Measuring Your Horse's Fitness

V200 Test

Part I

As a trainer and / or owner, you are investing a huge amount of time, energy and money into the training of your horse(s). So how do you know whether your training program is having the desired effect? Has your horse's fitness improved since it started training six weeks ago? If you made changes to the training program, what effect did it have on your horse's level of fitness? Is your training program more effective for one horse than it is for another? Are you training your horse too hard or too easy? Has your horse's fitness decreased after a four-week spell in the paddock? How does the horse's fitness compare with that of other horses? How does the horse's fitness compare with its fitness at previous times or during previous preparations? Do you have a measure of your horse's fitness when it raced successfully / unsuccessfully?

All these questions probably sound familiar and certainly need to be answered if you want to maximize your horse's potential. And many of them can be answered by implementing a regular 'fitness test' into your overall training program. And with the POLAR Horse Trainer heart rate monitor, you now have the perfect tool to conduct a fitness test at the track, on the treadmill or in your 'own back yard'.

Heart rate response during exercise can provide an indirect measure of how your horse is responding to the training program. This is possible because of a general linear (straight line) increase in heart rate with increasing running speed, up to the point where maximum heart rate is reached. And this heart rate / running speed relationship can be reproduced, provided you standardize your measurement procedures. Maximum heart rate is identified when there is no further increase in the horse's heart rate even though the horse can continue to run faster. Most equine scientists believe the maximum heart rate does not change with the horse's fitness levels, although the speed at which maximum heart rate is reached will increase with increasing fitness. Conversely, the speed at which maximum heart rate is reached will decrease as the horse 'detrains' (e.g., when the horse becomes injured and can't train, or when the horse has a 8 week spell).

In addition to its linear relationship with running speed, the horse's heart rate also responds to different fitness levels. In general, if your horse is responding positively to the training program, i.e., it is getting fitter, the heart rate will be lower at any running speed than it was prior to the commencement of training. This concept is illustrated in Figure 1.

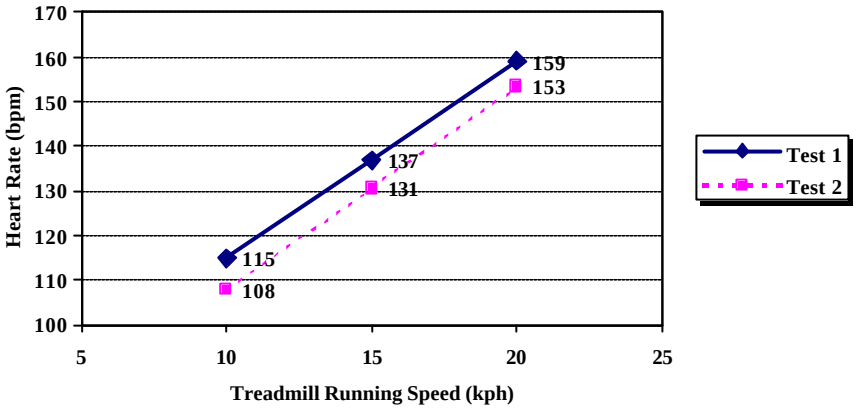

Figure 1 Training effect on the horse's heart rate response

Figure 1 shows a horse's heart rate response while running on a treadmill at 10% gradient and at speeds of 10, 15 and 20 kph. Test 2 was conducted after 4 weeks of long continuous cantering and slow galloping. In general, the horse's heart rate was approximately 6 bpm lower at any of the speeds after 4 weeks of training. At this stage the trainer can be confident the horse is responding well to the training program.

A field test that is gaining popularity in the performance horse industry is the V_{200} Test, which is a test that defines the running speed of the horse when its heart rate is 200 bpm. The advantage of the test is you don't need access to a high-speed treadmill and it can be conducted as a part of your normal training program. More importantly, Japanese scientists have recently shown that the test readily identifies increases in fitness, that horses with advanced training fitness have high V_{200} values and the test can be conducted easily in the field. In addition to monitoring changes in fitness levels, the test can provide information that can help to:

1. Control training intensity
2. Provide an early sign of fatigue and possible over-training

3. Provide early detection of injury or illness

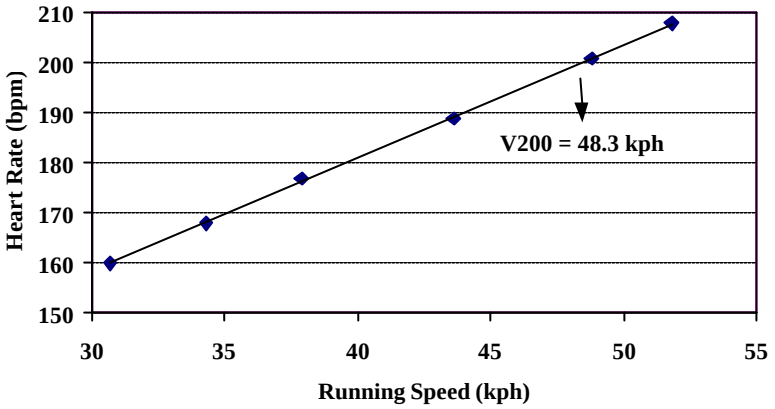

Figure 2 V_{200} Test conducted under field conditions for a Thoroughbred horse

Figure 2 shows the identification of V_{200} for a Thoroughbred racehorse during the early stages of its training program. The test was conducted at the local racecourse using a protocol, which will be described in Part II of this article. In addition we will talk about the influence of track surfaces, rider's weight and training programs on the results of the V_{200} Test. And finally, we will describe a protocol or method you can use to conduct your own V_{200} Test.

Performance Matters Pty Ltd
308 Carrington St
Adelaide SA 5000
Ph 61 8 82232077
mnunan@pursuit-performance.com.au
Global
www.horse-trainer.com

Horse Heart Monitors USA
Staff@heartmonitors.com