



# Using estrus detection patches or a ram wearing a marking harness to monitor estrus in synchronized hair sheep ewes

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## Introduction

As the use of estrous synchronization and artificial insemination become more common in sheep breeding, determining when a ewe is in estrus will be critical to the success of the breeding program. Use of marking harnesses is standard in the sheep industry, but the use of estrus detection patches commonly used in cattle may have applicability for use in hair sheep due to their short hair cost.

## Objective

This study was conducted to compare the efficacy of estrus detection patches (EstroTECT™) or rams wearing marking harnesses for monitoring estrus in synchronized hair sheep ewes.

## Methods

- St. Croix White (STX) ewes ( $3.5 \pm 0.3$  y of age,  $89.7 \pm 2.2$  d post-partum) were synchronized using progesterone releasing inserts (Eazi-Breed™ CIDR) for 12 d.
- On the day of CIDR removal (d 1) ewes were administered prostaglandin (Lutalyse®; 15 mg i.m.) and placed with fertile STX rams in 0.55 ha pastures.
- One group of ewes (n =10; MH) was placed with a ram wearing a marking harness
- A second group (n = 16; EP) had estrus detection patches placed on their rumps (Figure 1) before being placed with a ram without a harness.
- Estrus detection was conducted using visual observations twice a day through d 7.
- A ewe was considered to be in estrus when crayon marks were observed on the rump or the patch was activated, based on product guidelines.

## Statistical Analysis

Cumulative percentage of ewes in estrus was analyzed using the CATMOD procedure with treatment, day and the interaction in the model.

## Results

- By d 4, 90% of MH ewes and 75% of EP ewes had been observed in estrus ( $P < 0.05$ ; figure 2).
- By d 7, 90% of MH ewes and 81.25% of EP ewes had been observed in estrus ( $P < 0.05$ ; Figure 2).
- All patches stayed in place on the EP ewes through d 7 (Figure 3).
- Patch removal took some effort
- Pulling patches off the ewes manually did not seem to be very easy and there was a lot of tugging on the hair and skin (Figure 4).
- Shaving the patches with electric clippers ended up being easier and less stressful to the ewe (Figure 5), even though a significant amount of hair was removed in the process (Figure 6).
- With costs of \$1.33 per patch or \$29.33 for one harness and crayon the patches may be more economical when dealing with up to 21 ewes per ram.



Figure 1. Patch placement on the rump of the ewe

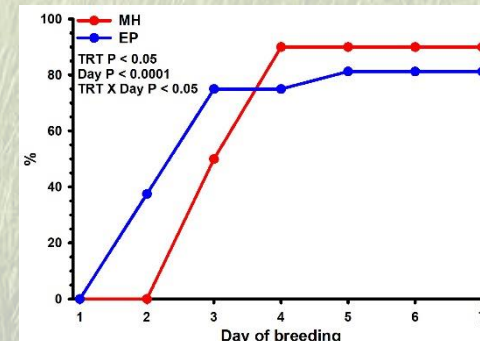


Figure 2. Cumulative percent of ewes in estrus after ram introduction.



Figure 3. Activated patches on ewes in response to mounting by the ram



Figure 4. Removal of patch manually



Figure 5. Removal of patch using clippers



Figure 6. Patches with hair stuck on them and "bald" spot on ewe where patch was removed

## Conclusions

- Estrus detection patches can be used to detect estrus in hair sheep
- They are cost effective when used in groups of ewes up to 20 head, but for larger numbers of ewes marking harnesses are more cost-effective
- Removal of the patches can be difficult and the use of electric clippers makes it easier, but more labor intensive

## Acknowledgements

- The authors thank Mike Wilson and Ismael Montes for assistance with animal handling and management.
- This project was a contribution to SCC-81 (SCC81: Sustainable Small Ruminant Production in the Southeastern U.S.).
- The authors thank Mr. Jerry Jones of EstroTECT for providing the estrus detection patches.