RESEARCH CONCERNING THE REPRODUCTION INDECES AT THE ROMANIAN BLACK AND WHITE COWS FROM THE PRIVATE FARMS SITUATED IN THE NORTH-EAST DEVELOPMENT AREA

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Abstract

Researches were done in a population of 300 cows Black and White breed grow into the private exploitation in the North East part of Romania. 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, Black and White breed, reproduction indices, private farms

MATERIAL AND METHOD

The study was carried out on a herd of 300 cows of the Romanian Black and White breed, exploited in different farms in the North East of the country, 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.

RESULTS OBTAINED

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	$\overline{X} \pm s_{\overline{X}}$	V%	Min.	Max.
n = 300	983.0 ± 4.5	17.5	520	1900

The average and variability at first calving was 983 days (over 32 months) for the entire study, which is within the limits of the Black and White cows breed analyzed at the national level. 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).

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

Previous lactation:	n.	$\overline{X} \pm s_{\overline{X}}$	V%	Min	Max
II	300	80.1±1.6	39.5	15	470
III	280	75.2±1.4	42.7	17	475
IV	250	85.5±2.2	40.8	23	380
V	225	83.2±2.6	32.3	22	345
VI	190	85.8±3.1	40.6	16	300

By analyzing the calving interval (C.I.), registered values between 405.8 days in the sixth lactation and 427.4 days in second lactation (table 3) with mean variability.

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

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

Between lactations	n.	$\overline{X} \pm s_{\overline{X}}$	V%	Min	Max
I-II	300	427.4 ± 2.9	21.1	275	1120
II-III	280	425.2 ± 4.0	22.3	280	995
III-IV	250	418.3 ± 3.8	20.2	320	782
IV-V	225	420.5 ± 5.6	19.8	291	765
V-VI	190	405.8 ± 6.5	16.5	283	588

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

Between lactations	n.	$\overline{X} \pm s_{\overline{X}}$	V%	Min.	Max.
I-II	300	146.8 ± 2.6	42.6	20	840
II-III	280	135.6 ± 3.2	44.5	25	630
III-IV	250	129.8 ± 4.1	43.1	23	458
IV-V	225	138.9 ± 5.6	41.2	28	625
V-VI	190	120.6 ± 6.2	39.1	33	297

The lowest value was recorded in the sixth lactation (120.6 days), and the highest value was in the first lactation (146.8 days). It is noted the low homogeneity of this character, with coefficients of variation in many cases exceeding 40.0%.

CONCLUSIONS

1. 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.

2. The homogeneity of the characters pursued in this study leaves much to be desired, and is remarked by a large individual variability.

3. 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

4. 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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