

INTRAPOPOPULATIONAL STRUCTURE OF THE B.N.R. CATTLE REARED IN THE PRIVATE FARMS FROM THE NORTH-EASTERN AREA OF ROMANIA

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Abstract

The research has been conducted in terms of household and semiintensive operating Black and White Romanian cows from Moldova region. The primary data came from a database of OARZ: Iasi, Bacau, Botosani, Suceava, Vaslui and Vrancea, obtained by control of production, supplemented by direct observations of some personal holdings taken in research.

In the Black and White Romanian cow intrapopulation structure from the specific area 56 genetics groups with more than 10 daughters were indentified. From 56 males used for reproduction, the bulls with the most numerous daughters were: code. 51,111 with 210 daughters, code 51,114 with 112 daughters, 51,131 with 110 daughters, 51454 with 101 daughters and 51112 with 95 daughters.

The medium milk production on these genetic structures reveal us some very valuable genetic families with 6000 kg milk production and over in the first lactation. Similarly, 8 families (14.28%) achieved in the first lactation 6000 kg milk and 26 families (46.42%) over 5000 kg milk. All these genetic structures and those presented above show the genetic value of Black and White Romanian cows from Moldova region.

Key words: cows, Black and White Romanian, intrapopulation structure, genetics groups

MATERIAL AND METHOD

The research has been conducted in terms of households and semi intensive operating Black and White Romanian cows from Moldova area. The cows from this area were raised and fed in same private farms ho was differed one by another by food used and alimentation system, management of technologic facts, of technical used equipment and way of products capitalization.

The primary data was come from OARZ data base: Iasi, Bacau, Botosani, Suceava, Vaslui and Vrancea obtain by the official production control, completed with direct observation from the farms. The data was processed by specifics method for such research – average, standard deviation, the coefficient of variability using the statistical program for analyzing the variation and co variation elaborate by Vasile Maciuc in the year 2002- 2003 to the USAMV Iasi Ro.

The complexity of fallowed facts was imposed using a diversification methodology

and respecting using a diversifications technology and respecting the methodology propose by literature.

RESULTS AND DISCUSSIONS

The study for morph productive character to Black and White Romanian caws from Moldavia shows a lactation length by 364,02 days in the first lactation, with limits between 232 and 703 days. The lactation length decrees to 336,21 days with limits between 247 and 597 days in the sixth lactation. The variability for total lactation was very pronounced and the variation coefficient was $V\%=20$.

Analyzing the period of normal lactation, the medium value was 299,39 days to the first lactation and decrease until 292,87 days to the sixth lactation without significant differences between lactation.

The milk production for total lactation grows in the second and third lactations

(6458,96 kg, 6471,39 kg) more than first lactation (6014,68 kg) with limits between 2294 and 10520 kg. The same aspect was for the normal lactation (305 days). In the first lactation was registered a 5165 kg milk production, the smallest milk production was registered in the sixth lactation (4999,65 kg). The high performance was in the third lactation 5681,91 kg with limits between 2264 kg and 15664 kg. The variability of individual milk production is much emphasized $V\% > 20$. The analyses of variation to the first normal lactation shows the existence of some cows with production between 8000 – 12260 kg (42,44%).

The fat in milk for normal lactation varied from 4,02% (first lactation) to 4,04% (the third lactation) with minimum limits to 3,99% (fourth lactation). The analysis of variation for protein contents shows that 94,9% from total cows take in study has fat milk contain between 3,55% and 5,99%. The quantity of fat to normal lactation has a maximum to 229,10 kg in the third lactation and minimum value for this character was registered in the sixth lactation with 199,18kg.

The protein milk contain for normal lactation was 3,29 for first and second lactation, and has a maximum in the third lactation 3,30% after that decrease in the fourth, fifth and sixth lactation at 3,26%.

The minimum value registered for protein milk contain was in the sixth lactation 3,26%. Studying the variation of protein milk contain we saw that 95,54 % of caws take in study has a percent for protein milk contain with limits between 3,00% and 4,43% with some caws with a protein milk contain more than average (60%).

