













ARION II

10.09.21 - 7:56 am



KEY PARAMETERS			
 59.4 km/h Max Speed	 12.31 s Time Best 200M	 37.87 s Time Best 600M	 50.81 s Time Best 800M
 213 bpm Max Heart Rate	 119 bpm Fast Recovery	 100 bpm Heart Rate After 15 Min	 79 bpm Heart Rate At End
 7.3 m/str Max Stride Length	 2.26 strides/secs Max Stride Frequency	 7.2 m/str Stride Length At 60 Km/H	 2.26 strides/secs Stride Frequency At 60 Km/H

The key parameters are the first data on the training page. They allow you to have an overview of a horse, thanks to its speed, fitness and locomotion data.

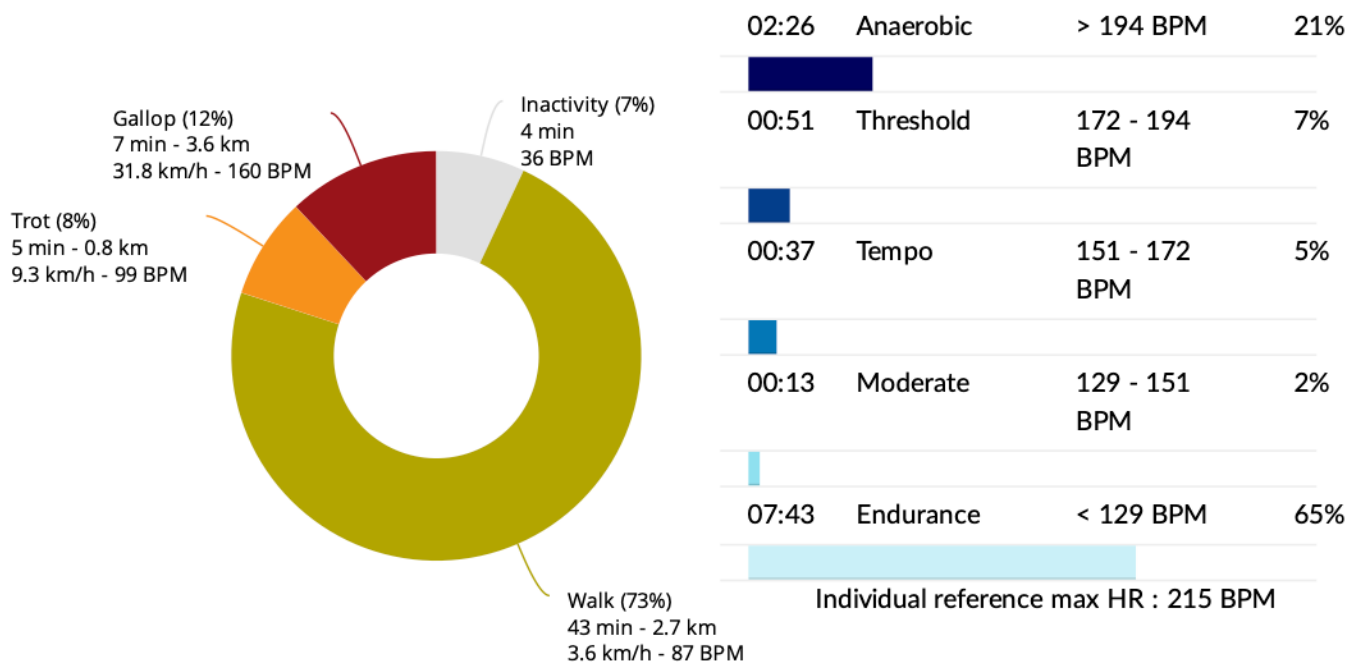
Maximum heart rate is specific to each horse. It is the recovery analysis that can allow you to judge the day's work to adapt the following training. The max HR is not correlated with performance.

Recovery after effort: immediately after the effort the heart rate stabilizes quickly at a first level. This allows to assess the intensity of the effort for the horse.

