otrzymywana z opasu cieląt pochodzących od krów mlecznych. W ciągu ostatnich dwóch dekad z powodu redukcji bydła, zwłaszcza krów i zmniejszonej wydajności, produkcja wołowiny drastycznie spadła, dlatego też znaczne ilości wołowiny pochodzą z importu. Problem niskiej produkcji wołowiny może być rozwiązany jedynie poprzez rozwój hodowli bydła mięsnego i tworzenie nowych ras mięsnych. Na Ukrainie utworzono pierwsze cztery krajowe rasy mięsne (ukraińską mięsną, wołyńską mięsną, poleską mięsną i południową mięsną) oraz znamenski typ rasy poleskiej mięsnej. W końcowym etapie jest tworzenie ukraińskiego mięsnego simentala. W styczniu 2012 roku najliczniejszą populację bydła mięsnego na Ukrainie stanowiły krowy ras Aberdeen Angus (30%) i wołyńskiej mięsnej (28%), a następnie poleskiej mięsnej (16%) i simental (9%). Największa populacja krów mięsnych znajdowała się w obwodach wołyńskim (26%), czernihowskim (11%), rówieńskim (10%), lwowskim (8%), chmielnickim i żytomierskim (7%).

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