THE STUDY OF THE REPRODUCTION INDEXES OF DEVELOPMENT AND OF THE CORPORAL CONFORMATION AT CARPATINA BREED RAISED IN THE NORTH-EAST PART OF ROMANIA

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Abstract. The researches have been made on goat nucleuses that are in breeding and exploitation in the private sector from the Iasi, Suceava and Botosani County. The goat population breded in these areas are from the Carpatina breed and are very well adapted to the specific geoclimate conditions. The effected study has had as principal objectives the determination of the specific indexex to the reproduction function but there have been analysed divers aspects at the youth category and at the adult ones. To estimate correctly the corporal development grade and of the conformation there have been made surveies and weightings, the resultes beening cetralised, statisticly processed and after that interpreted. During the interpreted researches there has been established that the calculated value for the fertilility index at those three populations has been situated between the limites 130,33% and 133,33% with a average on the total effectiv of 132,29%. The fecundation has had an average value on the total analyssed effective of 95,83% with values specific to each population that are situate d very close to these one. The total of the obtained values can be considered in the biological limits of this species.

Analysing the prolificity index, on the female livestock, the registered values have variated between the limites of 134,74% and 140,36%. These differeces can be placed on the different maintenance situation of the adult goats in the first moment of the reproduction season. In case of the young categories the corporal development has been studied separated on those two periods: in the nursing period and after weaning the kid. In the mascules case, the average of the corporal weight determined at birth has been of almost 3 kg, but registering differeces in function of the birth type: 3,221 kg at those from simple births and OG 2,865 kg at those resulted from multiple births. At females, the corporal average corporal weight at birth have been with almost 10% smaller in comparation with those determined for kid mascules are framed in the potential biological limites that this goat specie despo ses of. More than that, the medium values presented, as the coefficient of variability, expresses a good developement interuterine at kids, this owing to the good alimentation of the adult famels during the pregnancy period.

INTRODUCTION

The researches have been made on goat nucleuses that are in breeding and exploitation in the private sector from the Iasi, Suceava and Botosani County. The goat population breded in these areas are from the Carpatina breed and are very well adapted to the specific geoclimate conditions. The effected study has had as principal objectives the determination of the specific indexex to the reproduction function but there have been analysed divers aspects at the youth category and at the adult ones. To estimate correctly the corporal development grade and of the conformation there have been made surveies and weightings, the resultes beening cetralised, statisticly processed and after that interpreted.
During the interpreted researches there has been established that the calculated value for the fertility index at those three populations has been situated between the limits 130,33% and 133,33% with a average on the total effectiv of 132,29%. The fecundation has had an average value on the total analysed effective of 95,83% with values specific to each population that are situated very close to these one. The total of the obtained values can be considered in the biological limits of this species.

Analysing the prolificity index, on the female livestock, the registered values have variated between the limits of 134,74% and 140,36%. These differences can be placed on the different maintenance situation of the adult goats in the first moment of the reproduction season. In case of the young categories the corporal development has been studied separated on those two periods: in the nursing period and after weaning the kid. In the males case, the average of the corporal weight determined at birth has been of almost 3 kg, but registering differences in function of the birth type: 3,221 kg at those from simple births and OG 2,865 kg at those resulted from multiple births. At females, the corporal average corporal weight at birth have been with almost 10% smaller in comparation with those determined for kid males are framed in the potential biological limits that this goat specie desposes of. More than that, the medium values presented, as the coefficient of variability, expresses a good development interuterine at kids, this owing to the good alimentation of the adult famels during the pregnancy period.

At the weaning age there has been established that is maintaining, in function of the birth type, a certain differencing of the corporal weight of the young kids. This way, at the resulted males from simple births compared to the multiple births, the corporal weight is superior with almost 9% (13,658 kg and of 12, 587 kg). Almost the same finding, are valid also for the female lots.

At the age of 18 months the average corporal weight was of 37,982 kg at females and of 48,756 kg at males. The reduced values of the variability coefficient indicates a homogeneity from this perspective, as a result of the selection of the biological material of reproduction, result of the ashurred of some optimize conditions of nurishment and maintenance.

The determined value for a series of corpoal index indicates that the youth that was analysed corresponds to the respiration type. The index of the corporal lateral format has had values of 109% at he-goats and of 106% and of 104% at the adult goats and at the young females that has the age over 18 months. The other two indexes (transversal corporal format and skeleton), trough the obtained values, confirms the fact that the analysed goat lot is characterized through a good robustness and compactness of the skeleton.

