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Oh BEHAVE!

Behavioral Education for Human, Animal, Vegetation & Ecosystem Management

BEHAVE Outreach Program • 435-797-3576

The Newsletter for the BEHAVE Research and Outreach Program

BEHAVE Principle of the Month:

In utero experiences affect animals later in life – Contrary to our recent study to the right, numerous studies report that experiences *in utero* matter. Ewes fed a high-salt (NaCl) diet while pregnant produce offspring with higher fleece weights and a greater ability to excrete salt when fresh water is limited. Ewes browsing saltbush when pregnant produce offspring that, as adults, perform better on saltbush than controls. Feeding pregnant ewes oregano increases their lambs' preference for oregano-flavored diets. Finally, a poor diet during pregnancy produces offspring with impaired reproductive performance, and higher incidence of high-blood pressure and diabetes.

Does Experience In Utero or Early in Life Increase Intake of Sagebrush by Lambs?

Increasing intake of sagebrush by livestock in late fall and winter can decrease feed costs. In addition, grazing sagebrush can improve wildlife habitat, biodiversity and sagebrush health by removing old, decadent shrubs and encouraging growth of new seedlings.

Using animals to modify sagebrush communities would be easier if we could shape animals to eat it readily. Eating foods early in life with mom affects diet selection. How would exposing lambs to sagebrush *in utero* and/or early in life affect intake of sagebrush? Graduate student, Ashley Hansen, asked this question.

In the study, lambs were exposed to sagebrush with mom either: 1) *in utero*; 2) early in life, 3) *in utero* and early in life or 4) had no exposure. At 6 mos of age, lambs were offered a choice between alfalfa pellets (free choice, 75% or 50% of free choice) and fresh clipped sagebrush.

Preliminary data indicate lambs ate very little sagebrush when pellets were fed free choice. All lambs ate sagebrush when pellets were restricted (50 or 75%). Lambs ate vastly different amounts of sagebrush but these differences were not related to early experience.

Lambs in the early exposure groups eat sagebrush with mom.

Failure to find differences among treatments may be due to the amount of exposure to sagebrush by lambs in utero and/or early in life. Many lambs may have readily eaten sagebrush during the trial because they were still relatively young during the trial and their dietary preferences were still flexible.

Preference for sagebrush is moderately heritable. Intake differences among sheep are likely due to the ability of certain sheep to detoxify and excrete terpenes better than others.

BEHAVE Outreach Program

Neem Tree Protects Animals from Ticks.

Your Source for All Things BEHAVE

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We're on the Web!

See us at:

www.behave.net

This isn't a behavioral study but it was conducted at our research facility. Results may lead to studies on self-medication by animals infested with ticks.

The neem tree produces a chemical (tetranortriterpenoidazadirachtin or AZA) that is toxic to ticks. AZA is a natural product, non-toxic to mammals and unstable in sunlight making it environmentally friendly. Organic certified neem is available so it may be suitable for organic producers.

Neem foliage

Dr. Yan Landau, a visiting scientist from Israel, conducted a study to determine if AZA is toxic to ruminants and can protect lambs from ticks if it is fed in the diet.

During a 12-day trial, lambs showed no sign of toxicity after eating a diet containing either 0.3 or 0.6% AZA. Lambs quickly adjusted to the flavor of AZA and ate it readily at 0.3 and 0.6%. Levels of AZA in the blood were higher in lambs fed AZA as 0.6% of the diet

Dog tick attached to a lamb and covered by fabric sack.

than lambs fed 0.3% AZA. In lambs infected with dog ticks, adding 0.6% AZA to the diets of lambs decreased blood-feeding by adult ticks by about 50% compared with control lambs. This study was published in Veterinary Parasitology 2009 165:311-317.

Experimental lamb with several ticks attached and covered by fabric sacks. Sacks aided in tick recovery.

UtahState University COOPERATIVE EXTENSION

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