RESEARCH STUDIES ON THE REPRODUCTION INDECES AT THE ROMANIAN BLACK SPOTTED COWS FROM THE PRIVATE FARMS SITUATED IN THE NORTH-EAST PART OF ROMANIA

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Abstract

Researches were done in a population of 250 cows Black Spotted breed grow into the private exploitation in the North East part of Romania (Suceava and Botoșani counties). There were analyzed the following characters: the age of the first calving (V.P.); the calving-interval (C.I.); the inter-lactation period (R.M.); service-period (S.P.). The mean values of breeding indices (VP, RM, CI and SP) highlight an inappropriate state of reproductive activity, with large differences from one holding to another and even within the same holding.

Key words: Cows, Romanian Black Spotted, reproduction indices, private farmss

INTRODUCTION

The Romanian Black Spotted (BNR) breed cows population exploited in the private farms from Suceava and Botoșani counties is quite heterogeneous, with reproductive abilities insufficiently studied. Breeding performance differs greatly by the exploiting technology applied. Also, reproduction activity is influenced largely by the conditions provided in each farm.

Based on these considerations we propose in this paper, we do an analysis of race BNR breed in the Suceava and Botoșani counties in terms of reproductive activity.

MATERIALS AND METHODS

The study was carried out on a 250 cows of the Romanian Black Spotted breed, exploited in different private farms in the North East of the country (Suceava and Botoșani counties), and analyzed the main reproduction indices: age at first calving (VP), inter-lactation period (RM), calving - interval (CI), service - period (SP) and their evolution in the successive lactation from first lactation to sixth lactation. The data was taken from the records of the county offices of the National Zootechnical Agency (ANZ), which were processed and statistically interpreted.

RESULTS AND DISSCUSION

Average values and variability estimates for age at first calving, as an indicator of population precocity, are shown in table 1.

Table 1 Mean values and variability at first calving (days)

Estimate	$\bar{X} \pm s_{\bar{X}}$	V%	Min.	Max.
n = 250	981.0±4.5	17.6	510	1920

The average and variability at first calving was 981 days (over 32 months) for the entire study, which is within the limits of the Romanian Black Spotted cows breed analyzed at the national level [4], [5]. This character has an average homogeneity, which will allow it to be improved by breeding programs and by applying appropriate breeding technologies.

The inter-lactation period is a very important indicator for the quality of the design product and the estimated production level for the next lactation (table 2 and fig. 1).

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Table 2 Mean values and variability of inter-lactation period (days) on successive lactations

Previous lactation:	n.	$\bar{X} \pm s_{\bar{X}}$	V%	Min.	Max.
II	250	79.2 ± 1.6	39.3	16	465
III	230	75.0 ± 1.4	42.5	18	458
IV	220	84.5 ± 2.2	40.6	21	410
V	210	83.4 ± 2.6	32.8	24	395
VI	185	85.6 ± 3.1	40.1	20	330

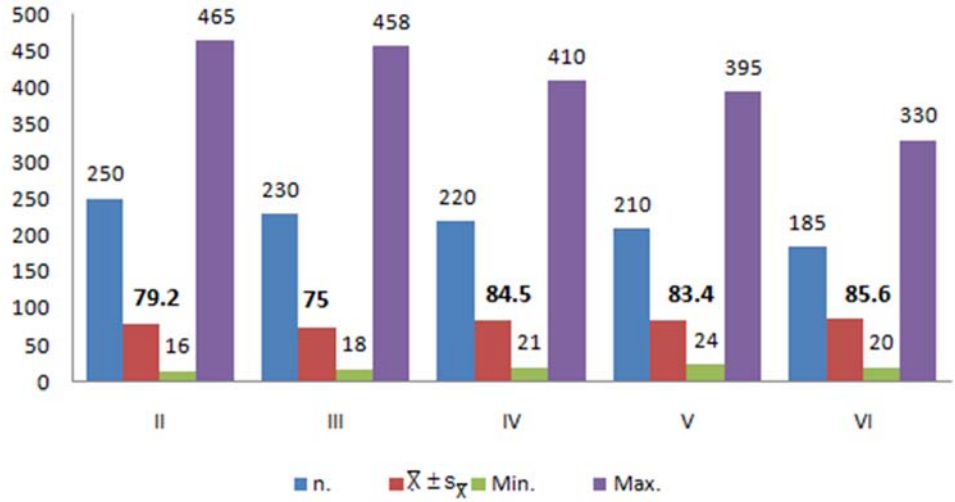

Fig. 1 The variability of inter-lactation period (days) on successive lactations

The lowest value of inter-lactation period was recorded in the second lactation (79.2 days), and the highest value was in the sixth lactation (85.6 days), data in accordance with the literature [2], [7]. It is noted the low homogeneity of this character, with values of the variation' coefficient around 40%.

