HBLB' S STRATEGIC RESEARCH PRIORITIES AND SCOPE OF RESEARCH INTERESTS

STRATEGIC RESEARCH PRIORITIES

For 2013-15 our strategic priorities for research funding are:

- Improved prevention of current and emerging infectious diseases by the development of more effective vaccines, diagnostic tools, biosecurity and management strategies;
- Improved training environment and racecourse design and surfaces, riding strategies, tack and equipment to enhance the safety, health and well-being of racehorses;
- Improved methods of identification, management and prevention of musculoskeletal disease and injury in Thoroughbreds;
- Improved male and female reproductive efficiency

SCOPE OF RESEARCH INTERESTS

The list below defines the scope of our main research interests but is not intended to be exhaustive.

MUSCULOSKELETAL SCIENCE AND ORTHOPAEDICS

including studies relating to:

- Musculoskeletal biology, physiology and pathophysiology
- Prevention of orthopaedic disease and injury in racehorses
- Improved identification and management of musculoskeletal disease and injury in racehorses
- Identification of genetic, environmental and acquired risk factors associated with musculoskeletal disease and injury
- Recurrent exertional rhabdomyolysis and other myopathies
- Developmental orthopaedic disease
- Fracture repair
- Joint disease
- Tendonitis
- Biomechanics and locomotion
- Musculoskeletal aspects of exercise physiology
- Associations between musculoskeletal disease and conformation, training methods, track and jump design, shoes, tack, riding equipment and the rider

INFECTIOUS DISEASE

including studies relating to:

- Parasitology
- Virology
- Bacteriology
- Improved prevention of current and emerging infectious diseases by the development of more effective vaccines and management strategies
- Identification of genetic, environmental and acquired risk factors associated with infectious disease
- Improved methods of disease detection and surveillance
- Emerging exotic diseases that threaten UK racing and breeding
- Vaccinology

INJURY PREVENTION AND PERFORMANCE

including studies relating to:

- Measurement and prediction of athletic ability and potential
- Improved racecourse design and surfaces, riding strategies, tack and equipment to enhance the safety and welfare of racehorses
- Associations between training methods and athleticism
- Associations between other environmental and genetic factors and athleticism
- Stabling, transport and other facets of horse management and husbandry
- Stereotypes
- Behaviour
- Post exercise recovery protocols

RESPIRATORY HEALTH AND DISEASE

including studies relating to:

- Infectious disease
- Improved preventative and therapeutic strategies for lower airway disease in racehorses
- Improved preventative and therapeutic strategies for pneumonia in foals and weanlings
- Identification of genetic, environmental and acquired risk factors associated with respiratory disease

- Prevention, diagnosis and treatment of; Hyperresponsiveness, inflammatory airway disease and recurrent airway obstruction
- Identification and clinical management of upper airway disorders
- Respiratory aspects of exercise physiology
- Exercise-induced pulmonary haemorrhage

NUTRITION AND GASTROINTESTINAL HEALTH AND DISEASE

including studies relating to:

- Nutrition
- Dental disease
- Intestinal physiology and disease
- Improved strategies to prevent parasite infection
- Prevention, assessment and management of colic
- Equine gastric ulcer syndrome

INFLAMMATION, INNATE IMMUNITY AND PAIN

including studies relating to:

- Pathophysiology and treatment of inflammation
- Identification and treatment of pain in horses
- Endotoxaemia and systemic inflammatory response syndrome
- Immunomodulation

NEUROLOGY

including studies relating to:

- Pathophysiology of neurological disease
- Prevention and early detection of paralytic herpes
- Prevention, assessment and management of diseases presenting with ataxia
- Equine grass sickness and its prevention
- Recurrent laryngeal neuropathy

CARDIOVASCULAR HEALTH AND DISEASE

including studies relating to:

- Cardiovascular aspects of exercise physiology
- Pathophysiology and management of cardiac and vascular disease
- Identification of causes of exercise-associated sudden unexpected death

REPRODUCTIVE HEALTH AND DISEASE

including studies relating to:

