BREEDING AND GENETIC FEATURES OF BUKOVINA FACTORY TYPE OF THE UKRAINIAN RED-AND-WHITE DAIRY BREED

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The results of studies on the characteristics and trends of the formation of highly productive herds of Bukovina factory type of the Ukrainian red-spotted milk breed are proposed. The selection of Bukovina factory type of the Ukrainian red-and-white dairy breed is aimed at further consolidation and the creation of a breed group in conditions of households of Bukovina.

Milk yield, line, genetic potential, type, correlation

The breeding dairy cattle is aimed at qualitative improvement of the main features of milk production, that's why livestock always pay special attention to the increasing of milk yield in cows.

The realization of effective management of the dairy cattle of Bukovina in the current economic conditions is possible by creating a system of animal breeding, high efficient production, processing and marketing of milk in accordance with the adopted state laws and programs.

The relevance. The intensification of the selection process aimed at improving milk productivity of cows predetermines the necessity of the systematic evaluation of animals in herds and populations for major economic useful traits and the degree of realization of genetic potential in terms of the interaction "genotype × environment" involving the information technologies [2].

The excretion of highly productive cows has always been a strategic direction in the breeding work and constantly attracted the attention of breeders not only a significant number of products, but also by the fact that these animals can have a high breeding value [1].

The populations of highly productive animals, most adapted to modern conditions of agriculture, shall consist of rather uniform in morphological features individuals who have the high productivity and wide nonspecific disease resistance [3].

The presence in the breed of a sufficient number of highly productive animals and their use in the herd reveals the potential of the breed, contributes to the improvement of the genetic potential of the herd and the efficiency of selective breeding in general. The efficiency of milk production on highly mechanized farms and dairy complexes determine the quality of the animals and their milk production [3,5].

The aim of this work is to conduct breeding and genetic assessment of areas for improvement of Bukovina factory type the Ukrainian red-spotted milk breed.

Materials and methods of the research. The research was conducted on the materials of the breeding records of breeding plants: collective farmers "Myrne", "Zoria", "Valiavske", "Mamaivske" and one LTD named after Suvorov of Chernivtsi region - base farms of Bukovina factory type of the Ukrainian red-spotted milk breed. For the analysis 453 highly productive cows were selected considering their milk yield, fat content in milk and the amount of milk fat. The primary data is statistically processed according to the techniques described by G.F. Lakin [6] using the software Microsoft Excel.

The results of the research. In the process of the intensification of dairy cattle the most developed countries, the priority is given to the factors of selection. It is established that the economic efficiency of milk production largely depends on the genetic potential, the duration of the economic use of cows and their level of productivity [4].

In recent years, the number of cows in all categories of farms decreased in 4125-4608 stocks in agricultural enterprises in 411 - 635 stocks (10-14%), households on 3714-3973 stocks (90-86%). Also there has been an annual decrease in total production, with a slight increase in milk yield per cow (2-5%). In our opinion, it is caused by the reduced purchasing power of the population, the loss of economic interest in the maintenance of livestock, the lack of most entities motivation to build up the animals and the increase livestock production, unstable

level of purchase prices for livestock products, low profitability and unprofitability of its production.

The breeding base of dairy cattle in the region is represented mainly by animals of Bukovina factory type of the Ukrainian red-spotted milk breed, which determines the prospects of development and features of stock breeding farms of different ownership. The active part of the population of the Ukrainian red-spotted milk breed is bred in four breeding plants and one planeprojection.

The level of productive and reproductive qualities of breeding stock in the leading breeding farms of Bukovina factory type the Ukrainian red-and-white dairy breed has grown significantly, which reveals the significant potential of improving the genetic potential of increasing the number of livestock and the extension of the area of cultivation.

In the breeding farms of the region milked 557 heads with milk yield of 6000 kg more (20% of the total number of cows in the breeding farms). 81,4% milked cows in the herd of the plant “Myrne”, 10,4% - breeding “Zoria”, 5,2% - of breeding plants “Valiavske”, 0.6% of the plant “Mamaivske” and LTD named after Suvorov of Chernivtsi region. Of the 557 estimated cows 354 (63,6%) had milked 6000-7000 kg, 158 (28,4%) - 7001-8000 kg, 34 (6,1%) - 8001-9000 kg, 10 (1,8%) - 9001-10000 kg of milk for the highest lactation.

The evaluation of milk production of high-yielding cows in herds of breeding plants “Myrne” and “Zoria” as the main formations of bull-reproduced group showed that the number of the best cows and their breeding value was high enough to solve the problem. The main direction of improvement of the breeding qualities of the red-and-white dairy breed is aimed to consolidate the existing genetic capabilities of animals with the goal of increasing the number of animals and increase productivity of the cows. Such a trend is confirmed by the genetic potential of the best cows of Bukovina factory type - recognized mothers bulls.

The analysis of the genealogical structure of breeding plants and of Bukovina factory type showed that 16 of the estimated lines are most numerous during the breeding population, they are lines of Hanover - 1467 (1054 cows),

Regal - 1310 (1068 cows), Starbuck - 1051 heads (only 23 cows). With 3174 stocks heifers 1028 (32,4%) belong to the line of Starbuck, 453 (14,3%) - line of Chief, 439 (13,8%) - line of Improver, 413 (13,0%) - line of Hanover. There are sharp changes in Bukovina plant type lines on holsztynski.

In copula network of farms of different ownership area of activity of "Bukovynaplemservice" is used sperm of 25 brutes manufacturers of Ukrainian red-spotted milk breed, 3 - Holstein breed red-and-white, 3 - Simmental breed, 3 - Pinzgau, 1 - Ukrainian black-spotted milk breed.

