

RESULTS REGARDING THE STUDY OF REPRODUCTION INDEXES AT ROMANIAN BLACK PIED COW POPULATION BELONGING TO A.G.C.T.R.

V. Ujică^{1*}, V. Maciuc¹, C.E. Nistor¹, V. Băcilă², I. Nistor², S. Olaru¹

¹University of Agricultural Science and Veterinary Medicine from Iasi, Romania

²National Agency for Breeding and Reproduction in Animal Husbandry, Balotești, Ilfov County, Romania

Abstract

On a population of 4487 BNR cows, from 17 counties belonging to A.G.C.T.R. (General Association of Romanian Cattle Breeders) were evaluated the main reproductive indicators on the basis of data from official control in farms.

Were evaluated the following indicators: age at first calving (VP), number of artificial inseminations for one gestation, duration of gestation, service-period, mammary repose and calving interval (CI).

From analysis of mean values could be observed that mean age at first calving was in 29.57 days, analysed population having precocity under the standard of Friesian breed. Number of inseminations for one gestation was 1.83 i.a., at the farms level being recorded an efficient management of frozen seminal material.

Reproduction indicators: CI, SP, RM and DG, had mean values which prove that reproduction function was well technically managed, in each year obtaining one calf from each cow.

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

INTRODUCTION

Reproduction have a primordial role in perpetuation of breed and could influence in a great way the development of animal husbandry [1], [3], [4], [5], [6], [7], [11], [12], [13], [14], [15], [16].

Expanding of artificial inseminations and novelty biotechnologies in this field of activity transformed reproduction of animals under management aspect into a directed and controlled process in its totality, by humans [2], [8], [9], [10], [11], [15], [16].

Reproduction capacity is influenced by a series of genetic, environmental, technological and managerial factors [11], [12], [13], [14], [15], [16].

For this aim is necessary to be effectuated some studies on reproduction capacities of cattle populations, fact which was the aim of the current studies for BNR population from the official control of production in year 2012-2013.

MATERIAL AND METHODS

On a population of 4487 BNR cows, from 17 counties belonging to A.G.C.T.R. (General Association of Romanian Cattle Breeders) were evaluated the main reproduction indicators based on the data of official control in farms.

Were analysed the following indicators: age at first calving (VP), number of artificial insemination for one gestation, gestation period, service-period, mammary repose and calving interval (CI).

Data were processed through the specific methods in animal science are presented synthetically in the current paper.

RESULTS AND DISCUSSIONS

In table 1 are presented the reproduction indexes at BNR cow population registered in the official production register for 2012-2013 belonging to A.G.C.T.R.

Age at first calving (VPF) was 29.57 months, with limits between 33.67 months for the population from Alba County and 27.19 months for Teleorman County.

*Corresponding author: vasileujica@yahoo.com

The manuscript was received: 22.04.2014

Accepted for publication: 31.05.2014

The controlled populations had good reproduction precocity and here we can place the BNR cows from Dancu Iași Station with a mean of 27.22 months.

Service-period (SP) was in average of 75.65 days, cows remaining pregnant after

first 3-4 heat cycles. For one gestation were utilised in average 1.83 inseminations, management of seminal material being efficiently made, in majority of farms being obtained from one single insemination.

Table 1 Reproduction indexes at BNR cow population belonging to A.G.C.T.R. registered in the official production register for 2012-2013

Specification (County)	Nr. of lactations	D.L.T., days	Nr. IA / gestation	V.P., month	S.P., days	R.M., days	C.I., days	D.G., days
ALBA	2.00	266.22	1.00	33.67	43.50	76.00	314.56	275.89
BRAȘOV	2.72	316.34	1.00	31.35	82.00	68.57	351.04	281.34
CĂLĂRAȘI	2.40	330.38	1.00	29.31	75.44	62.75	357.66	279.87
CONSTANȚA	4.41	319.17	1.00	28.82	68.31	65.35	373.94	279.01
COVASNA	2.69	311.21	1.08	28.78	70.27	63.54	341.45	279.12
DOLJ	2.33	375.68	1.12	31.53	86.30	59.90	348.15	267.52
GIURGIU	3.06	338.44	1.00	28.33	77.73	61.47	327.55	280.86
HARGHITA	6.33	256.67	1.00	28.73	61.50	67.50	351.50	279.17
IAȘI	2.04	329.66	1.53	27.22	80.37	64.65	362.83	275.74
IALOMIȚA	1.69	354.96	1.00	29.87	77.55	62.03	347.12	278.52
ILFOV	3.02	357.67	1.00	30.43	80.36	70.16	337.65	284.82
MUREȘ	2.45	319.55	1.04	31.73	71.89	70.44	347.39	278.70
OLT	2.35	327.99	1.14	28.87	74.77	63.49	355.76	287.41
SIBIU	1.57	280.43	1.00	30.25	75.50	63.75	324.86	283.86
TELEORMAN	2.23	360.40	1.00	27.19	79.23	64.52	329.90	280.86
VRANCEA	2.48	317.39	1.03	30.74	81.48	74.71	382.80	285.57
VASLUI	2.22	338.07	1.16	29.52	78.26	65.13	342.35	279.34
TOTAL POPULATION	2.51	347.27	1.83	29.57	75.65	65.41	376.59	282.76

