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Effect of lambs' early weaning on their growth performance and the pasture's stocking rate

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Introduction There are many reports on lambs' early weaning (J.N. Zhang et al., 2005). In Yugur Minority Autonomous County in Zhangye Prefecture of Gansu Province, the sheep production mainly depends on grazing in a whole year, age is in September when they are sold. The study was conducted in Sunan, it focused on the local optimal lamb weaning age and improving the production efficiency of ewes, and reducing pressure on the grasslands.

Materials and methods The experiment choosed 120 hybridized lambs of Gansu alpine fine-wool sheep and Australia merino sheep, then randomly dividing into four groups with 30 sheep of each group, and the weaning ages are separatively 35d, 45d, 60d and 90d.

Results 30 days' weight and 60 days' weight, there was no significant difference in four groups ($P > 0.05$). 90 days, 35d weaning group significantly less than the other three groups, while the other three groups had no significant difference ($P > 0.05$). (Table 1). 30 to 60d, the lambs' daily-gaining-weight of 45d, 60d, and 90d weaning group was significantly higher than that of 35d's weaned group ($P < 0.05$), and there is no significant difference among them ($P > 0.05$); 60 ~ 90d, the 45d's daily-gaining-weight was significantly higher than the other three groups ($P < 0.05$), and the 60d's daily-gaining-weight was significantly higher than that of 35d and 90d (Table 2).

Table 1 Weaned lambs' weight of different groups (Kg / sheep).

groups	30d	60d	90d
35d weaning	9.76 ^a ± 0.85	14.23 ^a ± 0.96	19.81 ^a ± 1.23
45d weaning	9.47 ^a ± 0.74	15.08 ^a ± 1.13	22.16 ^b ± 1.43
60d weaning	9.85 ^a ± 0.87	16.21 ^a ± 0.87	22.36 ^b ± 1.21
90d weaning	9.63 ^a ± 0.83	16.23 ^a ± 0.92	22.17 ^b ± 1.34

Note: The figures in the same volume with same suffix letter is not significant ($P > 0.05$), conversely significant.

Table 2 Weaned lambs' daily-gaining-weight of different groups (g / sheep).

groups	30~60 ^d	60~90 ^d
35d weaning	149 ^a	186 ^a
45d weaning	187 ^b	236 ^c
60d weaning	212 ^b	205 ^b
90d weaning	220 ^b	198 ^a

Conclusions The lambs' optimal weaning age is 45d in the farming-pastoral zone, using some substituting milk and high-quality alfalfa in lambs' early weaning is the effective measure to increase sheep flock's production efficiency and reduce pressure on grasslands stocking. Early weaning can not only reduce the pressure on the pasture, but also improve the economic benefits of mountain animal husbandry, and increase the economical income of peasants and herdsmen.

Reference

Zhang Ju-nong, Yan Zeng-pin, Wu Jin-liang (2005). Effect Analysis of Technique of Lamb Ablact Ation at Nonage in Farming Areas' Lamb-breeding Household. *Contemporary Animal Husbandry* (3).