The obtained dates have permitted the realising of the initial objectives and offers important information about the Carpatin breed breded in the north-east of Romania and that have been very few studied until the present time. The general conclusions that results after the made researches confurmes the fact that the corporal development of the female youth, in comparation with the adult ones, representes 28,85% at weaning, 59,34% at 6 months, 64,68% at 12 months, 86,35% at 15 months and of 91,42% at 18 months.

The corporal conformation, from the principal corpoal indexex indicates that the analysed lots have a corporal format characteristic to the milk type but also a pronounced rusticity specific to the belated animals.
MATERIAL AND METHOD

The researches have been made on the goat effective s that are in growing up and are exploited in the private sector from Iasi, Suceava and Botosani. The goat populations raised in these regions belong to the Carpathian raise, which is adapted very well to the specific decimate conditions. Diverse aspects have been analyzed at the youth categories and at the adult ones.

So the conformation and the corporal development could be determined, there were made measurements and weightings, the results being after processed statistically and interpreted. Like wise, for a more ample characterization of the goat population from those three zones, there have been analyzed and other aspects like reproduction indexes, color, the presents or absents of the horns and the lactose potential. The work methods used were specific for these kinds of determinations.

OBTAINED RESULTS

The reproduction indexes is the primary basic elements and with their help we can make a real estimation of all the indicators specific to the function of perpetuation of the species. To characterize a nucleus, or of a population, we have to look over more information obtained over more sexual period. All the dates which were for the determination of the reproduction clues and the there values, are restored in table 1.

The fertility index represent the consequence of the sexual period, which isn’t always off 100%, of the infecundity, the miscarriage and not the less the number of the viable products obtained in that herd. This index can be calculated in two modes by the number of viable kids obtained at bring forth, or the one present at the weaning. For the selection work, more important is the individual fertility index because it takes in consideration not only the loses from the covering seasons through miscarriage, but also those caused by the prolongation of the prepuberal period.

During the enterprise research, the calculated value of this index at those 3 herds, is situated between the limits 130,33% and 133,33% with an average on the calculated total effective of 132,29%.

The fecundation index is based on the total number of females witch give produces from 100 weeded goats. Its value offers even information about the way that the grow campaign has taken place.

The fecundation has had an medium average on total effective of 95,83% with the limits registered on each lot that is situated very close to these ones. The total values obtained can be considerate to be in the biological limits specific to this species.

The prolificacy index influences directly the total number of products obtained from the females from the reproduction nucleus. From this point of view, we can make even a very important indicator for expressing the economical efficiency.

Comparing with sheep, the goats are more prolifically. Analyzing this indicator on the total reproduction effective, the registered values have been between the limits 134,74% and 140,36%. This differences can be placed and on the different maintenance of the mother goats in the opening moment of the reproduction season.
The evolution in the nursing period of the corporal weight. The dynamic of the corporal development, on sexes, in the bring forth interval – the weaning of the kids, like the values of the daily medium weight, are written in table number 2 at 3 days after the bring forth has had place, through individual weighting of the kids resulted from the bringing forth simple or multiple, it has been detected the corporal weight at birth.

In what concerns the male, the average of the corporal weight was of almost 3 kg, recording differences concerning the birth tip of 3,221 kg at those resulted from simple births and of 2,865 kg at those resulted from multiple births.

At females, the average corporal weights at birth was of almost 10% smaller comparative with those registered for males but they are between the biological potential limits of which the goat species dispose of. More than that, the medium values presented, like the variability value, expressing a good intrauterin development at kids, this thanks especially to the forage of the female goats that gave birth during the pregnancy period.

The weaning of the kids belong to the goats raised in the traditional way is made at ages between 75 and 90 days. Taken in to consideration the followed goal the young females that had a proper corporal development and a wanted constitution are stoped for reproduction. The ones that do not corespond to theses objectves like the number of animals that are in excess, with the young mascule, the meat is improved.

At the weaning age it was observed that it is maintained, depending on the type of bring forth, a certain difference concerning the weight of the the young goat. This way, at the resulted masculces from simple foals comparing with those from geminal foals, the medium corporal weight is superior with almost 9% (13,658 kg and 12,587 kg). Almost the same establish are valid and for the females lots.

The medium average increasing determined on lots, on the interval foal – weaning of the kids, it was of 137,391 g, being more bigger at males (144,652 g) and smaller at females (132,559 g).

The evolution of the corporal weight at the young goat is represented in table 3. There were taken for reference the corporal weights determined at 6, at 12 and at 15 months.

