Title: Betaine and Choline Supplementation to Enhance Mohair Production

Objectives:

- Measure responses to an increased dietary supply of betaine and choline in Angora goats on fiber growth rate, composition, and quality
- Measure responses to an increased supply of betaine and choline in dairy goats on milk production and composition

Title: Seasonal Manipulations to Improve Cashmere and Meat Returns in Goats

Objectives:

- Quantify the natural seasonal cycle of cashmere growth. This is essential to permit the extension of existing technology from other countries to the U.S. Practical recommendations on harvest dates for cashmere will be provided and the window of opportunity for chemical defleecing treatments will be defined.

- To quantify the response in fiber growth and breeding cycles of two methods of melatonin treatment applied in April in the U.S. This represents an attempt to improve both meat and cashmere returns from U.S. goats following a single spring melatonin treatment.

- To determine whether shedding, following the cessation of a spring melatonin treatment, can be prevented by the suppression of plasma prolactin concentration. This objective seeks to greatly enhance the magnitude of cashmere response to melatonin treatment, without compromising meat production.

- To determine the effect of chemical defleecing agents on fiber growth and quality in cashmere goats. This technology seeks to harvest cashmere with minimal guard hair contamination while retaining the guard hair fleece on the goat for protection from cold.
Title: *Environmental and Physiological Control of the Growth and Properties of Mohair*

Objective:

- Investigate effects of and interactions between environmental and physiological controls of mohair growth and quality

Title: *Exogenous Hormone and Nutritional Manipulation to Increase Fiber Production*

Objectives:

- Investigate the interactions among growth hormone, insulin-like growth factor I, insulin, and thyroid hormones for mohair growth and skin metabolism
- Define the role of growth hormone in skin metabolism and mohair growth and determine whether growth hormone has the potential to improve mohair production and quality

Title: *The Evaluation of Various Feedstuffs for Milk Production by Lactating Dairy Goats*

Objectives:

- Study interactions between levels of ruminally undegraded protein and digestible energy in lactating dairy goat diets
- Determine influences of differences in dietary ingredient composition to vary the time of maternal tissue replenishment on milk production by dairy goats
Title: *Enhancing Browse Utilization by Goats*

Objectives:

- Investigate the chemical composition and potential nutritive value of browse with emphasis on the tannin content, type, and limitation to digestion
- Explore relationships among supplemental polyethylene glycol, tannin content in forage, and forage utilization by ruminants in order to increase intake of tannin-containing forages
- Determine if once-daily supplementation with polyethylene glycol will enhance goat control of noxious brush and weeds

Title: *Postruminal Nitrogen Supply for Fast Growing Meat Goats*

Objectives:

- Determine the level of dietary crude protein required for goat kids of different growth potential
- Determine the influence of both level and source of supplemental protein on ruminal fermentation, postruminal nitrogen supply, and performance of rapidly growing goat kids
- Determine the influence of dietary level of ruminally undegraded protein on ruminal fermentation and postruminal nitrogen supply as well as performance of kids with different growth potential
- Determine the complementary nature of different sources of ruminally undegraded protein on postruminal amino acid supply as well as performance of kids with different growth potential
Title: *Nutrient Requirements of Goats: An Update and Reevaluation*

**Objective:**

- Compile and review literature experiments conducted since publication of NRC (1981) concerning nutritional requirements of goats in order to update and reevaluate existing requirement recommendations and/or develop more appropriate and accurate alternate systems

Title: *Metabolic Changes Affecting Utilization of Poor Quality Diets by Goats*

**Objective:**

- Determine influences of supplementation of poor-quality forage diets with rumen-protected betaine on energy and nitrogen metabolism in goats

Title: *A Calorimetry System for Study of Small Ruminant Pastoral Energetics*

**Objectives:**

- Install a four-animal calorimetry system, indirect, open-circuit calorimetry system
- Use a calorimetry system in conjunction with other techniques to determine energy expenditure by goats with different grazing/browsing conditions
Title: Sustainable Dairy Goat Milk Production from Forages

Objectives:

- Study milk production, composition, animal health, and inputs for a grass-based dairy system as compared with a conventional confinement dairy.
- Determine the response in milk production of grass-based dairy goats to different levels of concentrate supplementation.
- Model the effect of pasture intake and concentrate supplementation on milk production and changes in body weight.

Title: Quality Characteristics and Yield Predictive Models of Goat Cheeses

Objectives:

- Determine the effects of milk composition and somatic cell counts on the quality and yield of goat cheese and develop yield predictive models for goat cheeses (French soft, Colby, and Mozzarella).
- Characterize Colby or Mozzarella cheeses in terms of composition, microstructure, rheological properties, protein profiles, and sensory characteristics as affected by seasonal variations of milk composition and property changes during cheese storage.
Title: **HACCP Training for Very Small Establishments in Oklahoma**

**Objectives:**

- Conduct HACCP training targeted at very small establishments in the state of Oklahoma.
  - Encourage practices that will educate processors how to determine the suitability of animals for slaughter to reduce potential hazards.
  - Develop working HACCP plans for very small processors that are willing to demonstrate to other processors how HACCP systems can work.
  - HACCP consultants will provide technical guidance and materials about HACCP concepts and regulatory requirements through informal meetings.
  - Provide one-on-one consultation with participants to develop HACCP plans in the most efficient and cost-effective ways.
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