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# A NOTE ON THE ARTIFICIAL REARING OF WEST AFRICAN DWARF (WAD) LAMBS

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Thirty-six West African Dwarf (WAD) lambs were allocated into three groups, viz.: 12 lambs (control) reared naturally (Lot A), 12 lambs weaned at 5-7 days of age and reared artificially (Lot B), and the remaining 12 lambs weaned at 28-30 days and reared artificially (Lot C). The artificially reared lambs were fed fresh cow's milk and a creep-feed from weaning to 12 weeks of age. Average daily gains to, and average liveweights at, 12 weeks of age were 102.33 g/d and 10.19 kg; 99.83 g/d and 9.99 kg; amd 93.0 g/d and 9.39 kg; for the naturally reared lambs, lambs weaned at 5-7 days of age and lambs weaned at 28 -30 days of age respectively. The differences between the average daily gains and liveweight at 12 weeks of age were not significant. No mortality was recorded among the experimental animals. However, it is suggested that lambs intended for artificial rearing be weaned very early in order to reduce the magnitude of growth retardation which usually follows weaning.

Key words: West African Dwarf sheep, artificial rearing, growth rate

The sheep is about the only small domestic ruminant that is not discriminated against either on a cultural or religious basis in Nigeria. In other words, no taboos are associated with the consumption of mutton. Observed performances of sheep indicate that dry savannah-like areas are more suitable for sheep husbandry than hot humid regions. This is not the case with the West African Dwarf breed of sheep which thrive and breed successfully in the tsetse-fly infested hot humid regions of West Africa (Mason 1951; Hill 1960). The WAD sheep has been observed to cycle and ovulate throughout the year (Jollans 1960), are highly prolific and have a high twinning rate (Adeleye 1980). Since meat production is the primary interest of sheep farmers in Nigeria, early weaning and artifical rearing of lambs can lead to increased numbers of lambs available for slaughter. This study examines the effect of early and late weaning of WAD lambs on subsequent growth and mortality rates.

## Materials and Methods

Thirty-six WAD lambs were divided randomly into three lots of 12 animals each. Each lot was made up of 4 single lambs and 4 sets of twin lambs. Because of the limited number of lambs of the same age available for this study, attention was paid only to single and twin lambs and not sex. The control lambs in Lot A (late weaning) were allowed to stay with, and suckle their dams throughout the experimental period of 12 weeks. The lambs in Lot B were weaned at 5 - 7 days (1 week) of age, while lambs in

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Lot C were weaned at 28-30 days (4 weeks) of age. Fresh cow's milk obtained daily from the dairy section was used to feed the lambs in Lots B and C. The milk was put in plastic feeding bottles fitted with nipples and brought to 35 - 37°C just before feeding. The lambs were fed four times daily and allowed to drink to satiety each time. In addition, an early weaning creep-feed (70% ground yellow maize, 20% groundnut cake and 10% glucose ), trace-mineralized salt lick and fresh water were available at all times to the lambs in Lots B and C. A production ration (60% ground yellow maize, 20% groundnut cake and 20% palm kernel meal) which is similar to the creep-feed was also available to the ewes and their lambs in Lot A.

## Results and Discussion

Average daily gains, liveweight at 12 weeks of age and mortality rate were parameters compared (Table 1).

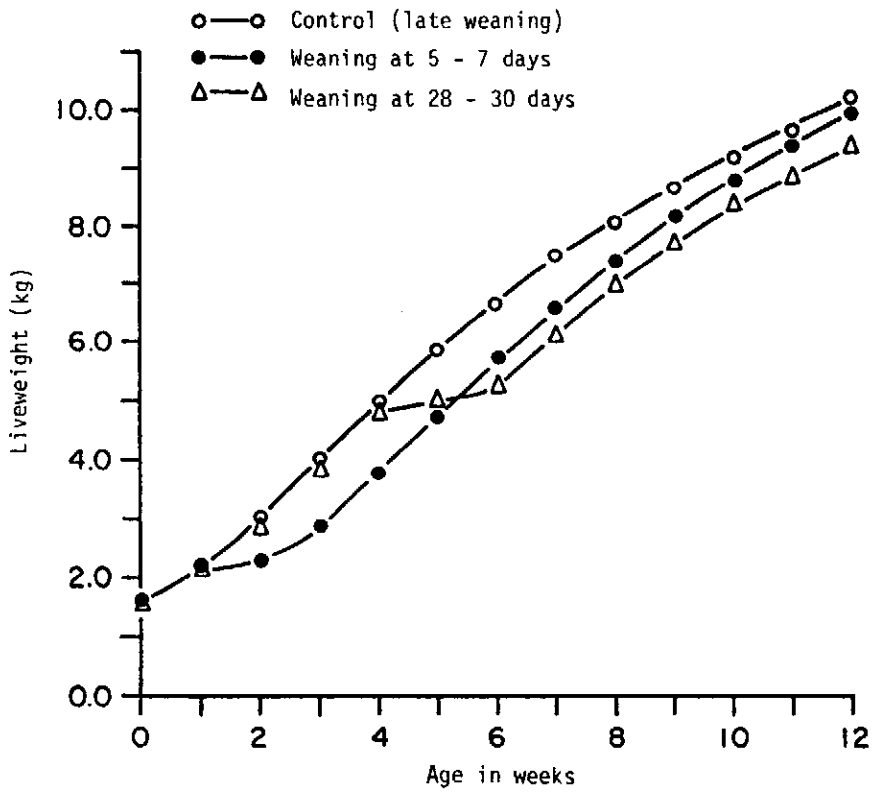
*Table 1:*

*Effect of early and late weaning of WAD lambs on growth rate and weight at 12 weeks of age*