By analyzing the calving interval (C.I.), registered values between 407.5 days in the sixth lactation and 428.1 days in second lactation (table 3 and fig. 2) with mean variability.

Table 3 Mean values and variability of the calving interval (days)

Between lactations	n.	$\bar{X} \pm s_{\bar{X}}$	V%	Min.	Max.
I-II	250	428.1 ± 2.9	21.0	270	1115
II-III	230	426.2 ± 4.0	21.8	275	990
III-IV	220	419.2 ± 3.8	20.9	319	786
IV-V	210	421.6 ± 5.6	19.5	293	755
V-VI	185	407.5 ± 6.5	16.7	285	590

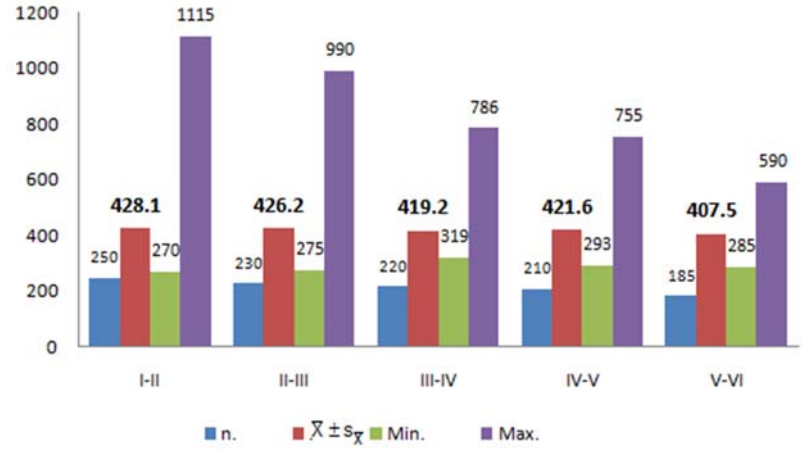

Fig. 2 The variability of the calving interval (days)

The lowest value was recorded in the sixth lactation (407.5 days), and the highest value was in the second lactation (428.1 days), according to the data presented by the specialized literature [1], [8]. It is noted the homogeneity of this character, with coefficients of variation in many cases exceeding 20.0%.

Average values and variability of the service period (SP) are shown in table 4 and fig. 3.

Table 4 Mean values and variability of the service period (days)

Between lactations	n.	$\bar{X} \pm s_{\bar{X}}$	V%	Min.	Max.
I-II	250	145.9 ± 2.6	41.6	21	835
II-III	230	136.5 ± 3.2	43.4	26	632
III-IV	220	130.0 ± 4.1	42.9	24	468
IV-V	210	139.0 ± 5.6	41.7	27	620
V-VI	185	121.5 ± 6.2	38.8	30	300

Fig. 3 The variability of the service period (days)

The lowest value was recorded in the sixth lactation (121.5 days), and the highest value was in the first lactation (145.9 days). The data obtained from the research are in line with those provided by the literature [6]. It is noted the low homogeneity of this character, with coefficients of variation in many cases exceeding 40.0%.

CONCLUSIONS

- The mean values of breeding indices (VP, RM, CI and SP) highlight an inappropriate state of reproductive activity, with large differences from one holding to another and even within the same holding.
- The homogeneity of the characters pursued in this study leaves much to be desired, and is remarked by a large individual variability.
- The studied parameters are strongly influenced by the technology of youth growth, reproduction and exploitation technology, which makes the effect of genetic improvement much diminished.
- Improving these indicators with as a beneficial influence on the economic efficiency and the productive level will be achieved by improving the exploitation technologies and the reproduction management of the analyzed livestock holdings.

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