The lowest amount of protein in normal lactation was in sixth lactation (162,68 kg), on the opposite side, is the amount of protein obtained in the third lactation, with 187,79 kg.

For BNR population take in study was analyzed same productive character from first lactation to genetic groups of half sisters. Thus was analyzed the length, the milk quantity, fat quantity, and protein quantity.

In the genetic structure of BNR caws from this area were identified 56 genetic groups with more than 10 daughters (paternal half sisters) with average production indices shows in table 1.

Of the 56 breeding males, bulls with most daughters were code 51111 with 210 daughters, code 51114 with 112 daughters, 51131daughters 110, 51454 with 101 daughters code 51112 and 95 daughters.

Analyzing the average milk production on these genetic structure is established the existence of genetics families very valuable with performance of 6000 kg milk and over for the first lactation.

Eight families (14.28%) achieved in the first lactation 6000 kg milk and 26 families (46.42%) over 5000 kg milk, Of the 56 genetics families.

In that population was a family from a bull cod 50856 ho has 15 daughters with a average to 7170.13kg milk for the first lactation and another genetic family (cod 99999) with 13 daughters with 9761.77 kg average milk production. The genetic potential to this BNR breed from the farms take in study was showed by the variability amplitude of milk production, between 2218 kg and 12260 kg milk. It notes in particular the farm Self Help Ițcani - Suceava, and other farms from Iași, Vaslui and Vrancea. From the genetic family table with more than 10 cows, 36 families (64.28%) have the average of milk production less than the average of population (5083.10 Kg milk).

In the same time was 4 families (7.14%) with a milk production average less than 4000 kg. However, it is notable for superior performance productive genetic families from import bulls and their beneficial influence on improving the productive performance of the population studied. The families cod 51111 constructed from 210 cows with a average milk production by 5276.62 kg, family cod 51454 constructed by 101 cows with average milk production by 6860.58kg, family cod 51131 constructed from 110 cows with 5470.05 average milk production and family cod 50876 with 89 paternal half-sisters and 5083.10 kg average milk production were pointed out.

All this genetic structure shows the BNR genetic value and the need of carefully selection with detainment and multiplication of valuable genotypes, and removed from reproduction the cows with small production.

Table 1a
 Medium value for milk production indices for genetic groups to studied caws from Moldavian area

