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Examination of the vitality of black-colour (Hortobágy) Hungarian racka lambs

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Abstract

Hungary's sheep population is decreasing nowadays. On the first of December 2017, the herd consisted of more than 1.1 million sheep, and by June 2021, this number had barely reached 953 thousand. Based on data from the Central Statistical Office, on December 1, 2020, the sheep population numbered a total of 944 thousand individuals, of which 754 thousand were ewes (HCSO, 2020). Of this, native breeds account for 2.5%, and nearly half of this is accounted for by the Hungarian racka sheep (Hortobágy). This amounts to approximately ten thousand individuals (BODNÁR et al., 2016). For this small number of sheep, it is important to preserve their genetic values and avoiding inbreeding is even more important. This is particularly related to the fact that we need to examine the vitality of the lambs in order to produce even better breeding animals. It is important to monitor the behaviour of the sheep, the course of calving and the mother-lamb relationship, as this is of great importance in the development of technology. The observation of our farm animals influences feeding and husbandry technologies, thus we can create a better environment for them (BODNÁR et al., 2015).

Keywords: sheep breeding, lamb rearing, lamb vitality

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Introduction

In sheep breeding, raising and selling lambs is very important, as this is one of the biggest sources of income in the sector. Particular attention must be paid to the vitality of the lamb. The indigenous breed that participated in the study was the Hortobágy racka and its lambs. The official name of our indigenous Hungarian sheep breed today is the (Hortobágyi) Hungarian racka sheep. It is a privilege to breed such a breed of sheep and raise its lambs, especially since it has outstanding national value. In Hungary, the preservation of the indigenous gene bank is extremely important.

Raising lambs requires a lot of time, persistence and different practices. Assisting with a difficult calving is essential, as this saves the life of the ewe and its lamb. In these cases, we decide for ourselves whether the intervention is necessary or whether it will be economically profitable for us in the future. If the ewe is blessed with good lamb-raising skills and the lamb was born healthy, then there is no need for intervention.

In the case of triplets or more lambs, intervention is recommended and usually necessary. Ewes with low milk production have a harder time raising their lambs or cannot raise them at all. The intervention is also justified for lambs born with low birth weight and weak vitality, and even for mothers with poor nurturing qualities. Therefore, one of the most important goals is to examine the lamb's vitality, because we have to preserve the genetic values of our native national sheep breed, and another main breeding goal is to ensure that the good maternal qualities, high resistance and the strength of the breed are passed on to our breeding animals.

Material and method

The examined racka sheep were placed in harems on October 5, 2019 and were set until November 10. On average, forty sheep were assigned to a pedigree racka ram and a harem of ten was set up. They started calving on March 5, 2020, and the last calving took place on April 3. The lambing period took place in one month, and during this time the sheep were given scores. The difficulty of calving, the vitality of the lambs and their suckling ability were scored. During the experiment, 365 ewes and their lamb offspring were scored. Of course, the origin and age of each sheep is known. A total of 359 live-born lambs were scored. The ear number of the ewe, the ear number of the lamb and the date of calving were recorded. Table 1 shows the number of lambs according to gender and litter size. The gender marked with the number 1 is the ram and the gender marked with the number 2 is the ewe. A total of 176 rams and 183 ewe lambs participated in the study. As for the number of litters, litter size 1 was 329 and 30 twin lambs were born. As for the number of the litter, there were 329 with 1 litter and 30 twin lambs were born.

Table 1: Grouping of lambs by gender and litter size

	(1-ram; 2-ewe)	Number of animals
Sex of lamb	1	176 pcs
	2	183 pcs
Litter size	1	329 pcs
	2	30 pcs

Oestrus of the racka sheep is particularly seasonal, it ovulates once a year in the spring. Every year, the mating season starts at the end of summer and lasts an average of six weeks. Mating takes place in harems based on a program prepared in advance by the Hungarian Sheep and Goat Breeding Association. In general, 40-60 ewes can be placed in a harem. Thanks to these procedures, inbreeding can be avoided and the origin is known.

The data was analysed with Microsoft Excel 2016 and IBM SPSS Web Report statistical program. Analysis of variance was used to determine the differences between the data.

Ewes and their lambs were given scores based on the following table (Table 2).

Table 2: Scoring system for calving difficulty, lamb vitality and suckling ability

	Score: 0	Score: 1	Score: 2	Score: 3	Score: 4
Calving difficulty	Easy, unassisted, uncomplicated, short birth within 30 minutes.	Easy, unassisted, uncomplicated, longer, longer than 30 minutes.	Requires less help, is easy with assistance, does not require much effort, and does not take too long.	Difficult, protracted calving requiring greater intervention, even with assistance, with greater exertion.	Veterinary intervention is required.
Lamb vitality (recording within 5 minutes of lambing)	An extremely active and powerful lamb that stands up within 5 minutes of birth.	A very active and powerful lamb, able to stand up on its knees and hind legs shortly after birth.	An active sheep that can support its own body weight on the chest and knees.	A weak lamb lying on its side but able to lift its head.	A very weak lamb, lying on its side and unable to lift its head, shows very little movement.