| Criteria | Control Late weaning (A) | Weaning at 5-7 days (B) | Weaning at 28-30 days (C) |
|---|---|---|---|
| No. of animals | 12 | 12 | 12 |
| Average birth weight (kg) | 1.59 ± 0.13 | 1.60 ± 0.11 | 1.58 ± 0.09 |
| Average daily gain to 12 wks (g) | 102.33 ± 3.47 | 99.83 ± 2.51 | 93.00 ± 2.62 |
| Mortality | - | - | - |
| Average weight at 12 wks. (kg) | 10.19 ± 1.11 | 9.99 ± 1.24 | 9.39 ± 1.10 |
| Average weight at birth (kg): | | | |
| Single lamb | 1.80 ± 0.15 | 1.77 ± 0.12 | 1.79 ± 0.12 |
| Twin lamb | 1.48 ± 0.08 | 1.52 ± 0.10 | 1.48 ± 0.08 |
| Average weight at 12 wks. (kg): | | | |
| Single lamb | 11.23 ± 1.09 | 10.31 ± 0.99 | 10.05 ± 1.23 |
| Twin lamb | 9.64 ± 1.47 | 9.85 ± 1.21 | 9.07 ± 1.02 |

The naturally reared lambs (Lot A) showed a steady growth rate (Figure 1) and weighed 10.19 kg at 12 weeks of age. The lambs weaned at 5 -7 days of age (Lot B) grew at a reduced rate for about a week following weaning, but then recovered to a slightly faster growth rate than the control lambs and reached an average liveweight of 9.99 kg at 12 weeks of age. The lambs weaned at 28 - 30 days of age exhibited a considerable growth retardation for about two weeks following weaning, but later resumed growth at a rate similar to that of the control lambs, reaching 9.39 kg at the age of 12 weeks. The difference in liveweights at 12 weeks of age for the different groups was not statistically significant ($P < 0.05$). The average daily gains for the 12 week period were 102.3 g for the naturally reared lambs and 99.8 g and 93.0 g for the lambs weaned at 5 - 7 days and 28 - 30 days of age respectively. The differences were not significant. These results agree with those of Large (1965a) who reported

*Figure 1:*
*Growth curves of early and late weaned lambs*




that artificially reared lambs grew as fast as naturally nursed lambs if enough milk is provided. Welch et al (1963) also reported similar daily gains for both the naturally and artificially reared lambs used for hot-house lamb production.

The younger lambs (weaned at 5 - 7 days of age , Lot B) adapted to drinking from the feeding bottle easily within 2 or 3 days, but it took more than a week for the older lambs (weaned at 28 - 30 days of age, Lot C) to get used to drinking from the feeding bottles. This accounted for the difference in the magnitude of growth retardation which followed weaning in Lots B and C. A similar observation was reported by Brisson and Lemay (1968) in their comparison of different protein and energy ratios for lambs weaned at different ages.

Single lambs which were slightly heavier at birth (Table 1) remained heavier at 12 weeks of age, irrespective of weaning time. However, the difference in liveweight at 12 weeks of age between the single and twin lambs in Lot A (naturally reared lambs) was much higher than those observed for lambs in Lots B and C, which were artificially reared. This indicates a possible lack of sufficient milk for the naturally reared twin lambs from their dams as age progresses. In the artificially reared Lots (B and C) however, the liveweight differential at 12 weeks of age between single and twin lambs was much smaller, since all lambs were able to get sufficient milk.

The composition of the substitute milk used in artificial rearing of lambs has been reported to be important (Cunningham et al 1961) for the fact that lamb growth is related to the concentration of milk total solids . However, Large (1965b) did not obtain significant differences in the growth rate of lambs fed substitute milk varying between 10 and 20% total solids because the lambs drank to satiety and were able to obtain sufficient total solids from the different milk preparations.

Most of the lambs in Lots B and C (artificially reared) scoured , but no mortality was recorded. Scouring and abomasal bloat are the two main factors causing ill health of artificially reared lambs ( Large 1965a).

The above results have indicated that despite the small body size of the WAD lambs, they could be weaned successfully at an early age , thus freeing the ewes of the stress of lactation and a considerable reduction in their energy requirements. An early lamb weaning programme will enable the farmers to make full use of the gestating capacity of the WAD ewes which can lead to a considerable increase in the total number of output.

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