At the age of 6 months, the males had a medium corporal weight of 29,154 kg, the ones resulted from simple weaning, and 28,874 kg he ones from geminal weaning, with a medium weight of 28,978 kg on the total male lot. At the age of 12 months the corporal weight of the males from the simple weanings is superior with 6% compared with the medium weight of the geminal males.

At females, if we analyse the corporal weight registered at the three age periods, there are variable differences between those resulted from simple births and those from double births This way, at 6 months the corporal weight of the females resulted from simple births, was superior with 5.5%, at 12 months with 8.2% and at the age of 15 months it comes back to 5%.

For the young goat that has the age over 18 monnts, for the adultes categories, the dates regarding the corporal weight are presented in table 4. The medium corporal weight of the young goat, at the mentioned age, was of 37,982 kg at females and of 48,756 kg at males. The reduce values of the variability value indicates a certain homogeneity from this point of view, the consequence of the strict selection concerning the reserving of the biological material of reproducton, simultaneous with the ensurance of the feeding and maintenance conditions at a corresponding level.
The adult goats from the livestock had at the beginning of a new season of reproduction a medium corporal weight of 41,545 kg. The he-goat from reproduction had superior corporal weight with almost 30% compared with the adult female goats.

**The corporal conformation** it was appreciated using the values obtained at the principal corporal weight determination for the young goat and for the adult categories. This way, there have been made the principal height measurements, width, depth and perimeter and the values determined statistically have been used in the calculation of the principal corporal index. All these values are presented in table 5.

The values determined for the corporal side format index indicates the fact that the analysed youth is framed in the corporal format. After the analyses and determinations that were made the format had values of 109% at he-goats and of 106% respectively 104% at the adult goats and at the young females of the age over 18 months. The other two index (transverse corporal weight and the skeleton), through the obtained values, indicates the fact that the analysed goat lot is characterized also through a good stamina and the compact skeleton.

**The color**, like other character and analysed particularity, presents a large variability. From this point of view, the body's color of the adult goats was variously, prevailing the grey with reflexes purple of different shades (39%), white with 26% the color white all over the body, and at 35% from the goats there was established the presents of the motley colors, especially the brown ones, red – black and white.

**The horns** are present at all the goats belonging to the wild forms that live and in the present time. But now, at the domestic breed, at some they are present and at some they are not. At the analysed number of goats theses formations were present at 61% from the total number and were worn bend especially to the back and easily twisted. At other goats, the horn were atrophied.

**The milk production** represents the principal goal for which the goats are raised and exploited in our country. At the local goats the production level registered indicates a large variability caused by the missing of some actions sustained by the selection and of long time. The milk production analysed at the goats from more generations (table 6) indicates a quantitative growing; the maximum production being of 231 l and it was obtained from the ones from lesson III. From this point of view, the obtained informations in the first two nursings offers informations that are very useful for the goat selection so that this production can be raised.

After the short period of plateau (two nursings) the obtained quantities, on the duration of a normal nursing, drop gradually. At the goats that are over 9 years old it was registered the smallest production situated even under the level of the first nursing. This aspect confirms the fact that the females belong to the ones that can be exploited efficiently for the quantity of milk during five – six nursings.
CONCLUSIONS

1. At the biological material studied, the medium fecundity calculated was of 95,83%, the proliferation of 138% although can be considered as being a good one, its value is under the specific female one of these breed raised in other parts of the country (148 & Sibiu zone, 166% the west part).

2. The corporal development fulfilled by the young female goat, comparative with the one determined at adults, represents 28,85% at weaning, 59,34 at 6 months, 64,68% at 12 months, 86,35% at 15 months and of 91,42 at 18 months.

3. The corporal conformations, presented by the principal measurements and corporal indicates, at young and adult goats, a corporal format belongign to the respiratory type, but also a certain rusticity characteristic to the belated animals.

4. The medium milk production, because it registers maximum values at the females that are in the third nursing, offers even early precious clues about the future productivity potential, a very important criterion which has to be taken into consideration in the selection work developed to improve the nursing capacity.

BIBLIOGRAPHY

1. Luca N. and contributors, 1971, The domestic animal’s reproduction, third edition, Ceres, Bucharest
2. Pascal C., 2000, The raising of goats, publishing house of the Axis foundation, Iasi
3. Paraschivescu M., 1969, The reproduction at sheep, Agrosilvica publishing house, Bucharest
4. Tafta V. Vintila I., Zamfirescu Stela, 1996. The production and the reproduction of goats, Ceres, Bucharest,