* D.L.T.-period of total lactation; V.P. – age at first calving; S.P. – service – period; R.M. – mammary repose; C.I. – calving interval; D.G. – gestation period

Mammary repose (RM) was respected in majority of farms, mean on the whole population being 75.65 days. At some farms there were individuals with a shorter mammary repose, weaning being harder to be realised due to high milk production, but were also individuals with a longer mammary repose over the normal mean of those reproduction indicator.

Calving interval (CI) is a synthetic indicator which enlightened the way in which was managed reproduction function. For studied population this synthetic indicator was 376.59 days, with limits 382.8 days for Vrancea County and 314.56 days for Alba County. The obtained mean values for effectuated controls in all counties prove that reproduction function was in normal limits and management of those activities was well realised.

Period of total lactation (DLT) was 347.27 days for total population, at farms being tracking the weaning at optimal time, as could be observed from the values of mammary repose.

The studied BNR population includes animals with a young age, mean number of lactations being 2.51, older populations being in Harghita County (6.33 lactations) and Constanța County (4.41 lactations).

Gestation period (DG) on the whole population was 282.76 days, in majority of the analysed farms, this indicator having a lower value with 3-4 days than the normal duration of gestation. Calving with some few days before normal term is an utilised practice in beef farms to avoid difficult calving and also in dairy farms for the same purpose.

CONCLUSIONS

At the end of the study concerning reproduction indicators for BNR population in control year 2012-2013 could be drawn the following conclusions:

Reproduction activity in cattle farms belonging to official control was very well managed, aiming to fulfill desiderate „year, cow and calf”.

Mean age at first calving was 29.57 days, service-period was 75.65 days and calving interval was 376.59 days.

Period of total lactation was 347.27 days; duration of gestation was 282.76 days and mean number of inseminations for one gestation was 1.83.

The studied population includes, in general, young animals, mean being of 2.51 lactations.

REFERENCES

- [1] Acatincăi, Șt., 2010: Tehnologia creșterii bovinelor, Editura Agroprint, Timișoara.
- [2] Bălăiță, Carmen, 2010: Contribuții la studiul capacității de reproducție și managementului reproducției în unele exploatații de vaci pentru lapte, Teză de doctorat, USAMV Iași.
- [3] Dascălu, C., Bogdan, A.T., Ujică, V., 2002 : Curs universitar de zootehnie generală, Editura Bioterra, București.
- [4] Georgescu, G.H., Ujică, V. și col., 1990: Tehnologia creșterii bovinelor. Editura Didactică și Pedagogică, București.
- [5] Grosu, H., 2003: Programe de ameliorare. Editura Tehnică Agricolă, București.
- [6] Maciuc, V., Ujică, V., Nistor, I., 2003: Ghid de ameliorare genetică a bovinelor pentru producția de lapte, Editura Alfa, Iași.
- [7] Maciuc, V., 2006: Managementul creșterii bovinelor, Editura Alfa, Iași.
- [8] Neaga, N., Neaga, Cătălina, 1984: Eficiența economică a activității sanitar-veterinare, Editura Ceres, București.
- [9] Nistor, I., 1998: Cercetări privind reducerea intervalului dintre generațiile de taurine prin recoltarea materialului seminal la vârsta de nouă luni și efectul asupra calității spermei și a indicatorilor de reproducție. Teză de doctorat, USAMV Iași.
- [10] Pipernea, N., Ujică, V., 1977: Stadiul actual și perspectivele ameliorării taurinelor în Moldova, Cercetări agronomice în Moldova, nr 4, Iași.
- [11] Stoica, Angela, Șonea, Al., Tăpăloagă, P., 2002: Biotehnologii moderne aplicate în reproducția animalelor. Editura Ceres, București.
- [12] Șonea, Al., 2003: Fiziologia animalelor, vol. 1, 2, 3. Editura Ceres, București.
- [13] Ujică, V., Gemene, Gh., 2005: Creșterea și exploatarea vacilor de lapte în microfermele familiale din zona de Nord-Est a Moldovei. Studiu tehnico-managerial, eficiență economică și agroturism. Editura Pan Europe, Iași.
- [14] Ujică, V., Nistor, I., Maciuc, V., Dascălu, C., 2007: Managementul creșterii vacilor de lapte, Editura Alfa, Iași.
- [15] Velea, C., Mărginean, Gh., 2004: Producția, reproducția și ameliorarea taurinelor. Vol. 3. Editura Agrotehnică, București.
- [16] Vintilă, I., 1998: Bazele ameliorării genetice a populațiilor de animale domestice, Editura Facla, Timișoara.