| **Title:** Goat Nutrient Requirements, Management Practices, and Production Systems |  |
| **Support:** Evans-Allen |  |
| **Period:** 2001-2006 |  |
| **Objective:** Study goat nutrient requirements, management practices, and production systems in order to increase the level and efficiency of goat productivity for increased profitability from goat production and lower costs to consumers of goat products |  |

| **Title:** Seasonal Manipulations to Improve Cashmere and Meat Returns in Goats |  |
| **Support:** 1890 Institution Teaching and Research Capacity Building Grants Program |  |
| **Period:** 1997-2001 |  |
| **Objectives:** Quantify the natural seasonal cycle of cashmere growth  
Quantify the response in fiber growth and breeding cycles of two methods of melatonin treatment applied in April  
Determine whether shedding, following the cessation of a spring melatonin treatment, can be prevented by the suppression of plasma prolactin concentration. |  |

| **Title:** Exogenous Hormone and Nutritional Manipulation to Increase Fiber Production |  |
| **Support:** 1890 Institution Teaching and Research Capacity Building Grants Program |  |
| **Period:** 1997-2001 |  |
| **Objectives:** Investigate the interactions among growth hormone, insulin-like growth factor I, insulin, and thyroid hormones in 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: Enhancing Browse Utilization by Goats

Support: 1890 Institution Teaching and Research Capacity Building Grants Program

Period: 1997-2001

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

Title: Postruminal Nitrogen Supply for Fast Growing Meat Goats

Support: 1890 Institution Teaching and Research Capacity Building Grants Program

Period: 1998-2002

Objectives: Determine the level of dietary crude protein required for fast growth of goat kids differing in growth potential

Determine the influence of both level and source of supplemental protein on ruminal fermentation, postruminal nitrogen supply, and performance of young meat 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 differing in growth potential

Determine the complementary nature of different sources of ruminally undegraded protein on postruminal amino acid supply, as well as performance of kids differing in growth potential

Title: Nutrient Requirements of Goats: An Update and Reevaluation

Support: 1890 Institution Teaching and Research Capacity Building Grants Program

Period: 1998-2002

Objective: Compile and review literature experiments published since 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

Support: 1890 Institution Teaching and Research Capacity Building Grants Program

Period: 1999-2002

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

Title: Sustainable Dairy Goat Milk Production from Forages

Support: 1890 Institution Teaching and Research Capacity Building Grants Program

Period: 1999-2002

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 change in body weight.

Title: Quality Characteristics and Yield Predictive Models of Goat Cheeses

Support: 1890 Institution Teaching and Research Capacity Building Grants Program

Period: 1999-2002

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: A Calorimetry System for Study of Small Ruminant Pastoral Energetics

Support: National Research Initiative Competitive Grants Program, Equipment Grant

Period: 1999-2001

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: Energy for the Productive Caprine

Support: 1890 Institution Teaching and Research Capacity Building Grants Program

Period: 2000-2003

Objectives: Quantify energy requirements of goats for:

- Maintenance
- Live weight gain or growth
- Gestation with single, twin, or triplet kids
- Lactation
- Mohair fiber growth

Title: Diet Selection and Performance by Sheep and Goats Grazing Mixed Pastures

Support: 1890 Institution Teaching and Research Capacity Building Grants Program

Period: 1997-2001

Objectives: Measure growth of kids and lambs grazing pastures containing a complex mixture of grasses and forbs, and pastures alley cropped with mimosa

Determine the quality and productivity of mimosa as browse in pastures co-grazed with goats and sheep

Study the interaction between stocking rate and time in affecting quantity and quality of the major botanical components, animal weight gain, and diet selectivity

Determine the most suitable stocking rate that provides the highest total gain per unit land area with the least amount of change in botanical composition
Title: The Detection of Mastitis in Dairy Goats

Support: Oklahoma Applied Research Support (OARS) Program/Oklahoma Center for the Advancement of Science and Technology (OCAST)

Period: 2001-2003

Objectives: Extensively test various mastitis detection assays that were developed for the bovine dairy industry to determine the applicability of those methods to detect mastitis in dairy goats

Determine the suitability of mastitis detection methods for use as a regulatory standard to monitor milk quality and goat udder health under field conditions

Title: Use of Goats for Sustainable Vegetation Management in Grazing Lands

Status: Full proposal under review

Support: Sustainable Agriculture Research and Education Grant Program

Period: 2001-2004

Objectives: Investigate effects of various goat management methods for vegetation rehabilitation or control in different grazing land settings in the south-central U.S.

Demonstrate and display appropriate means of vegetation management with goats, as well as to provide education in other related management areas

Develop an information package on optimal use of goats for grazing land vegetation management to ensure long-term, sustainable, and widespread project impact
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