

Llamas/Alpacas – Morris Animal Foundation Approved Studies for 2009

GENETICS

Understanding Genes That Cause Disease
D09LA-004 Current Year: \$63,078
Dr. Terje Raudsepp, Texas A&M University

The first generation alpaca genome map and the sequence of the alpaca genome have now been completed. The present study will build on this information and expand its utility by mapping 500 evolutionarily conserved genes to the alpaca chromosomes. They will also compare the alpaca genome map to other mammalian genome maps in order to facilitate transfer of information from the genomes of human and other well studied species to alpaca. This work will provide a foundation for the discovery of genes that are associated with congenital disorders, genetic diseases and other traits and thus will lead to the development of valuable tools for breeders to improve health and welfare of alpacas.

INFECTIOUS DISEASES

Studying Anemia-Causing Parasite
D09LA-003 Current Year: \$28,751
Dr. Jeffrey Lakritz, Ohio State University

Mycoplasma haemolamae is an infectious, blood-borne parasite that causes life-threatening anemia in llamas and alpacas. Although veterinarians have the tools to diagnose this infection, diagnosing and treating *M. haemolamae* is expensive, difficult, and very often ineffective. In addition, little is known about the parasite's biology or how it causes disease. Defining the life cycle of *M. haemolamae* will improve prevention and treatment and help develop long-term management strategies. Researchers will determine whether *M. haemolamae* varies genetically based on geographic location and if there are differences in disease transmission. They also will establish laboratory culture methods to make it easier to study the parasite. This study will provide critical information for understanding, preventing and treating this infectious pathogen.

INFECTIOUS DISEASES

Determining Optimal Dosing for Dewormers
D09LA-005 Current Year: \$22,074
Dr. Lisa H. Williamson, University of Georgia

Gastrointestinal parasites are a major threat to the health and productivity of camelids and small ruminants. Although dewormers (anthelmintics) are commonly used to control internal parasites in camelids, current dosing recommendations were based on data obtained from other species such as cattle, goats and sheep. Because llamas and alpacas metabolize medications differently than domestic ruminants, they may be receiving insufficient treatment. Administration of sub-therapeutic doses has contributed to the emergence of drug-resistant wireworms. To preserve the effectiveness of currently used dewormers, they need to be dosed at optimal therapeutic levels. Researchers will determine optimal dose regimens for two commonly used dewormer drugs: moxidectin (Cydectin; Fort Dodge) by the oral and injectable routes, and oral morantel tartrate (Rumatel; Durvet).