EXPERIMENTS

Recently Conducted, In Progress, or Soon to be Initiated
**Dairy Goats**

*Sustainable dairy goat milk production from forages - year 2*

- Study milk production, composition, and animal health of pastured does as compared with a conventional, confinement dairy
- Measure the milk production response of pastured dairy goats to supplemental concentrate
- Model the effect of pasture intake and concentrate supplementation on milk production and changes in body weight

*Simple feeding practices for replacement Alpine doelings*

- Compare growth of replacement Alpine doelings with separate, free-choice feeding of concentrate and forage with free-choice intake of mixed diets and set concentrate feeding with free-choice forage

*Efficacy of Glinus lotoides (Hirta) - anthelmintic plant for nematode control in young Alpine wethers*

- Examine anthelmintic activities of different oral doses of *Glinus lotoides* (Hirta) for young Alpine wethers

*Quality characteristics and yield predictive models of goat cheeses*

- 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)

*The detection of mastitis in dairy goats*

- 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

**Meat and(or) Fiber Goats**

*Lysine and methionine requirements for growing meat goats*

- Determine influences of dietary levels of lysine and methionine on site and extent of
digestion and ruminal fermentation conditions and microbial protein synthesis in meat goats

- Determine effects of dietary levels of lysine and methionine on feed intake, growth rate, and feed efficiency of growing Boer × Spanish and Spanish wethers

**Broiler litter for growing/finishing meat goats**

- Determine effects of dietary levels of broiler litter and concentrate on feed intake, live weight gain, efficiency of feed conversion, digestibilities, nitrogen and energy balances, ruminal fluid concentrations of ammonia and volatile fatty acids, plasma urea level, and microbial protein synthesis in meat goats
- Characterize interactions between 1) dietary levels of broiler litter and concentrate and 2) meat goat genotype (i.e., Spanish and Boer × Spanish) in live weight gain, ruminal fluid concentrations of ammonia and VFA, and plasma urea level

**Effects of previous nutritional plane and age on early growth of meat goats grazing wheat pasture**

- Determine if previous nutritional conditions [1) low quality forage supplemented with soybean meal, 2) dehydrated alfalfa pellets, and 3) high concentrate diet] influence performance of meat goats in the first weeks of wheat forage grazing, and how such effects might vary with animal age

**Effects of length of nutrient restriction and level of realimentation on growth of yearling Spanish and Boer × Spanish doelings**

- Determine effects of the length of time of low nutrient intake on performance by yearling Spanish and Boer × Spanish doelings during and after restriction
- Assess influences of the level of concentrate supplementation during realimentation on compensatory growth by yearling Spanish and Boer × Spanish doelings

**Dry matter and nitrogen digestion kinetics in goats fed either a poor or medium quality forage supplemented with increasing levels of Sericea lespedeza**

- Investigate associative effects in digestion and digesta passage rate of basal forages with increasing consumption of Sericea lespedeza
- Determine effects of level of supplementation with Sericea lespedeza tannins on total tract digestibilities of dry matter and nitrogen
- Elucidate if effects of lespedeza tannins can be impacted by companion feeding of forages not containing tannins
- Identify optimum levels of Sericea lespedeza in diets based on different quality forages for maximal digestion and nutrient retention
Metabolic changes affecting utilization of poor-quality diets by goats

- Determine underlying physiological processes responsible for effects on goat performance of dietary inclusion of rumen-protected betaine

All Goats

Nutrient requirements of goats
- Update and reevaluate nutrient requirements of goats

Interplay of goat biological type or growth potential and energy restriction in early post-weaning growth

- Assess the interactions between growth potential and energy restriction on present and subsequent feed intake, digestion, and growth of different breeds of goats (Alpine, Angora, Boer, and Spanish)
- Determine the effect of energy realimentation after restriction on feed intake, growth rate, feed efficiency, and nutrient digestion

Energy requirements of goats

- Compare coupled use of heart rate and an indirect, open-circuit calorimetry system with calorimetry for study of goat energy requirements
- Determine maintenance energy requirements for Spanish, Boer, Alpine, and Angora goats

Internal parasite detection in goats and field survival of internal parasitess

- Compare parasite infestation of goats rotational grazing or set stocked
- Determine time of survival Haemonchus larvae on pasture
- Modify the mucous membrane color strip for use with goats to predict degrees of anemia and internal parasite load
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