

RESULTS REGARDING THE STUDY OF REPRODUCTION INDEXES AT ROMANIAN BLACK PIED COW POPULATION BELONGING TO AGCTR - ROMANIA

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Abstract

Were taken in study the farms with Romanian Black Pied (BNR) cow population belonging to AGCTR (General Association of Romanian Cattle Breeders) being in the COP (official production register) for 2011-2012, at which were analysed: age at first calving (VPF), number of artificial insemination (IA) for one gestation, range of lactation, calving interval (CI), service-period (SP) and mammary repose (RM). Cows' number was of 5973 in 1-13 lactation with an average of 2.48 lactations. The average age at first calving was 29.38 month with variability between 23 and 46 months. Number of IA₁ for one gestation was 1.11 with limits between 1-4 IA₁, most of which being recorded in Covasna County farms (1.66), Olt County (1.41) and Constanța County (1.22). The average service period (SP) was 80.11 days, pregnancy installation being achieved in the first 3-4 heat cycles. Calving interval (CI) was 357.93 days, for obtaining one and only a veal per year, which shows a good management of reproduction function. Mammary repose was 66.31 days, cows being weaning with two months before calving, without extending the period of lactation even at cows with high daily production. The conclusion drawn from the study proves the genetic value of the BNR cow population and a good management of the technological and exploitation factors.

Key words: reproduction indexes, cows, management, technological factors

INTRODUCTION

Cattle breeding was and will be an activity of great importance in providing human food all over the world, so in our country too. Higher milk production

Higher milk productions occur due to relationship between genotype and environment, hence the need for knowledge of individuals and populations, to which they belong, exploitation and properly management of the farm.

The aim of this paper is the study and knowledge of reproduction indexes and management in cow farms belonging to AGCTR (General Association of Romanian Cattle breeders).

MATERIAL AND METHOD

Were taken in study the farms with Romanian Black Pied (BNR) cow population belonging to AGCTR being in the COP

(Official Production Register) for 2011-2012, at which were analysed: age at first calving (VPF), number of artificial insemination (IA) for one gestation, range of lactation, calving interval (CI), service-period (SP) and mammary repose (RM).

Cows' number was of 5973 in 1-13 lactation from 10 Counties, where BNR population has a significant share and farmers acceded to General Association of Cattle Breeders from Romania.

Primary data from monitoring each farm were statistically processed and are summarized in tables and figures.

RESULTS AND DISCUSSIONS

In tab. 1 are presented the average medium and variability of reproduction indexes at BNR cow population registered in the COP (official production register) for 2011-2012.

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Table 1 The average medium and variability of reproduction indexes at BNR cow population registered in the COP (official production register) for 2011-2012

Specification	Sample statistics	Range of lactation	VP (months)	SP (days)	RM (days)	CI (days)	Nr. IA / gestation
AGCTR Calarași	n	1151	1036	701	703	963	1151
	X	2.28	29.37	79.78	61.96	387.29	1.02
	±sX	0.041	0.14	1.48	1.04	3.61	0.004
	s	1.4	3.5	36.31	25.74	52.17	0.14
	v%	61.65	13.43	43.36	41.71	26.23	13.72
	Min	1	26	21	25	283	1
AGCTR Constanța	n	517	198	337	326	453	517
	X	3.88	29.54	74.18	64.64	374.45	1.22
	±sX	0.11	0.25	1.38	1.01	2.26	0.01
	s	2.39	3.58	23.83	26.37	18.7	0.41
	v%	60.46	11.57	39.08	27.14	20.6	34.33
	Min	1	24	21	10	292	1
AGCTR Covasna	n	357	315	145	130	340	357
	X	2.38	28.18	78.43	60.94	372.34	1.66
	±sX	0.08	0.37	3.06	2.38	5.56	0.02
	s	1.61	6.63	36.84	27.23	32.52	0.49
	v%	67.99	21.55	46.97	45.44	27.94	29.49
	Min	1	24	21	15	293	1
AGCTR Giurgiu	n	649	45	83	83	649	649
	X	3.57	29.69	71.11	67.39	361.86	1
	±sX	0.07	1.08	3.16	2.57	3.46	0.003
	s	1.91	4.28	26.17	23.41	21.32	0.07
	v%	53.55	20.26	34.48	34.23	22.94	7.82
	Min	1	25	21	20	295	1
AGCTR Ialomița	n	1074	921	389	357	991	1074
	X	1.53	28.82	73.61	62.93	348.32	1
	±sX	0.03	0.12	1.81	1.36	2.42	0
	s	1.05	2.89	32.87	23.73	56.2	0
	v%	59.07	8.66	43.74	37.25	22.73	0
	Min	1	24	21	25	292	1
AGCTR Iași	n	614	377	302	300	563	614
	X	2.18	28.7	74.1	66.27	362.37	1.1
	±sX	0.05	0.21	1.85	1.15	3.97	0.01
	s	1.24	3.04	28.82	26.68	55.51	0.3
	v%	46.88	10.91	41.34	39.73	27.7	27.72
	Min	1	24	21	10	275	1
AGCTR Ilfov	n	282	55	48	48	282	282
	X	3.04	30.55	82.9	71.15	368.07	1
	±sX	0.1	0.66	4.96	3.73	3.36	0
	s	1.8	4.93	34.36	25.85	36.5	0
	v%	59.6	16.15	41.45	36.34	15.7	0
	Min	1	27	21	10	289	1
AGCTR Olt	n	261	153	132	130	261	261
	X	2.82	30.2	75.31	64.23	369.85	1.41
	±sX	0.09	0.41	3.57	2.25	4.52	0.03
	s	1.58	4.12	31.06	22.75	85.39	0.53
	v%	56.16	13.96	42.43	37.75	27.2	38.18
	Min	1	24	21	10	285	1
AGCTR Olt	Max	11	45	195	169	655	4