Recovery after 15 minutes: in a second phase, heart rate gradually decreases. It allows to evaluate the horse's fitness.

The **stride length** and **stride frequency** are particularly useful to define the locomotor profile of your horses, and to study their preferred distance (sprinter, miler or stayer). The stride length and frequency also allow you to spot any abnormalities in your horse's locomotion (for example, a shortened stride).

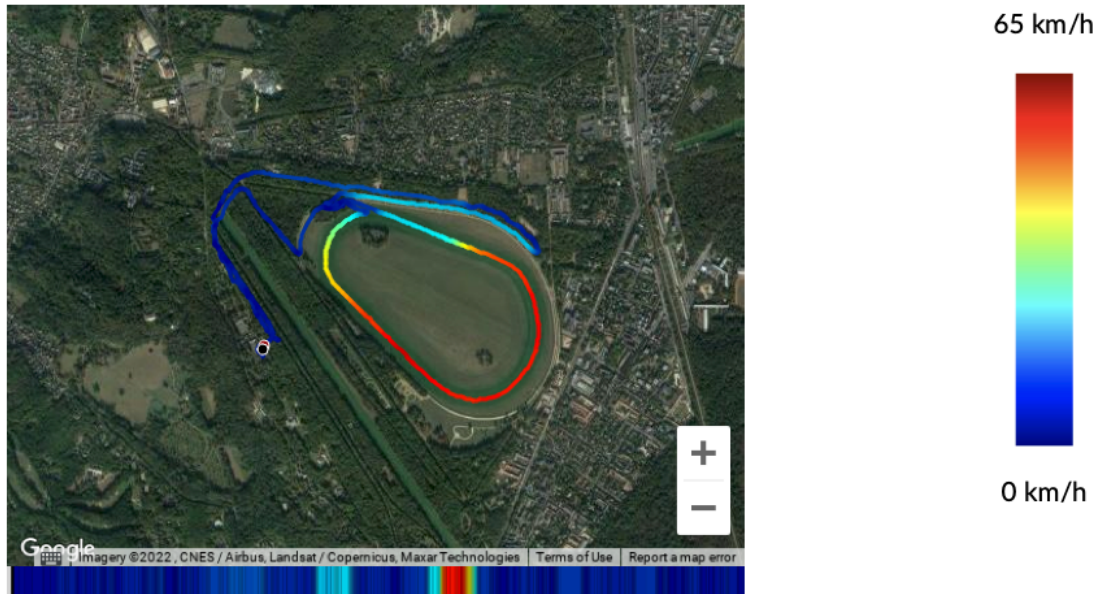
GAIT AVERAGES AND HEART RATE ZONES



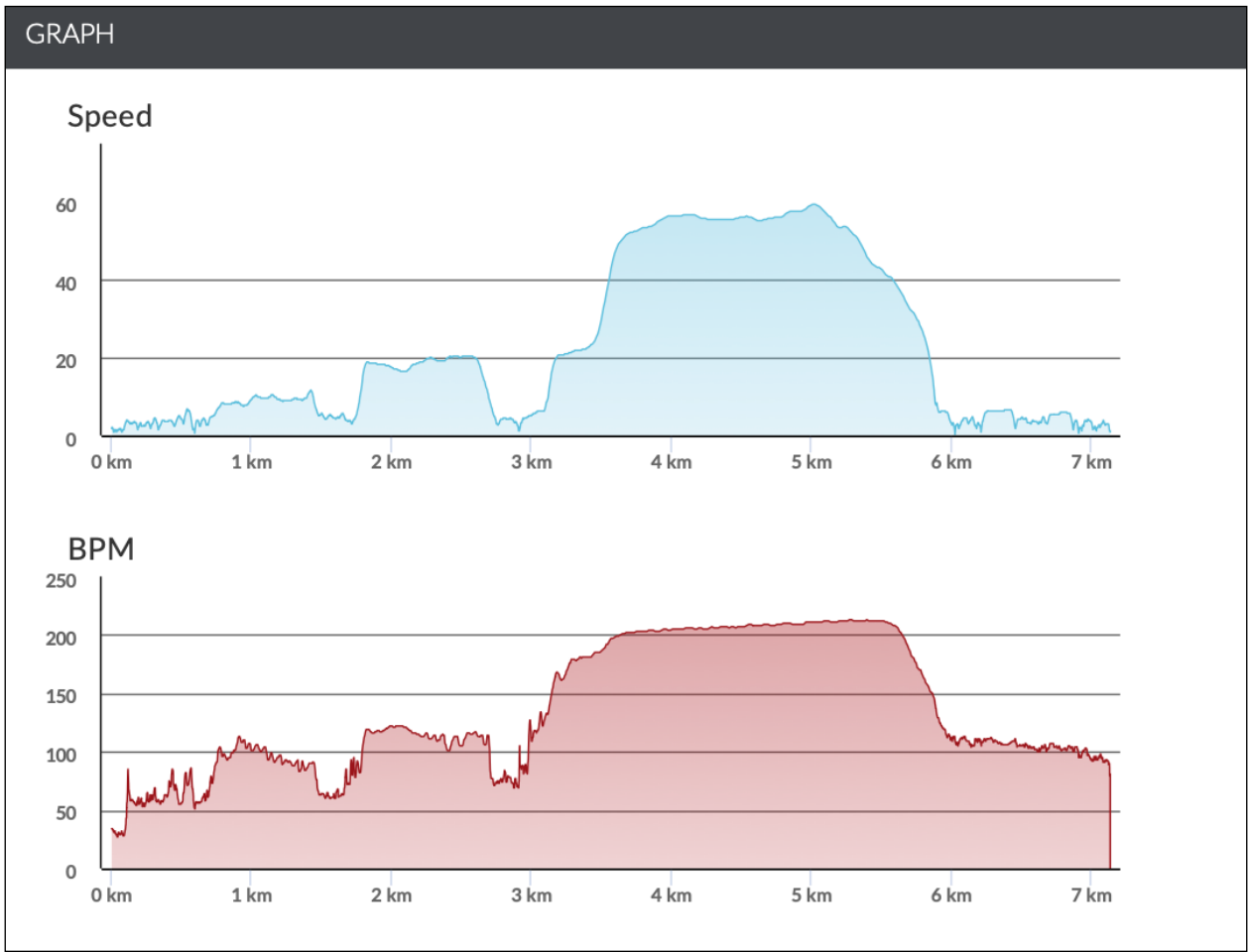
The chart for interpreting heart rate zones relies on the maximum heart rate of each horse. Maximum heart rate is physiologically determined; it varies little and decreases slightly with age. Heart rate zones are therefore not the same for all horses and indicate work intensity.

<p>Aerobic: Zone 1-3 (Endurance/Moderate/Tempo)</p>	<p>The body uses oxygen to break down fat and produce energy without lactic acid (mechanism used until max HR is reached).</p>
<p>Anaerobic: Zone 4-5 (Threshold/Anaerobic)</p>	<p>The body degrades the sugars in the muscles: very efficient mechanism to produce energy, but it produces waste, lactic acid.</p>

When the effort is very intense, lactic acids cause pain in the muscles. The lactic acid is evacuated by the oxygen brought by the blood. Heart and breathing rates remain very high even after the end of the effort to eliminate the lactic acid : we speak about oxygen debt.



The map is a great tool to assess speed evolution, acceleration and deceleration. It also gives some context when you analyse the data. You'll be able to see where the horse was for a specific heart rate or speed.