- Male and female reproductive success
- Prevention of abortion
- Prevention and early detection of EHV-1
- Early embryonic loss and pregnancy failure
- Stallion subfertility
- Ovarian disorders
- Fertility regulation
- Umbilical cord and placental pathology
- Maintenance of pregnancy
- Parturition, dystocia, induction and management of foaling
- Re-inforcement of natural covering
- Venereal disease

FOALS AND YOUNG STOCK

including studies relating to:

- Nutrition
- Growth and development
- Reduction in prevalence of and management of conformational abnormalities
- Improved strategies to prevent and manage pneumonia in foals and weanlings
- Improved strategies to prevent parasite, bacterial and viral infection in young stock
- Identification of genetic, environmental and acquired risk factors associated with disease in young stock and predisposing to subsequent injury and disease in horses in training
- Preventative medicine
- Perinatology

- Developmental orthopaedic disease

OTHER AREAS OF INTEREST

- Basic and applied genetics
- Dermatology
- Ophthalmology
- Endocrinology
- Anaesthesia and Critical Care
- Oncology
- Retirement and careers beyond racing
- Disorders of the older horse
- Exercise physiology

CLINICAL AND OBSERVATIONAL RESEARCH

For guidelines on good practice in clinical research, applicants submitting proposals that include clinical research studies are advised to consult:

- MRC Guidelines for good clinical practice in clinical trials
- Better reporting of randomised controlled trials: the CONSORT statement
- STROBE statement on observational studies
- ScHARR Introduction to Systematic reviews
- A Guide to Good Practice for Quantitative Veterinary Epidemiology
- RELECT reporting guidelines for Randomized Controlled Trials for Livestock and Food Safety

FORENSIC MEDICINE AND PHARMACOLOGY

Research on racehorse medication and doping control is conducted by the British Horseracing Authority. Proposals in this area should be directed to eswadmin@britishhorseracing.com

USE OF ANIMALS IN RESEARCH

Clinical Research

The HBLB encourages applicants to seek the advice, and where relevant approval, from an ethical review committee when planning their research. Most prospective research studies and some retrospective research studies will require approval prior to the project starting. Questionnaires to be sent to owners retrospectively must also have ethical approval. For more information, see Ethical Review for Practice-based Research: a report of a joint RCVS-BVA working party at http://www.rcvs.org.uk/publications/ethical-review-for-practice-based-research/?destination=%2Fpublications%2F.

Clinical trials of novel medicines, including those licenced for use in other countries, generally require an Animal Test Certificate (ATC) issued by Veterinary Medicines Directorate. Full details can be found in the Veterinary Medicines Guidance Notes 6 (VMGN6) and related guidance on the VMD website at http://www.vmd.defra.gov.uk. It is recommended that specific, case-by-case, advice be sought from the VMD Licensing team on 01932 338439 or 336911.

Conducting research without an intention to publicise the results more widely is difficult to justify ethically. The International Association of Veterinary Editors has developed a set of guidelines on animal ethics and welfare for use and adoption by veterinary journals and journals publishing articles that involve animal studies http://www.veteditors.org/ethicsconsensusguidelines.html which include the recommendation that studies using client-owned animals, must demonstrate a high standard (best practice) of veterinary care and involve informed client consent.

Experimental Procedures

The HBLB recognises that scientific procedures on animals are, in some circumstances, necessary if equine veterinary research is to continue to attempt to make advances in equine health and welfare. At the same time, it supports the three R's approach of reduction, refinement and replacement; see http://www.nc3rs.org.uk/category.asp?catID=2

Where other approaches cannot be employed or are unavailable for scientific or technological reasons, the HBLB will fund studies involving scientific procedures on animals. Equally, studies involving the development of non-invasive research techniques are encouraged and funded.

The HBLB will only approve grants for studies that have been recommended by the VAC. The VAC will only recommend approval of grants for studies involving scientific procedures on animals, whether non-invasive or other, when it is satisfied that it meets the requirements of its policy on the use of animals in veterinary research. The full policy, which forms part of the terms and conditions of research grant awards is available on the HBLB Equine Grants website. The HBLB supports the implementation of the principles in the guidance document "Responsibility in the use of animals in bioscience research: Expectations of the major research council and charitable funding bodies"