Jeff Thomason – Track Surfaces

In horse racing, horses work at high intensity, with all legs hitting the ground hard and fast. Horses have highly sensitive hooves, and can sense small changes in the surfaces they're on, which in turn affects how they move. And because racing breeds such as Thoroughbreds and Standardbreds are bred lighter for speed, specific parts of their bodies are more susceptible to damage and degeneration. In particular, racing horses often develop strains and fractures in their shoulders and legs. Racetrack geometry and consistency are therefore important factors in preventing these race injuries and fatalities.

Currently, about one fatality occurs for every 1,000 starts at the better maintained and regulated tracks, along with career-ending injuries horses accumulate from racing. How can these numbers be reduced?

Dr. Jeff Thomason, of the Department of Biomedical Sciences at the University Of Guelph's Ontario Veterinary College, says to maximize the horse's performance, track surfaces must be uniform so the horse doesn't have to consciously focus on how to load its feet.

Thomason's research focuses on hoof interactions with the surface, the effects of various surface material – such as turf or mixed materials – and slopes. His research of different footing used in other disciplines has revealed that some injuries are discipline-specific, partially because horses load their feet differently depending on the activity. Horses naturally compensate in different ways, which

can eventually lead to injuries in parts of the body that are strained during compensation.

Ultimately, Thomason aims to help quantify the footing consistency and geometry each equestrian discipline needs, so that the surface footing plays a minimal role in equine injuries and fatalities.

The results of his research will be important for all disciplines, helping to quantify and establish standards for optimal footing. And because less horses will have career-ending or fatal injuries, many more can continue on in racing or second careers in other disciplines.