

GENETIC VALUE OF RBP PRIMIPAROUS REGISTERED IN 2012-2013 OFFICIAL PRODUCTION CONTROL

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Abstract

Were analysed the productive performances for 1619 Romanian Black Pied (RBP) primiparous, representing 36.21% from total population belonging to AGCTR from 17 Counties. Except Constanta County, primiparous cows represent a high proportion in the age structure of the farms and have a superior genetic value towards previous generations. Average milk production on normal lactation at the analysed batch was of 6992.88 kg milk, with the superior limit of 16095 kg milk and standard deviation $s = 1096.88$ kg. Length of total lactation has a medium value of 350.91 days, gestation period of 286 days and number of insemination for one gestation of 1.07, with limits ranking between 1 and 5 artificial insemination, and age at first calving of 28.4 month. Those performances enlighten the superior genetic value of primiparous and the perspectives of accomplishing of some productive indexes at the level of the countries with valuables nucleus of Friesian cows.

Key words: primiparous, productive performances, reproduction indexes, genetic value

INTRODUCTION

Studies of knowledge of the genetic value of RBP primiparous cows from farms by years and generations are few and incomplete [3], [8], [11] from where became necessary this research using the data of the official control from recent years [2], [6], [7], [10].

The motivation of this research is due to the fact that although in Romania is used for over 50 years the Friesian breed in improvement of indigenous populations, from which resulted the Romanian Black Pied breed, extensive research have not been undertaken until now to highlight the economic and genetic effect of using as early as possible at breeding of primiparous heifers, and maintaining in exploitation for a longer period of time, of individuals with the highest genetic value [1], [4], [5], [9].

MATERIAL AND METHOD

Were analysed the productive performances for 1619 Romanian Black Pied (RBP) from the farms belonging to AGCTR

(General Association of Romanian Cattle Breeders) from 17 Counties, registered in the official production register for 2012-2013.

On this effective which represents 36.21% from the total RBP population registered in the official production register were estimated the main parameters using the classical methodology for calculation of the variability elements.

The primary data from the farms after the official control were centralized and calculated at the computer center of the Faculty of Animal Science.

RESULTS AND DISCUSSIONS

In tables 1 and 2 are presented the average values and variability estimates for production indexes at RBP primiparous cows from the farms belonging to AGCTR for 2012-2013 control year.

Analyzing the data presented it can be seen that the selected primiparous cows in all farms from the 14 Counties, represents a population with a superior genetic value to other nucleus of RBP breed, obtaining an average production of 6992.88 kg milk and an maximum individual value of 16095.35 kg milk.

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The manuscript was received: 30.06.2014

Accepted for publication: 12.08.2014

Milk production on total lactation was of 8302.61 kg with limits between 1282.58 kg and 20793.08 kg which shows a superior genetic value but also o a great individual

variability between the studied farms. Milk production on normal lactation was of 6992.88 kg milk, with limits between 1282.58 kg and 16095.35 kg.

Table 1 Average values and variability estimates for milk production at RBP primiparous population from A.G.C.T.R., real productions 2012-2013 (cows with over 200 lactation days)

Feature	n	\bar{X}	$\pm s_{\bar{x}}$	s	V%	Min	Max
Period of total lactation, days	1619	350.91	2.277	91.631	26.113	200	562
Milk, kg T	1619	8302.61	78.079	1141.653	37.839	1282.58	20793.08
Fat, % T	1619	3.43	0.028	1.137	33.122	2.4	6.50
Fat, kg T	1619	274.95	2.961	119.143	43.333	37.5	902.21
Proteins, % T	1619	2.8	0.022	0.877	31.264	1.7	5.73
Proteins, kg T	1619	227.12	2.591	104.248	45.9	22.13	847.54
Fat+Proteins T, kg	1619	502.18	5.507	221.594	44.126	57.8	1749.54
Period of normal lactation, days	1619	287.33	0.747	30.067	10.464	200	305
Milk, kg N	1619	6992.88	52.114	1096.881	29.986	1282.58	16095.35
Fat, % N	1619	3.46	0.029	1.153	33.311	2.4	6.50
Fat, kg N	1619	236.22	2.488	100.116	42.383	37.5	863.21
Proteins, % N	1619	2.82	0.02	0.791	28.04	1.7	5.73
Proteins, kg N	1619	194.69	2.066	83.123	42.694	22.13	739.72
Fat+Proteins N, kg	1619	430.7	4.456	179.3	41.63	57.8	1607.93
Age at first calving, month, days	1554	28.4	0.15	5.898	20.77	20	57
Nr. of artificial insemination per gestation	1619	1.07	0.008	0.309	28.823	1	5
Gestation period, days	1617	286.03	0.558	19.436	7.012	275	298