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Lamb's sucking ability	The lamb suckles without assistance within 1 hour after birth.	The lamb well suckles without assistance within 2 hours of birth.	The lamb requires assistance with suckling, which is no more than 2 times in the first 24 hours after birth.	The lamb requires assistance with suckling, which is required at least 2 times and for more than 24 hours but less than 3 days after birth.
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Source: SheepNet-Tip&Trick, Scotland's Rural College (SRUC), United Kingdom (2019)

Results and conclusions

214 individuals performed exceptionally well and it can be said that the majority of the flock had easy lambing. The data support the easy calving characteristics of the Hungarian sheep. The frequency of lamb vitality 193 individuals from the studied flock have exceptionally good vitality. These data also confirm that the vitality of Hungarian sheep lambs is very good. Among the lambs born, 180 individuals performed very well in the examination of suckling ability. Lambs with higher vitality found the udder easier and faster than individuals with lower vitality. Rams show a value of 0.71a and jerks a value of 0.33b for sucking. In general, rams exhibited much less vital behaviour either after calving or during suckling.

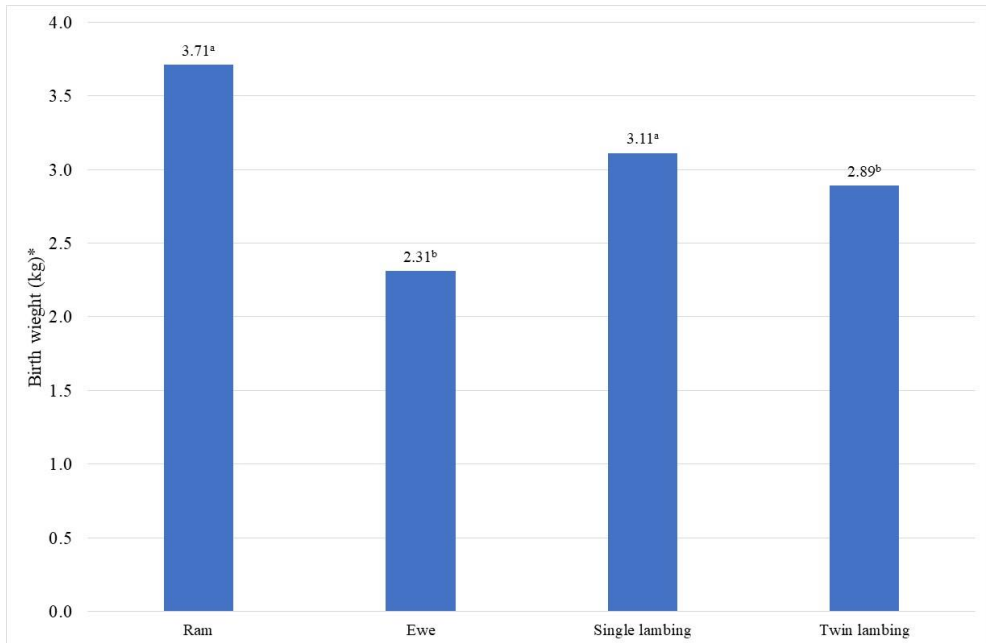


Figure 1: Correlation between birth weight and litter size

Figure 1 clearly illustrates the significance of birth weight and litter size. Ram lambs belonging to litter type 1 were born with a higher weight than ewe lambs. The significance value for rams is 3.71a, for ewes 2.31b. Litter number type 1 had a value of 3.11, litter type 2 had a value of 2.89. The gender of the lambs affects the vitality, as shown in figure 14. The significance value for rams is 0.93a, and for ewes 0.26.

Conclusions and recommendations

Based on the reproduction tests of the Hungarian racka sheep of black colour (Hortobágy), 306 out of 359 individuals calving easily, which is 85%. 8.3% of the herd are twin lambs, the rest are single lambs. The death rate was 2% in total, which can be reduced even more by continuous monitoring of the lambs. It is important for every sheep farmer to be able to raise as many lambs as possible and to keep them for breeding or to sell them. Therefore, lambs should be given due attention after calving and in the post-calving period. The weather plays a very important role in the calving season, as it can determine the day of a calving peak. You have to pay attention to the weather forecast in livestock breeding as well as in crop cultivation. I recommend that the start of the harem be brought forward by two weeks, so that the ewes start breeding sooner and those lambs that do not pass the evaluation of the breed characteristics can be sold at the lamb sale at Easter. It is also worth culling

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the ram or rams whose lambs have lower vitality. Those lambs that had very good vitality and suckling ability in lamb age should be kept for further breeding, as these qualities can be inherited further.

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