

EXPERIMENTS

Recently Conducted, In Progress, or Soon to be Initiated

Dairy Goats

Effects of dietary concentrate level in late lactation and the dry period on dairy goat production

- C Determine effects of dietary concentrate level in late lactation and the dry period on:
 - < yield of milk and milk composition in late lactation
 - < body weight and body condition
 - < reproductive efficiency
 - < subsequent performance in early lactation

Ruminally-protected betaine and choline for Alpine doelings in early lactation

- C Investigate effects of dietary inclusion of ruminally protected betaine or choline on performance in early lactation of Alpine doelings

Influences of early age dairy kid management practices on growth

- C Determine effects of pen- vs cage-rearing on growth during and after suckling
- C Compare growth during and after suckling of pen-reared kids with or without exposure to chopped hay during suckling
- C Determine the impact on growth during and after suckling of kids housed during suckling in cages individually or with two kids per cage, one of which has been previously trained to readily consume milk

Meat Goats

Interplay between dietary protein level in growth of Spanish and Boer crossbred kids

- C Determine effects on and interactions in feed intake, daily gain, feed conversion ratio, blood nitrogenous compounds, and body fatness measures of:
 - < dietary protein level (i.e., 9, 13, 17, and 21% crude protein, with crude protein above 13% provided by a mixture of feedstuffs high in ruminally undegraded protein)
 - < genotype (i.e., 3/4 Boer and 1/4 Spanish vs Spanish)

Effects of forage intake on subsequent nutrient use in meat goats

- C Determine influences of different dietary forage levels on subsequent energy and nitrogen metabolism in mature meat goats.

Review of the fatty acid composition of goats

- C Compile literature estimates of the fatty acid composition of goat meat compared with beef and lamb

Dietary protein requirements of young meat goats

- C Determine influences of protein supplements high in ruminally undegraded protein and differing in amino acid profile on sites of digestion in, and growth of, meat goats

Fiber (Mohair and Cashmere) Goats

Effects of shearing and forage type on energy expenditure by Spanish does

- C Explore the magnitude of change in ¹³C background enrichment associated with a shift in relative rates of oxidation of metabolic substrates for thermogenesis induced by cold exposure by shearing versus no shearing in short- and long-term periods
- C Estimate CO₂ production by the CO₂ entry rate technique and, consequently, heat production by goats under the same circumstances

Perennial cool-season pastures for spring-kidding

- C Determine forage production patterns and quality of three perennial cool-season grasses as compared to winter wheat
- C Monitor body weight gain and mohair production of Angora goats grazing cool-season perennial grasses and wheat
- C Investigate physiological responses of lactating Angora does to bypass protein supplements

Effect of eu-, hypo-, and hyperthyroidism and bST on mohair growth and performance of Angora goats

- C Investigate effects of bST and thyroid status on mohair growth and performance of Angora goats

Ruminally-protected betaine and choline for Angora goats

- C Investigate effects of dietary inclusion of ruminally protected betaine or choline on mohair production and quality and body weight gain of Angora goats consuming diets differing in protein level

Seasonal manipulations to improve cashmere and meat returns in goats

- C Quantify responses in Spanish cashmere-growing goats to the natural cycle of cashmere growth and melatonin treatment alone or with bromocryptine mesylate implants in fiber follicle activity seasonal cycles and out-of-season breeding and extension of fiber growth cycles

Meat and Fiber Goats

Condensed tannins in Oklahoma plants for goats

- C Determine seasonal changes in condensed tannin concentration in common plants in Oklahoma consumed by goats

Effects of different levels of polyethylene glycol (PEG) on sites of digestion in goats consuming sericea lespedeza

- C Determine nutritive value and intake of lespedeza
- C Determine quantities of extractable (soluble), protein-bound, and fiber-bound condensed tannins in sericea lespedeza
- C Evaluate use of PEG supplementation as a means of controlling negative effects of lespedeza condensed tannins in goats
- C Formulate a response curve of PEG supplementation and nitrogen digestibility
- C Evaluate effects of condensed tannins alone and with PEG supplementation on digesta passage kinetics and ruminal concentrations of ammonia and volatile fatty acids

Interactions of polyethylene glycol (PEG) supplementation and site digestive tract site of condensed tannin administration

- C Evaluate the effect of quebracho tannin infused into the rumen or duodenum on feed intake, digestibility, and nitrogen balance
- C Evaluate the ratio of 2 g PEG per g quebracho condensed tannin in negating condensed tannin effects
- C Gain information on the fate of PEG-condensed tannin complexes

Polyethylene glycol (PEG) for growing meat goats grazing Sericea lespedeza

- C Determine effects of level of PEG supplementation on summer live weight gain by spring-born Boer × Angora kids

Polyethylene glycol (PEG) for goats grazing shinnery oak

- C Determine effects of PEG supplementation on live weight gain of yearling goats grazing pastures with shinnery oak in the summer
- C Assess the dietary proportion of shinnery oak and monitor change in presence of major plants present in pastures

Influences of levels of activity and feed intake on energy expenditure by meat goats

- C Assess the magnitude of change in natural abundance of ^{13}C associated with level of intake and also grazing conditions
- C Estimate CO_2 production and, consequently, heat production by goats under free-ranging conditions
- C Indirectly determine the proportion of total heat production due to eating, walking, and other activities

Effects of different flushing treatments on reproductive performance of Spanish does

- C Determine if goats respond to short-term flushing of protein or energy or if body condition is more important than flushing on ovulation rate and subsequent kidding rate.

Metabolism effects of ruminally protected betaine or choline

- C Determine effects in meat goat wethers of inclusion of ruminally protected betaine or choline in low or high protein diets on nitrogen and energy metabolism

Nutrient use in meat goats consuming different warm-season grasses

- C Determine differences among common warm-season grasses (bermudagrass, native prairie grasses, millet) in energy and nitrogen metabolism in growing meat goats

Effects of different supplements of low-quality forage on nutrient use in meat goats

- C Determine influences of different levels of cereal grain and ruminally undegraded protein in supplements of prairie hay on energy and nitrogen metabolism in mature meat goats.

Interplay of poultry litter supplementation and urea treatment of wheat straw on feed intake and digestion by yearling goats

- C Quantify improvements in feed intake and digestion in yearling Spanish wethers consuming wheat straw in response to dietary inclusion of different levels of poultry (broiler) litter compared with, and as influenced by, wheat straw treatment with urea

Broiler litter for replacement Alpine doeling growth

- C Compare performance of growing Alpine doelings consuming diets based on wheat straw and supplemented with different levels of broiler litter to that of doelings supplemented with a conventional protein source (i.e., soybean meal) or based on wheat straw ammoniated by treatment with urea

All Goats

Nutrient requirements of goats

- C Update and reevaluation of the nutrient requirements of goats