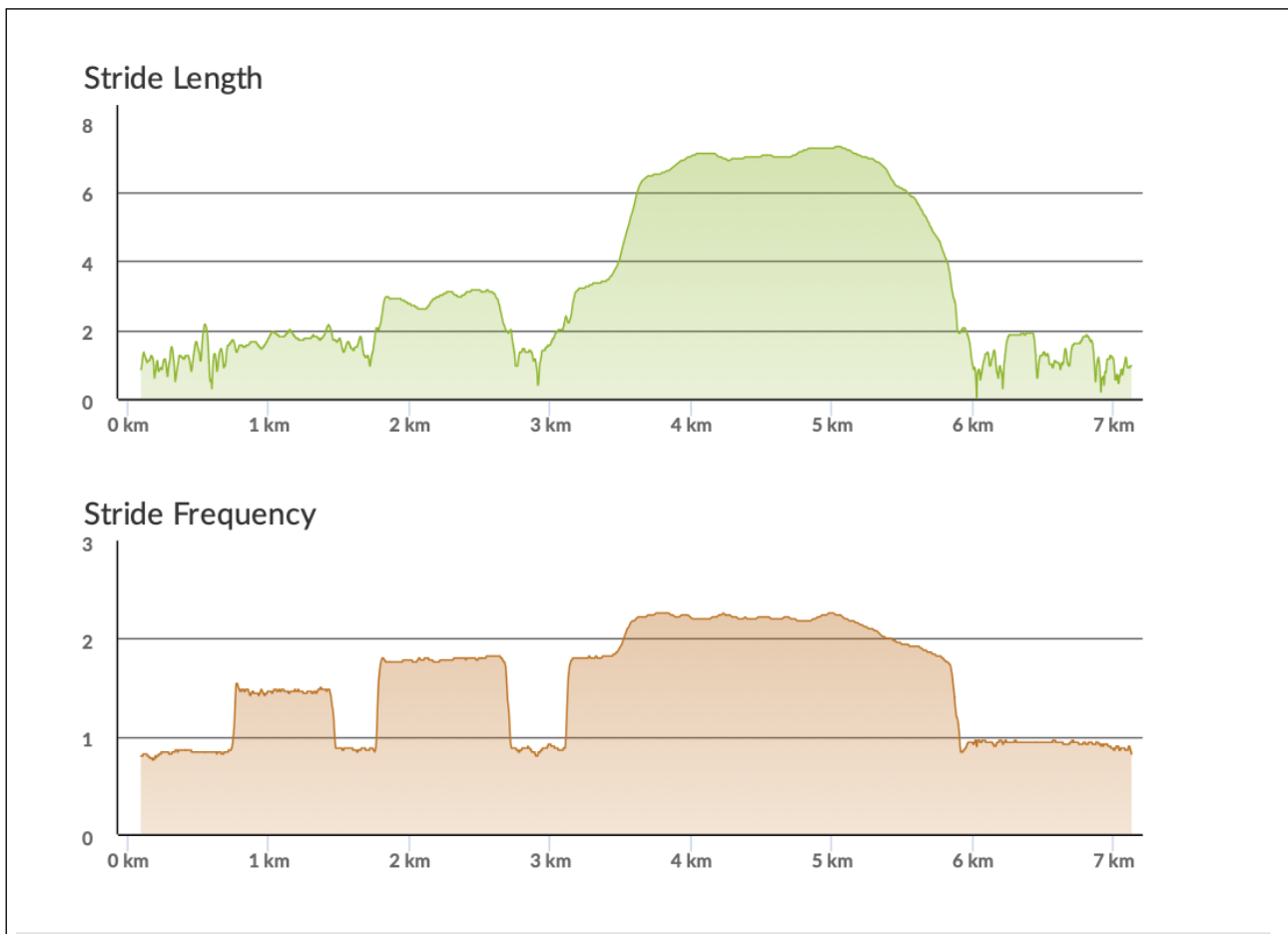


The speed curve must be analysed along with the cardio curve: the more similar the two curves are, the better!

When the horse struggles to find a low heart rate, it means that the work was very intense for him and this intensity of training has not yet been fully assimilated. It can be interesting to allow a recovery period (light work the next day, and a day of rest) before repeating the exercise to improve recovery.

