1. To approve the following proposals, as amended, for funding in the amount of $304,933:

“Impact of Rice Bran on the Equine Fecal Microbiome and Metabolome following Exposure to Antimicrobials” at Colorado State University in the amount of $19,925
Principal Investigator: Rosemary Bayless DVM, Young Investigator Award
The large intestine of the horse is uniquely adapted to process the high fiber content of the normal equine diet. In a healthy state, the fermentation by beneficial bacteria provides energy and other nutrients, but the delicate ecosystem of microbes in the gastrointestinal tract is vulnerable to disturbance. Rice bran, an inexpensive source of fiber and fat for animal feed has been shown to provide significant health benefits. This project will evaluate the benefits of rice bran products on the GI microbial population in horses treated with or without antibiotics.
Executive Committee Action: Approved

“Establishing an ex vivo Model of Corneal Wound Healing in the Horse” at Iowa State University in the amount of $17,400
Principal Investigator: Rita Wehrman DVM, Young Investigator Award
Corneal ulcers are very common in horses and with a lack of appropriate treatment they present an imminent risk for the eye and for vision. If not identified early or if secondary infection occurs, this condition may lead to perforation of the eye. Typically, corneal injuries, such as ulcers, or epithelial defects, are associated with inflammation. As the injured eye runs the risk of permanent, vision altering consequences, it is not surprising that prompt and aggressive treatment is of paramount importance. The goal of this study is to establish an equine ex vivo model of corneal wound healing. This study is at the heart of improved animal welfare and represents a logical stepping stone between laboratory models and clinical studies.
Executive Committee Action: Approved

“Investigation into Lumbosacral Spinal Anatomy and Growth Plate Closure in Quarter Horses” at Oregon State University in the amount of $11,300
Principal Investigator: Elizabeth Collar DVM, Young Investigator Award
Back pain affects horses of all breeds and disciplines. Sacroiliac and lumbosacral region pain has been a non-specific diagnosis in many sport horses and racehorses. One recent study identified that lumbar vertebral fractures occur more commonly in Quarter Horses than Thoroughbreds. This study will collect lumbosacral specimens from racing and sport performance Quarter Horses humanely euthanized for reasons unrelated to this study, and characterize normal anatomical variation and growth plate closure using computed tomography diagnostic imaging, and visual and microscopic examinations. Results of the proposed study will provide valuable information and insight about the normal Quarter Horse lumbosacral anatomy and growth plate closure.
Executive Committee Action: Approved
“Mitochondrial Oxidative Function of Stallion Sperm is a Novel Indicator of Aging and Cryopreservation Success in Stallions” at University of California, Davis in the amount of $58,913
Principal Investigator: Stuart Meyers DVM, PhD
Semen cryopreservation success is known to decline with advanced age in stallions. This project will evaluate mitochondrial oxygen consumption and the relationship to sperm motility to determine if this is a fundamental response to stallion aging and whether it is affected by cryopreservation. Establishing the relationship of mitochondrial function to sperm function, stallion aging, and stallion fertility will provide design of treatments to optimize stallion utilization in breeding programs.
Executive Committee Action: Approved

“Genetics of Anhidrosis in the American Quarter Horse” at University of Florida in the amount of $53,247
Principal Investigator: Samantha Brooks PhD
Anhidrosis in horses is a poorly understood condition characterized by a persistent reduction or complete lack of sweat. Although there are many medical treatments suggested for anhidrosis, none passes even the lowest empirical standard. A 2010 study conducted at the University of Florida noted that the chances of anhidrosis are 21.67 times higher in horses with family history than those without, indicating a strong genetic component to this disease. The overall goal is to find locations within the genome contributing to anhidrosis in the American Quarter Horse.
Executive Committee Action: Approved

“Effects of Urine Contamination on Semen Freezing Ability of Stallions” at University of Illinois in the amount of $7,233
Principal Investigator: Igor Canisso DVM, PhD
Contamination of the semen with urine, also known as urospermia, is a common problem affecting breeding stallions. Current standard practices suggest that semen presenting with urine contamination be discarded and not used for semen cryopreservation. Therefore, there is a critical need to evaluate effects of urospermia on semen cryopreservation. It is expected that these results will have a positive effect by establishing new evidence based practices for cryopreservation of stallion semen contaminated with urine.
Executive Committee Action: Approved

“MicroRNAs as Markers of Placental Health in the Mare” at University of Kentucky in the amount of $20,000
Principal Investigator: Shavahn Loux PhD, Young Investigator Award
Placentitis is the most common cause of abortion in late pregnant mares and can also be associated with the delivery of under-developed or still-born foals. Early detection and treatment of placentitis is necessary for a successful outcome. MicroRNAs hold a great deal of potential as biomarkers to detect placentitis in the early stages of disease. It is becoming increasingly apparent that these small molecules have implications in the future of both diagnostics and therapeutics, and play a crucial role in pregnancy regulation and maintenance. The potential of microRNAs is phenomenal and the data generated from this project can aid in early detection and treatment.
Executive Committee Action: Approved
“Metabolomics in Equine Metabolic Syndrome: Molecular Pathophysiology and Biomarker Discovery” at University of Minnesota in the amount of $77,556
Principal Investigator: Molly McCue DVM, PhD
Equine Metabolic Syndrome (EMS) is a challenge due to its undefined pathogenesis, clinical heterogeneity and complexity. Objective one will identify 3,000 or more metabolites in serum samples before and after an oral sugar test in a population of 300 horses. Objective two will use the global metabolomic data to identify the minimal set of metabolites. These results will expand our understanding of the molecular and genetic factors that contribute to the pathophysiology of EMS.
Executive Committee Action: Approved

“The Use of Platelet-Rich Plasma (PRP) to Combat Infectious Arthritis *in vitro*” at University of Pennsylvania in the amount of $20,000
Principal Investigator: Jessica Gilbertie DVM, Young Investigator Award
Joint infections in horses are considered an emergency and treatment can be long and unsuccessful. Even when horses are treated quickly arthritis is a common side effect and about 6 to 10% of horses will lose their life to this disease. Recent research found that platelet-rich plasma, a therapeutic commonly used to help recovery from athletic injuries, is useful in fighting bacterial infections. This study will investigate different methods of collection and processing of PRP to produce the most effective formulation.
Executive Committee Action: Approved

With no motions made, the committee discussed their support of adding various educational activities and or forums to the annual AQHA Convention. The committee feels the addition of these opportunities will allow our membership to become more engaged in the organization and provide a sense of ownership for the programs and services provided. In addition, the committee discussed options for how they can support these efforts going forward.

Executive Committee Action: Approved continuance of genetic research into Immune Mediated Myositis (IMM) at University of California, Davis in the amount of $19,359
Based on previous research funded through the American Quarter Horse Foundation an autosomal recessive gene has been identified for IMM. A disorder found predominantly in Paints and Quarter Horses in which the immune system attacks the skeletal muscles causing rapid atrophy of the muscles along the topline. Further work to genotype additional samples will be performed in cooperation with Michigan State University.