



Induction & estrus synchronization of sheep and goats during fall and late spring (seasonal & out-of-season) using controlled internal drug release (CIDR) devices on Delmarva

For sheep and goat producers, the rational and easy approach to target the peak demand for chévon and lamb would be to breed livestock according to the prospected demand. However, there is a challenge with sheep and goats: sheep and goats are seasonal breeders.

Who cares and why?

For the last 25 years, rapid changes in the United States' demographics have increased demand for lamb and/or chévon (goat meat). For example, the USDA National Agricultural Statistical Service (NASS) reported that in 1970, 1.29 metric tons (2,843.96 pounds) of chévon were imported into the United States. In contrast, in 2009, 11,706.70 metric tons (25,808,855.63 pounds) were imported (approximate retail-value at \$129+ million). For Delmarva sheep and goat producers, it is a great opportunity to target the demand and the proximity to large concentrations of lamb and chévon consumers in Washington, D.C., New York, Philadelphia, Baltimore, and Newark, and thus enhancing small farm diversity and sustainability.

The lamb and chévon demand during the year usually follows ethnic holidays, which change from year to year to coincide with traditions and festivals as listed on different types of calendars. Seasonal estrus occurs when the daylight hours are diminishing (around September), and seasonal anestrus happens when the daylight period is longer (late spring to early summer).

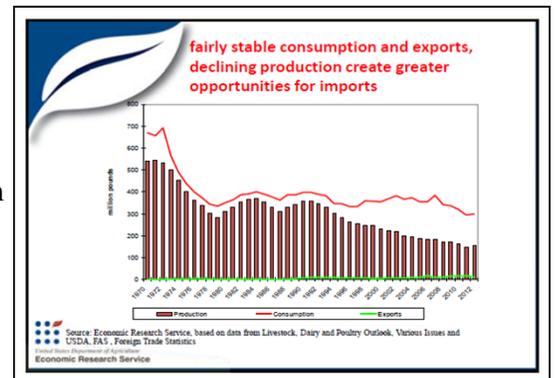
In October 2009, EAZI-BREED™ CIDR® (Pfizer, New York, NY) sheep inserts became available as an over-the-counter FDA-approved product recommended for the induction of estrus during seasonal anestrus in sheep. The product has been labeled approved for sheep and goats in Australia and New Zealand, and USA's FDA approval for use in goats is pending in the United States.

What has the project done so far?

Small test trials at the UMES Small Ruminant Farm using the EAZI-BREED™ CIDR® sheep inserts have given inconsistent results when used in Katahdin cross bred ewes and cross bred Kiko and Boer does. However, the use of this FDA-approved product in small ruminants greatly encourages producers because it would allow them to target lamb and chévon demand peaks during the year.

The goals of this three-year-long proposed study are to determine if the commercially available, recently FDA-approved CIDRs would improve estrus synchronization of sheep and goats (fall and summer) on Delmarva and if sheep and goat producers could economically target peak demands for their livestock.

The protocol used for this study follows the pattern of that reported by the researchers who participated in the CIDRs' FDA-approval trials. The tests are conducted during the "normal breeding" period (the fall of the year) and during the anestrus period (May-June). The selected ewes and does are separated into two groups: CIDR TREATED (TRT n= up to 30 ewes/does), using a randomized complete-block design consisting of 2 or more replications, depending



Meat goat production in the USA has declined in contrast to consumption, creating a gap filled by imports and an opportunity for local producers. Estrus synchronization, targeting peak demand dates, will enhance opportunities of increased revenue for small farmers.



on availability of females and males. Once the targeted lambing and kidding date is identified, then the breeding plan is scheduled accordingly. The CTL ewes and does will remain in the pastures until the rams and bucks are introduced to the groups. As shown in the picture, every ram and buck used in the trial is fitted with a breeding harness, which aids in monitoring breeding episodes.

Impact Statements

- The initial studies conducted at UMES have indicated that the use of CIDRs has a potential in assisting small farmers to schedule breeding according to peak demand.
- The experience gained on sheep and goat breeding while conducting multiple trials at UMES has facilitated an outreach efforts carried out by the University of Maryland Extension at UMES to train sheep and goat producers to improve ewe and doe nutrition and management.
- Several seminars and roundtables trained farmers and students focusing on improving lambs' and kids' survival.
- UMES scientists, graduate students, and small ruminant specialists have become proficient in designing, implementing, and analyzing trials to determine factors affecting the breeding of sheep and goats.

What research is needed?

Additional research is needed to determine if there are significant effects of CIDRs on targeted breeding

Want to know more?

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