0	1	2	3	4	5	6	7
AGCTR Sibiu	n	285	283	15	15	279	285
	X	1	28.45	74.6	56.2	278.58	1
	±sx	0.004	0.17	6.14	2.79	1.86	0
	s	0.05	3	23.81	10.81	31.08	0
	v%	5.9	7.57	31.91	19.24	11.15	0
	Min	1	24	28	30	204	1
AGCTR Vaslui	Max	2	39	107	72	650	1
	n	626	382	276	257	434	626
	X	2.89	28.34	73.75	59	346.07	1
	±sx	0.07	0.16	1.88	1.18	2.92	0.003
	s	1.76	3.12	25.61	17.71	43.53	0.06
	v%	51.05	9.01	34.89	32.43	21.27	6.87
AGCTR Total populatie	Min	1	21	20	10	286	1
	Max	9	38	193	119	523	2
	n	5973	3835	2486	2406	5280	5973
	X	2.48	29.38	80.11	66.31	357.93	1.11
	±sx	0.02	0.06	0.83	0.6	1.37	0.004
	s	1.73	4.24	40.89	27.22	57.76	0.33
AGCTR Total populatie	v%	49.7	12.79	45.41	42.66	25.26	98.16
	Min	1	23	21	15	275	1
	Max	13	46	207	185	673	4

The analysed population included the cows from each County in 1-13 lactation, with an average of 2.48 lactation on total population and with differences from one County to another.

A particular situation is met in Sibiu County, where the BNR cow population is found in 1-2 lactation, being young cows recently bought by farmers.

From the analysis of the main reproduction indexes resulted the following:

Age at first calving (VPF) was 29.38 months with variability between 23 and 46 months. From the 10 County taken in study, in only two the age at first calving exceeded 30 months, in the other 8 the BNR cows had a good reproductive precocity cu with an age at first calving situated under 30 months. The best reproductive precocity is found at cows belonging to farmers in Covasna County, but the variability of this index is external, with limits between 24 and 45 months.

Number of IA₁ for one pregnancy was 1.11, with limits between 1-4 IA₁, most of which being recorded in Covasna County farms (1.16 IA₁), Olt County (1.41) and Constanta County (1.22). The variability of this index was significantly high, standard deviation being s=0.33 and the coefficient of variation V % = 98.16.

The analysis of this indicator at farm level, County and population highlights some deficiencies regarding management of the reproduction function, and registration of some costs beyond normal limits for the seminal fluid used for insemination.

The average service period (SP) was 80.11 days, pregnancy installation being achieved in the first 3-4 heat cycles. Individual variability for this index was extreme, in some cases installing gestation realising after maximum 207 days.

Mammary repose (RM) was 66.31 days, cows being weaning with two months before calving, without extending the period of lactation even at cows with high daily production.

The best situation for this indicator can be found in BNR cow population in Vaslui County, which includes some farms with outstanding performance and with a management of the exploitation factors properly controlled.

Calving interval (CI) is synthetic index that highlights best breeding activity of a farm. Mean value in the studied population was 357.93 days which mean obtaining a veal from each cow per year. In all the farms from the 10 analysed Counties, calving interval didn't exceed the value of 400 days, which proves that the management of the

reproduction function was a basic concern. Dispersion indices highlights however some particular situations with a maximum calving interval of 673 days, so with a calving at two years.

CONCLUSIONS

The main conclusion drawn from the study proves the genetic value of the BNR cow population and a good management of the technological and exploitation factors.

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