Equine Engineering: Guaranteeing Pressure-Free Performance

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The purpose of this experiment is to see what type of saddle pad will keep the least amount of pressure on the horse's back. A saddle pad should distribute uniform pressure from the saddle and the rider across the horse's back. This will help prevent the musculoskeletal system from sustaining injuries. The 4 types of pads that we will be testing are felt saddle pads, fleece saddle pads, wool fleeced topped with a felt bottom, and standard western saddle pads. To collect data for this project 36 FRS sensors were glued to a fly sheet and an Arduino was used to record the data. The sheet was then put under the saddle pad (between the horse and saddle pad) to collect the data. Once the rider was on the horse, the horse was trotted, loped, and stood still for five minutes each with a 5-minute rest between each movement. The data was then recorded for analysis. The results of this experiment were that the contoured saddle pad kept the least amount of pressure on the horse's back, while the Zone Series saddle pad kept the most pressure on the horse's back. In conclusion, there are many different types of saddle pads. Every horse is different, which means that you should make sure the pad fits the horse which will make the saddle fit much better.

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