

## Lamb Survival of Ouled-Djellal Breed ewes

Menani<sup>1</sup> A. Dekhili <sup>1\*M.</sup>, Khilifi <sup>2</sup> A.

1 Département d'Agronomie, Université Ferhat Abbas, Sétif-19000, Algérie

\* Auteur Correspondant

2 Ferme d'Etat Benaichouche, Tixter, BBA-34000, Algérie

### Key words:

Ouled-Djellal breed, survival rate, viability, non-genetic effect, lamb, management

### Summary :

Lamb survival of 327 progeny of Ouled-Djellal ewes was investigated. There was no difference in survival rate between singles (88%), twins (80%) and triplets (88%). The second main effect, sex there was a significant difference between males (81%) and females (89%), showing a difference of 8% ( $P < 0.05$ ). The overall mean lamb survival rate was of 85%. The majority of lamb died (58.8%) during the first week from non-genetic effect. It is suggested that nutritional management and absence of care of the ewe was a fault.

### Mots clés :

Race Ouled-Djellal, taux de sevrage, viabilité, facteurs non génétiques, agneaux, mode de conduite

### Résumé:

Le taux de sevrage à 3 mois de 327 agneaux de race Ouled-Djellal a été étudié. Le facteur principal mode de naissance a été non significatif pour agneaux les simples (88%), doubles (80%) et les triples (88%). Par contre, le sexe a été hautement significatif, avec des moyennes de 81% pour les mâles et de 89% pour les femelles. La moyenne générale pour tout le troupeau a été de 85%. Un taux de mortalité de 58.8% des agneaux a été enregistré durant la première semaine de naissance, qui est principalement due à des facteurs non génétiques.

## Introduction

Meat production in Algeria is mainly based on Ouled-Djellal breed sheep (Chellig, 1992). Lamb survival is an important component of ewe's productivity, but this breed has lamb survival problems. Dekhili (2010), found a rate of 68% of viability when investigating 18 flocks, over 15 years, in large scale field production. An understanding of the reasons for lamb mortality can influence breeding and management and allows better ewe productivity.

In this investigation, is reported lamb performance over one year of the Ouled-Djellal sheep breed, when mated from April to May in the High plateau in the east of Algeria.

## Materials and Methods

The experiment was conducted over one year at the Farm state "Ben Aichouche", located in the high plateau in the east of Algeria. Data were analyzed from 328 lambs born, progeny of Ouled-Djellal dams. They were mated during April to May. Ewes were supplemented with barley grain and hay from mating to the end of lambing (Dekhili, 2002).

Data were collected, where the ewes were inspected each day, new born lambs were tagged and birth weight, sex, birth type, dam and when necessary, birthing assistance recorded. Dead lambs were collected and recorded within 8 hours. Birth weight (linear

and quadratic) and survival up to 3 months were analyzed using Harvey (1990).

## Results

For lamb survival, there was no significant variation due to age of the dam and lamb birth type. However, sex and birth weight, were highly significant ( $P < 0.001$ ). Over all mean survival was 85%. The rate of survival for males and females was 81% and 89% respectively. Females have a better chance to survive than males. The overall mean survival for singles, twins and triplets was 88%, 80% and 88% respectively giving a difference of 8% (Singles-twins). The low survival rate for twins is not sufficiently down to wipe out the advantage of the extra lambs. The first week mortality of lambs accounted for 58.8%, where male mortality represented 73% compared to 23% for female, where males have less chance to survive in the first week and seems to be due sex-linked genes.

## Discussion

Losses were higher in females (sex), but effect of birth weight was the most significant influence on survival. The effect of birth weight on survival rate has been recognized for the Ouled-Djellal breed by Dekhili (2003). In this experiment, birth weight (linear) was highly significant ( $P < 0.001$ ), and the influence of birth weight on survival rate was economically important, since between the birth weight of 3kg and 5kg there was +15.6%

of difference in survival rate. Low birth weight was more related to death than the high ones. So, the effect of high birth weight was not important as that for low birth weight in reducing survival. This birth weight relationship with survival may be more an indication of foetal development and maturity. Similarly, under our Mediterranean climatic conditions, lambs with low birth weight were already at risk and most of them died in the first week (58.8%), compared to 2% in the second week. The main causes of this high rate of mortality are low birth weight, starvation, mismothering and absence of care. Response to selection for maternal quality could improve survival rate of lambs (Fogarty, 1984) and as most of the dying lambs are occurring in the first week due to many management causes, then a review of non genetic ewe breeding must be encouraged. Both lamb birth weight and the ewe are implicated and we suggest that nutritional management of the ewe may provide a partial solution (Dekhili, 2003).

### Conclusion

These results indicate that low birth weight is closely related to lamb survival. A good ewe management and a better care, during the first week will reduce lamb mortality and will improve ewe's productivity.

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