Table 2 Average values and variability estimates for milk production at RBP population from AGCTR – 2013. Maturity Equivalent Productions

Feature	n	\bar{X}	$\pm s_{\bar{x}}$	s	V%	Min	Max
Period of total lactation, days	1619	350.91	1,238	90.068	25.719	200	539
Milk, EM, kg	1619	7087.82	35.287	1224.569	31.43	1626.21	19956.35
Fat EM, kg	1619	243.26	1.279	81.703	38.815	46.75	873.48
Proteins EM, kg	1619	204.11	1.737	78.474	39.427	22.97	761.1

Depending on the county in which the primiparous cows were bred, there are significant differences as observed from Table 3.

Thus RBP primiparous from Dolj Ialomița, Teleorman and Constanța counties realized average productions of over 8000 kg milk per normal lactation, and those from Călărași and Giurgiu counties performance of over 7000 kg milk.

From the performed study it is found that RBP farms from the counties located in south and southeast of the country, with herds of over 100 animals, obtained the best

performances in the first lactation, expressing a high genetic value and proper breeding conditions which highlight the genetic potential.

The selected primiparous cows from Iași and Olt counties realized performances of over 6000 kg milk, and those from other four counties performances of over 5000 kg milk.

In the study population there were plusvariance with performance of 16095.35 kg milk (in Ialomița County), 14942.66 kg (Constanța County), 13115.39 kg (Teleorman County), 12391.19 kg (Călărași County) and over 11000 kg milk in other three counties.

Table 3 County classification with best performances of RBP primiparous cows belonging to A.G.C.T.R. in 2012-2013 control year

County	Place	Primiparous		
		n	Milk, kg	Maxim, kg
Dolj	1	32	8424.44	10831.83
Ialomița	2	364	8230.46	16095.35
Teleorman	3	166	8150.81	13115.39
Constanța	4	19	8091.85	14942.66
Călărași	5	215	7222.29	12391.19
Giurgiu	6	179	7001.14	11220.73
Covasna	7	141	6737.62	9699.30
Iași	8	96	6560.73	8432.08
Olt	9	84	6424.93	9034.92
Mureș	10	64	5845.30	10266.16
Brașov	11	19	5399.45	11703.30
Vrancea	12	22	5322.34	8168.70
Ilfov	13	18	5057.22	5585.71
Vaslui	14	192	4739.03	11811.80

Analysis of the length of total lactation highlights prolonged lactations, with an average of 350.91 days and extreme values between 200 and 562 days.

The average fat content was only 3.46 % and the protein one of 2.82 %, milk quality being under the breed standard and far inferior to improvement objectives from this point of view. This situation can be corrected by selection and matching mating given the high genetic determinism for these features.

Mean values of quantitative indices of milk production of primiparous cows from AGCTR farms highlight a good genetic value of the studied population, values comparable to ones obtained in the best foreign and indigenous farms. These results could be even higher if young breeding females would have benefited from optimal feeding in some deficient years in terms fodder base.

Following the age at first calving was found that in the studied farms the average value was of 28.4 month, but with a high variability.

Number of artificial insemination for one gestation of gestation was 1.07, and gestation period was of 286.03 days.

Results' regarding the breeding activity shows a precocity tendency through the action of genetic factors as well as the management of exploitation technological factors (breeding, nutrition and treatment).

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