HOW TO TRAIN A SPORTSHORSE?

Compared to other species, the horse has outstanding athletic capacities. This is expressed in figures when we compare the maximum oxygen consumption of the horse to for instance a cow or a human athlete (2:1). Compared to human athletes the horse is exceptionally build for aerobic metabolism. It has a huge lungvolume and its heart has an enormous pumpcapacity to distribute the oxygen enriched blood. The concentration of capillary bloodvessels is also very high and by splenic contraction the horse can increase its amount of oxygen transporting red blood cells by 30-50%. Selective breeding has resulted in specific races outstanding in speed (the Thoroughbred), strength (the Draught Horse) or endurance (the Arab). The performance of the horse as an athlete may improve through training. But how do we train for speed and how do we train for stamina? Why can a certain breed and a certain horse only improve so much by training and not beyond? What do we now about the effects of training and how may we imply this in the daily schedule of our horses. Especially for the disciplines such as dressage and jumping, there is a lot we do not know. For instance are these disciplines predominantly aerobic in nature or is there an anaerobic component during competition. Which is the preferred energy source for oxidation in the muscles: carbohydrates or fatty acids and what is their ratio?

Most of the knowledge of the equine athlete we have learned from the studies done in Thoroughbred and Standardbred race horses. Luckily, Equine Hospital Wolvega has a lot of experience with Standardbred athletes. This knowledge can serve as a basis from where we can study other disciplines such as dressage and harnessed horses, the disciplines in which the Friesian horse has outstanding qualities.

In this presentation we will discuss basic exercise physiology, the muscle's response to exercise and how we may measure performance in the equine athlete.