Genetic groups	Normal lactation, days				Milk, kg				Fat, kg				Protein, kg			
	n	\bar{X}	Min	Max	n	\bar{X}	Min	Max	n	\bar{X}	Min	Max	n	\bar{X}	Min	Max
13470	44	295,91	255	305	44	4044,61	2365	10192	44	161,11	88,09	452,30	36	137,93	74,83	367,40
14467	20	298,75	263	305	20	3476,85	2362	5392	20	141,24	93,00	208,46	19	111,32	75,85	157,16
14533	18	301,17	268	305	18	5286,00	3636	8213	18	206,43	141,60	326,60	10	188,84	117,70	157,16
15290	56	297,09	262	305	56	4469,82	2471	7838	56	183,96	91,00	310,40	56	148,56	82,00	263,40
16066	20	300,25	260	305	20	4446,85	2950	5733	20	173,87	109,00	229,69	16	149,91	101,83	206,38
16200	35	297,40	245	305	35	4566,57	2874	6124	35	182,03	123,54	256,00	32	152,11	89,00	256,00
17864	14	302,93	288	305	14	3983,36	2717	5484	14	160,86	114,00	220,00	14	130,86	89,00	183,00
18059	43	303,21	284	305	43	4451,53	2773	7318	43	170,75	112,00	244,00	42	129,43	90,00	171,00
18070	38	299,34	261	305	38	4852,32	2982	6457	38	201,83	116,00	261,00	38	157,23	101,00	213,50
18277	56	300,21	267	305	56	4609,61	2534	6290	56	179,85	107,00	244,00	49	149,14	80,00	203,00
18575	21	298,52	254	305	21	4308,10	2918	6683	21	165,93	117,00	237,60	18	134,43	97,00	184,50
18584	43	296,86	255	305	43	4642,16	2226	8798	43	179,65	88,40	343,40	32	132,42	73,10	214,50
18812	21	292,76	257	305	21	4131,19	2320	6650	21	162,70	90,80	268,50	13	132,85	80,80	208,80
18830	20	295,40	266	305	20	6007,85	3592	7671	20	230,43	143,70	318,00	20	196,40	122,70	272,60
18988	37	298,05	248	305	37	4210,35	3031	5293	37	170,62	124,90	217,00	37	138,00	103,60	175,00
19185	24	302,83	266	305	24	4518,83	3203	6007	24	181,75	117,70	270,40	24	148,84	104,70	202,70
19201	40	298,48	268	305	40	5502,10	2661	9756	40	215,15	101,40	396,90	38	174,69	81,70	343,00
19204	29	293,83	248	305	29	5912,90	2762	11615	29	236,37	92,80	472,30	28	208,29	89,20	394,20
19207	49	294,31	254	305	49	4210,53	2836	5373	49	164,59	114,30	313,70	48	144,77	97,60	198,30
19444	57	300,32	267	305	57	4884,61	2874	6817	57	206,84	125,00	304,00	57	159,60	89,00	214,00
19450	13	302,92	285	305	13	4794,77	2874	5968	13	204,54	128,00	267,00	13	158,04	89,00	209,00
19654	17	285,82	245	305	17	3574,82	2295	5802	17	141,89	85,70	228,00	17	118,06	71,50	188,60
19801	22	298,95	256	305	22	5913,84	2984	8729	22	227,16	109,20	324,60	11	236,96	184,50	289,20
19874	19	286,58	248	305	19	4370,84	2604	7528	19	171,05	102,50	293,90	11	137,45	89,10	146,50
50856	15	295,67	249	305	15	7170,13	3087	9881	15	286,71	123,00	406,30	13	255,91	101,00	345,70
50876	22	303,41	288	305	22	4904,05	2547	6559	22	200,23	100,00	279,00	22	159,38	124,00	216,00
50877	24	302,50	288	305	24	5545,21	3924	6847	24	225,29	159,00	271,00	24	180,38	124,00	216,00