SOME HEART RATE AVERAGES

HR MAX	HR AFTER EFFORT	HR AFTER EFFORT <i>in % of max HR</i>	HR AFTER 15 MINS	HR AFTER 15 MINS <i>in % of max HR</i>	HR AT END
215 BPM	118 BPM	< 55%	100 BPM	< 50%	80 BPM











Stride Frequency and Stride Length data work together. At constant speed, when one increases the other decreases and the product of the two gives the speed :

$$\text{Stride length} \times \text{Stride Frequency} = \text{Speed}$$

DID YOU KNOW ?

During gallop, the breathing frequency is set to the stride frequency: the horse inhales during the projection phase and exhales the rest of the time. A horse with a high stride frequency will therefore have more difficulty maintaining its effort over time because its breathing rate is high. Also, a change of leg, which induces a longer projection time, allows the athlete to catch his breath.

INTERVALS

	 Gait	 Distance meters	 Time min	 Pace km/h	 Average HR bpm	 Average tilt %	 Stride Length meters	 Stride Freq. stride/s
1	Inactivity		03:53.0		30	0.0	0.0	0.02
2	Walk	663	12:08.9	3.3	63	-4.0	1.2	0.84
3	Trot	699	04:39.0	9.0	97	-1.1	1.7	1.46
		99	00:45.0	7.9	97	-1.8	1.5	1.46
		200	01:23.3	8.6	105	-1.3	1.7	1.45
		200	01:15.3	9.6	96	-0.7	1.8	1.46
		200	01:15.3	9.6	89	-1.1	1.8	1.45
4	Walk	330	04:05.9	4.8	71	0.4	1.5	0.91
5	Gallop	897	02:55.9	18.3	114	0.5	2.9	1.78
		97	00:19.1	18.2	115	-0.6	2.8	1.77
		200	00:41.0	17.6	120	-0.1	2.8	1.77
		200	00:39.1	18.4	115	0.9	2.9	1.78
		200	00:36.3	19.8	109	0.4	3.1	1.79
		200	00:40.3	17.9	112	1.2	2.9	1.80
6	Walk	424	05:52.0	4.3	94	-0.3	1.5	0.90
7	Gallop	2712	03:53.9	41.7	200	0.1	6.1	2.09
		200	00:32.4	22.2	179	-0.4	3.4	1.81
		200	00:19.3	37.3	193	0.7	5.0	2.06
		200	00:13.6	52.7	202	0.5	6.5	2.24
		200	00:12.9	55.6	204	1.4	6.9	2.22
		200	00:12.7	56.3	205	0.9	7.1	2.22
		200	00:12.9	55.5	206	2.0	7.0	2.21
		200	00:12.9	55.8	208	2.8	7.0	2.21
		200	00:12.7	56.3	209	1.4	7.1	2.19
		200	00:12.3	58.3	210	0.0	7.3	2.23
		200	00:13.0	55.4	211	-0.4	7.1	2.17

For a more detailed analysis, take a look at the Intervals table. You can choose the distance interval that suits you best.

WHY	HOW
<p>To evaluate a horse's sporting abilities.</p>	<p>Max speed: top speed.</p>
<p>Objectivize the effort given and the application of instructions.</p>	<p>Best 200m: sprinting skills. Best 600m: ability to maintain speed.</p>
<p>Compare speed data and race tracking data during preparation.</p>	<p>Intermediate times: compare the last 200, 400, 600 meters to a race pace.</p>



ARION THE FIRST

COLT - 5 Y.O

BAY - 1M63

THOROUGHBRED

EQUIMETRE

Empower your expertise with data 



TECHNOLOGY DEDICATED TO THE RACEHORSE'S MONITORING.

Manage health and performance by collecting relevant data in terms of:

FITNESS



Heart rate



ECG



Recovery

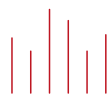
SPEED



Speed



GPS



Split times

LOCOMOTION



Stride frequency



Stride length



Locomotor profile