

Evaluation of a Novel Barrier - Type Teat Dip Product Applied to Ewes Post-Weaning

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Summary

Teats of 36 ewes (72 udder halves or teats) were dipped with an experimental barrier - type teat dip product to evaluate product persistency post weaning. Persistency was evaluated one to two times/day and scored positive if the teat end orifice was covered and protected. Persistency or the percentage of teats covered/protected at 36, 54, 72, 96, 132, and 156 hours was 100%, 93%, 89%, 63%, 35%, and 24% respectively. Ewes will be dipped again pre-lambing and both persistency and bacteriology (mastitis prevention) will be evaluated compared to 36 control ewes.

Introduction

Mastitis is a major economic loss to the sheep industry with cost estimates of \$20-25 million annually. These losses can be attributed to death or loss of ewes, replacement cost of ewes, decreased lamb performance mainly due to decreased ewe milk production, labor costs, feed costs for orphans, and veterinary costs. Research has shown that a high percentage of new intramammary infections (IMI) in ewes are contracted during the early post weaning period (one week) and prior to lambing (one week). Prophylactic antibiotic treatment intramammary or intramuscular post-weaning has been shown to significantly reduce new infections during these periods. However, this practice can be labor intensive and may not be cost effective. Research in dairy cattle has focused on development of a persistent barrier teat dip for prevention of IMI during these time periods, with a current teat dip prototype showing 100% of teats protected > two days, 85% protected > three days, and a 64% reduction in new IMI (86% reduction in environmental IMI) at calving in dairy cows. The objectives of this research are to evaluate the persistency of this novel barrier type teat dip product post weaning and pre lambing, and its potential to prevent IMI and mastitis at lambing.

Materials and Methods

Two separate trials were conducted to evaluate the persistency of a novel barrier type teat dip product. Twenty ewes (40 teats) were used for trial 1 while 16 ewes (32 teats) were used for trial 2. All teats of all ewes were dipped with Syn-skin T (an elastic synthetic skin polymer developed for mastitis prevention) on the day of weaning after lambs were weaned. Dip persistency or protection was visually evaluated at 36, 54, 72, 96, 132,

and 156 hours (trials 1 and 2) and 180, 204, 228, and 252 hours (trial 1 only). Persistency was scored positive if the teat end orifice was covered and protected by the dip upon visual appraisal.

Results and Discussion

Dip persistency results for both trials and combined data are shown in Table 1. Minimal differences were seen between trials so data was combined. The percentage of teat ends protected at 36, 54, 72, 96, 132, and 156 hours (combined data) was 100, 93, 89, 63, 35, and 24%, respectively with 20% protected at 204 hours (8.5 days) and 8% protected at 252 hours (10.5 days) in trial 1. These persistency and data are similar to comparable dairy cow data during the early and late dry periods. These 36 ewes (72 teats) will be dipped again pre-lambing next winter while 36 other ewes will serve as controls. Dip persistency will be evaluated and milk samples from udder halves will be analyzed bacteriologically for mastitis evaluation.

Implications

Using a persistent barrier dip may provide a simple, cost effective method to protect the mammary gland during the transitional periods (post wean/pre-lambing) when the gland is most susceptible and the highest percentage (>90%) of mastitis infections are contracted.

Acknowledgments

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Table 1. Persistency of a novel barrier teat dip on ewes post weaning.

Evaluation Time or	Trial 1 ^a	Trial 2 ^b	Combined ^c
<u>Visual Appraisal</u>	-----% Teats protected -----		
36 hours	100%	100%	100%
54 hours	90%	97%	93%
72 hours	83%	97%	89%
96 hours	58%	69%	63%
132 hours	38%	31%	35%
156 hours	28%	19% ^d	24%
180 hours	20%		
204 hours	20%		
228 hours	8%		
252 hours	8% ^d		

^a 20 ewes (40 teats)

^b 16 ewes (32 teats)¹

^c Trials 1 and 2 combined: 36 ewes (72 teats)

^d Visual appraisal ceased at these times