Table 1b

Genetic groups	Normal lactation, days				Milk, kg				Fat, kg				Protein, kg			
	n	\bar{X}	Min	Max	n	\bar{X}	Min	Max	n	\bar{X}	Min	Max	n	\bar{X}	Min	Max
50878	89	301,27	259	305	89	5083,10	2773	7318	89	202,29	109,00	311,00	87	162,56	89,00	239,00
50880	22	296,73	260	305	22	5313,27	2486	6464	22	225,53	141,00	282,00	22	170,38	98,30	210,00
50881	27	295,85	263	305	27	5054,96	2953	6318	27	209,67	128,00	263,00	27	162,22	85,00	201,00
50882	16	302,75	285	305	16	5462,50	4371	6375	16	226,50	181,00	263,00	16	178,56	136,00	203,00
50884	13	298,38	256	305	13	5110,85	3314	9881	13	205,24	138,00	406,30	13	165,92	108,00	345,70
50892	29	301,86	261	305	29	4458,21	2797	5779	29	175,93	113,01	244,00	29	144,21	86,83	190,00
51028	13	299,08	271	305	13	6986,08	4706	8462	13	272,58	189,50	325,10	12	234,65	178,90	267,00
51030	49	296,92	250	305	49	6117,53	2975	10192	49	238,83	117,90	396,70	38	219,27	122,70	367,40
51036	13	299,46	249	305	13	6303,92	4060	9149	13	256,25	165,30	396,70	13	208,72	136,30	310,90
51075	20	295,50	274	305	20	3288,90	3335	11615	20	251,30	139,40	472,30	17	223,09	110,10	394,20
51096	14	304,00	298	305	14	5145,71	3333	7446	14	211,40	117,70	305,40	14	174,77	104,70	245,20
51111	210	303,87	266	305	210	5276,62	2716	8101	210	219,65	107,20	346,70	205	170,02	82,80	243,20
51112	95	303,35	244	305	95	4970,14	3118	8101	95	208,63	117,70	335,60	92	161,99	94,00	266,60
51114	112	300,08	232	305	112	4855,62	2612	8101	112	202,33	117,00	326,00	109	158,61	90,70	222,00
51122	85	300,28	264	305	85	5038,51	2947	7104	85	204,99	112,00	297,70	83	162,72	94,00	241,80
51129	88	302,09	261	305	88	5110,20	2990	8371	88	203,85	111,00	396,70	83	165,64	103,70	310,90
51131	110	294,44	243	305	110	5470,05	2218	9756	110	216,50	82,90	396,90	99	186,10	70,30	343,00
51167	82	293,28	263	305	82	5838,13	3344	8729	82	227,88	126,60	396,70	73	196,58	108,10	310,90
51168	39	290,85	254	305	39	6142,54	3649	8371	39	243,04	140,30	396,70	37	205,01	122,70	310,90
51194	53	297,96	266	305	53	5698,60	2756	8371	53	222,23	86,00	396,70	39	196,10	79,90	310,90
51245	19	294,53	252	305	19	4345,58	3014	5950	19	172,26	119,00	228,00	17	147,18	104,00	197,70
51246	54	296,50	257	305	54	4339,44	2835	6542	54	169,93	111,60	297,70	31	149,89	90,50	219,10
51360	30	303,37	266	305	30	4620,77	3118	6117	30	191,40	117,70	270,40	30	154,12	94,00	208,40
51453	42	300,10	257	305	42	6878,60	3350	9040	42	266,40	132,70	396,70	42	222,76	108,10	310,90
51454	101	299,72	261	305	101	6860,58	3592	9671	101	269,86	143,70	391,30	101	223,44	122,70	311,70
51455	38	304,37	298	305	38	4634,03	3118	6891	38	186,23	115,10	279,50	38	152,27	94,00	222,00
51459	16	304,44	296	305	16	4734,06	3203	5952	16	196,05	125,30	262,10	16	161,33	114,70	202,70
51470	83	301,84	257	305	83	4960,73	3118	7104	83	204,23	117,70	297,70	81	160,46	94,00	222,00
99999	13	302,69	275	305	13	9761,77	8545	12260	13	329,58	256,00	390,00	12	284,08	240,00	363,00
Population average	3249	299,39	232	305	3249	5165,60	2218	12260	3249	206,97	79,00	472,30	2977	170,53	63,35	394,20

CONCLUSIONS

Following the study we can conclude the following:

In the first normal lactation was 5165,60 kg milk production and the smallest was 4999,65 kg in the sixth lactation. The most good milk production was in the third lactation with limits between 2264 kg and 15664 kg. The individual milk production variability is very emphasized $V=20\%$. The analyses of variation to the first normal lactation shows the existence of some cows with production between 8000 – 12260 kg (42,44%).

Of the 56 breeding males, bulls with most daughters were code 51111 with 210 daughters, code 51114 with 112 daughters, 51131 daughters 110, 51454 with 101 daughters code 51112 and 95 daughters.

Eight families (14.28%) achieved in the first lactation 6000 kg milk and 26 families (46.42%) over 5000 kg milk, Of the 56 genetics families.

In that population was a family from a bull cod 50856 ho has 15 daughters with a average to 7170.13kg milk for the first lactation and another genetic family (cod 99999) with 13 daughters with 9761.77 kg average milk production. The genetic potential to this BNR breed from the farms take in study was showed by the variability

amplitude of milk production, between 2218 kg and 12260 kg milk.

Distinguish the high productive performance for genetic families from imported bulls and influence of this bulls to the amelioration of productive performances.

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