

Evaluation of Electronic Identification Rumen Boluses for Improved Lamb Growth

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A trial conducted on sheep at Rutherglen Centre in Spring 2005 determined that electronic identification rumen boluses (EIRB) are effective for the identification and tracking of sheep and have the potential to enhance flock management (Gaunt and Britt 2008, these proceedings). Additionally there were unanticipated statistical differences observed between the growth rate of lambs tagged with electronic identification ear tags (EETI) and EIRB lambs resulting in EIRB lambs growing 15 g/day faster ($P < 0.05$).

The aim of this 2006 project was to establish whether EIRB provide on-farm advantages and opportunities due to accelerated growth of lambs. If EIRB is associated with faster growth as shown in the 2005 project it is likely that the sheep industry would experience additional benefits apart from utilising EIRB solely for identification.

The project conducted in 2006 included 498 single born, second cross lambs (Poll Dorset x 1st cross ewe) which were born in Autumn or Spring 2006. Lambs were aged between 2 and 7 weeks with weights ranging from 8.5 kg to 31 kg live weight. They were split evenly between two groups and weighed and identified with EIRB or EETI at marking. Liveweights were recorded at regular intervals until 6 months of age. Growth rates were calculated to enable comparison of EIRB and EETI treatments.

ANOVA analysis showed no statistical differences between the weight of lambs at the time of EIRB administration and growth rate. This indicates that the weight of the lamb at the time of bolus administration does not have an impact on subsequent growth rate.

There was no statistical difference in growth rates between the EIRB (238 g/day) and EETI (235 g/day) lambs in the Spring trial from time of bolus administration to 6 months of age. In contrast results from the Autumn trial showed that lambs from the EIRB group had significantly lower growth ($P < 0.05$) from the time of bolus administration at marking to 6 months of age (256 g/day) than EETI lambs (267 g/day). This indicates the EIRB had a small adverse effect on the growth of lambs that were administered EIRB in Autumn.

Although the results showed a statistical difference for lambs in the Autumn trial, the margin between growth rates of EETI and EIRB lambs equates to minor economic impact. Furthermore the variability of growth results shown between the Spring 2005, Autumn and Spring 2006 trials make it difficult to conclude there are additional growth benefits or disadvantages associated with the application of an electronic identification bolus.

To further explain the differences between lambs born in the Autumn or Spring season, the interaction between nutritional influences and the presence of a bolus in the rumen on lamb growth rate requires further investigation.

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