TRACK / SURFACES

Grayson-Jockey Club Research Archives

The surface that a horse trains and competes on can impact their health and performance. Researchers found that hard surfaces, shallow footing depths, and compacted footing could increase horses' injury risk. In comparison, a soft or deep arena surface has too much cushion, making the footing unstable. As the surface shifts under the hoof, the horse is forced to work harder for balance and support, which can often lead to inflammation of the leg's soft tissues and other injuries.

Grayson is proud to have funded the following projects to find answers to competition surfaces:

Training Programs for Prevention of Fetlock Injury
University of California- Davis, *Principal Investigator: Susan Stover*
CO-PIs: David P. Fyhrie, Tanya Garcia-Nolen, Sarah Shaffer
The purpose of this study was to predict proximal sesamoid bone fracture in racehorses from a calibrated computational model that incorporates training programs, track surface properties, and bone's reparative processes.
Years: 2019-2020 TOTAL - $83,331

Training and Surfaces for Injury Prevention
University of California- Davis, *Principal Investigator: Susan Stover*
Co-PIs: David Fyhrie; Tanya Garcia; Sarah Shaffer
This study was to access the Risk for bone fracture in the fetlock joint due to training program and race surface properties to determine using computer models that simulate bone damage and repair.
Year: 2016-2017 TOTAL - $183,582

Optimization of Racetrack Surface Properties
University of California – Davis, *Principal Investigator: Susan Stover*
Co-PIs: Jennifer Symons; David Hawkins; David Fyhrie; Shrinivasa Upadhyaya
This study was designed to create a computer modeling and simulation approach to be used to create an economical tool for investigation of race surface characteristics on fetlock motion, and thus risk for injury.
Years: 2014-2015 TOTAL -$50,648

Race Surface Optimization for Fetlock Injury Prevention
University of California – Davis, *Principal Investigator: Susan Stover & Mont Hubbard*
Co-PIs: Shrinivasa Upadhyaya; Tanya Garcia; Jacob Setterbo
Year: 2010 TOTAL - $61,864

Track Banking & Asymmetry of Hoof Loading
University of Guelph, *Principal Investigator: Jeffrey Thomason*
Co-PIs: M. Peterson (UN of Maine); C. W. McIlwraith (UN of COL);
B. Woodward (Woods Hole Oceanographic)
Year: 2010 TOTAL -$36,761

Validation of Laboratory Assessment of Track Surfaces
University of California – Davis, *Principal Investigator: Susan Stover*
Co-PIs: Mont Hubbard; Jacob Setterbo; Shrinivvasa Upadhyaya; Tanya Garcia
Year: 2009 TOTAL - $49,786

Performance Parameters for Engineering Track Management
Colorado State University, *Principal Investigator: C. Wayne McIlwraith*
Co-PI: Michael Peterson (UN of Maine)
Year: 2008 TOTAL - $43,838

Effects of Dirt, Turf & Polytrack Racing Surfaces on Hoof Loads
University of California – Davis, *Principal Investigator: Susan Stover*
Co-PI: Maury Hull
Year: 2005 TOTAL - $51,294

The Horse-Racetrack Interface: the Effect of Shoeing on Impact Trauma
University of Pennsylvania, *Principal Investigator: David Nunamaker*
Co-PIs: Barbara Dallap
Years: 1999-2000 TOTAL -$52,335