The distribution of the bulls of the Ukrainian red-spotted milk breed in broken lines showed that the most numerous is the line of Regal 10 stocks (40%), other lines: Hanover - 4 (16%), Dairyman - 4 (16%), Holder - 2 (8%), Citation 2 (8%), Improver, Valiant, Supreme 1 (4%). On selection index bulls-makers were distributed: +1001 and more than 7 stocks (28%), +500- +1000 - 8 (32%), +300- +499 - 7 (28%), less than +300 - 3 (12%). High breeding value is characterized by the bull Regal 280 (+1901) and his sons Senate 1632 (+1454), Nord 3126 (+1102), the Mayak 3160(+1044).

The productive potential of the cows is fairly high yield 6966,3 kg, fat content in milk - 3,83%, protein - 3,29%. (table 1).

1.Milk productivity of cows (M±m)

Lactation	n	Yield, кг	Fat content, %	Protein content, %	Milk fat, кг	Milk protein, кг
1	169	6703,3± 46,9	3,84± 0,004	3,29± 0,005	256,6± 1,8	221,4± 1,7
2	109	7062,6± 75,4	3,83± 0,004	3,29± 0,008	267,9± 3,8	232,2± 2,5
3 and older	175	7160,4± 62,8	3,82± 0,004	3,30± 0,007	271,1± 2,4	246,9± 3,3
Average	453	6966,3± 36,1	3,83± 0,002	3,29± 0,004	266,8± 1,5	229,2± 2,2

The highest milk yield had highly productive cows of the third lactation and older (7160,4 kg), and lowest – cows of the first lactation (6703,3 kg). As for the content of fat in milk there were no significant differences in terms of lactation (0,01-0,02%), and protein content, the highest value was in cows of the third

lactation and older (3,30%). For the amount of milk fat and protein patterns were similar.

2. Milk productivity of highly productive cows of different lines and bulls

The line of	Nickname and father's inventory number	n	Yield, кг	Fat content,%	Milk fat, кг
Regal	Captain 6775	70	7183	3,82	274
	Nord 3126	96	6936	3,82	265
	Senate 1632	14	6490	3,75	230
	Mayak 3160	15	6716	3,75	238
Valiant	Artek 344	20	7119	3,81	271
Improver	Polar49	20	7044	3,82	269
	Improver 3334	4	7503	3,84	288
Hanover	Zamok 451	2	6985	3,85	269
	Arbat 1577	127	6745	3,84	259
	Inter 5571	29	6731	3,84	258
	Bern Red 3506	5	6528	3,54	231
Citation	Hybrid 4893	10	6764	3,72	245
	Seoul 909	4	7601	3,79	288
Enhancer	Dzharomir 6296217	39	7238	3,75	271
	Mozart 475	13	7028	3,81	268
Elevation	Fiasco 49090	5	6435	3,82	246
	Guido 40535	11	7169	3,8	272
Cavalier	Flamm 112302008	2	7235	3,75	271
Chief	Bilbao 660122867	5	6521	3,86	252
	Bigger 13684	1	6779	3,89	264
Astronaut	Vostok 8429	3	6463	3,64	235
	Baron 3133	1	6166	3,53	218
Magnetos	Granit 1695	2	7241	3,59	260
Supreme	Sambo 3352	4	6414	3,56	228
Dairyman	Tulip 7451	5	7184	3,84	276
	Aromat 5644	3	6330	3,66	232
S.T. Rokit	Majesty 2071114	7	7121	3,82	272

For the expansion of the genetic and population opportunities of the intensification of breeding programs of dairy cattle should improve the effective

application of your hard selection of highly productive cows-mothers for their level of milk production and other breeding parameters in origin, because they reflect the real level of their breeding value in the breed, populations and develop specific, targeted program of intensive breeding cows in generations of offspring using their estimates of the quality of the offspring [3].

The selection of the best cows in the breeding flocks, along with the use of high bulls, taking into account indicators of lifetime productivity of the offspring will speed up the breeding process of increasing the genetic potential of breeding herds [2].

The evaluation of the productive qualities of highly productive cows of different sires and linear facilities (table 2) showed that the best indicators of milk (over 7000 kg) had cows daughter producers of Captain 6775 (line of Regal), Artek 344 (line of Valiant), Improver 3334 and Polar 49

(line of Improver), Seoul 909 (Citation's line), 6,296,217 Dzharomir and Mozart 475 (line of Enhancer), Guido 40,535 (line of Elevation), Flamm 112 302 008 (line of Cavalier), Granite 1695 (line of Magnetos), Tulip 7451 (line of Dairymen) Majesty 2071114 (line of S.T. Rokit). The content of fat in milk significantly distinguished the daughter of Bigger 13,684 (3.89%) and Bilbao 660 122 867 (3.86%) (line of Chief) and the lowest rate was in the cows that received from the IRIS 9186 (3.50%) (Line of Dairymen) and Baron 3133 (3.53%) (line of Astronaut). It should be noted that the daughters of bulls Captain 6775 (line of Regal), Artek 344 (line of Valiant), Improver 3334 and Polar 49 (line of Improver), Mozart 475 (line of Enhancer) well combine high milk production with fat in milk.

Conclusions and recommendations for further research. Breeding of Bukovina Ukrainian factory type red-and-white dairy cattle sent for further consolidation and creating the breed group in terms of economies of Bukovina. The using of bulls of Ukrainian red-spotted milk (different interbreeds and zonal types) and partly Holstein (red-and-white) is planned on breeding stock when creating Bukovyna's breed group.