

## Study of solarium performance by thermographic method

|                               |                                       |
|-------------------------------|---------------------------------------|
| Place of measurements:        | <b>BM Horse stable</b>                |
| Measurements made by:         | <b>Dr. Eng. Maria Soroko</b>          |
| Measurements made by:         | <b>Thermographic VarioCam 640x480</b> |
| Horse:                        | <b>Solarium checked on 4 horses</b>   |
| Date of measurements:         | <b>2017-08-01</b>                     |
| Date of preparing the report: | <b>2017-08-04</b>                     |

**Equine Massage – Maria Soroko**  
**Rehabilitation School, Horses Thermography**

[www.eqma.](http://www.eqma.)

**Tel 507 495 109**

## **1. Analysis method**

Thermography is a diagnostic method, which base itself on reading the level of emitted heat from tested part of the body, reflecting increased or decreased blood flow in the given area. Map of temperatures is graphically interpreted. Each colour is assigned to a different colour, which gives a termal image showing in different colours "Physiologically behaving tissue".

Thermograms were made by thermographic VarioCam camera with measurements accuracy of +/- 0,1 °C with 640x480 resolution. Thermographic camera is a device enabling obtaining a picture in infrared radiation range emitted by live tissue. Study by thermographic equipment is about measuring electromagnetic energy, which is transmitted by studied part of the body.

Analyzis of the program was made by IBRIS 3 proffesional computer program.

## **2. Methods of performing a thermographic examination**

The goal of the work was to examine the influence of solarium on the heat of the ridge. To examine the effect of solarium 4 clinically healthy horses were taken into account. All of the examined horses are regularly used in sport.

**Each Horse had three thermographic studies: before the influence of solarium, just after its influence and after 30 minutes of using the solarium. The time of standing below the solarium – 15 minutes.**

In every measurement thermographic pictures of ridge from dorsal side were taken into account. Temperature of the environment was about 21°C.



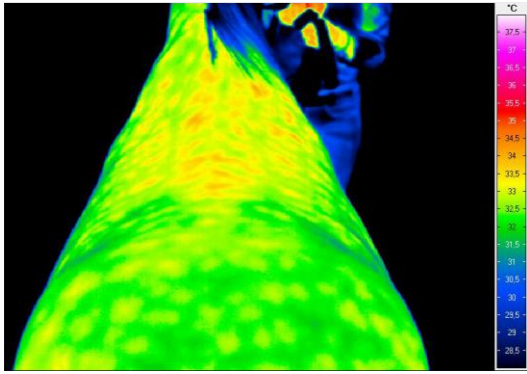
Pic.1 Thermographic picture of the ridge from dorsal side.

As recommended established in veterinary medicine, to avoid wrong results, thermographic measures were made under controlled environmental conditions. To minimize influence of the external environmental conditions stables were closed to avoid drafts and influence of sunlight. Thermographic measures of horses were made in front of the box, on the stable corridor with flat surface. One day before the study the horses were not applied any gels, ointments, wrappers or protectors. During the study the animals were not given any medical supplies which could have influence on peripheral circulatory system. About 15 minutes before the study the measurements areas were brushed simultaneously on the symmetrical sides of the body.

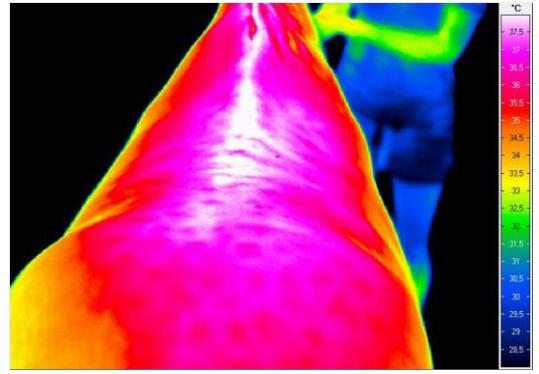
### **3. List of thermograms:**

Thermograms are shown in rainbow palette of colours – colours of rainbow (stripe visible on side of each thermogram). Each colour is assigned to a different temperature – from white, red highest to blue, green – lowest.

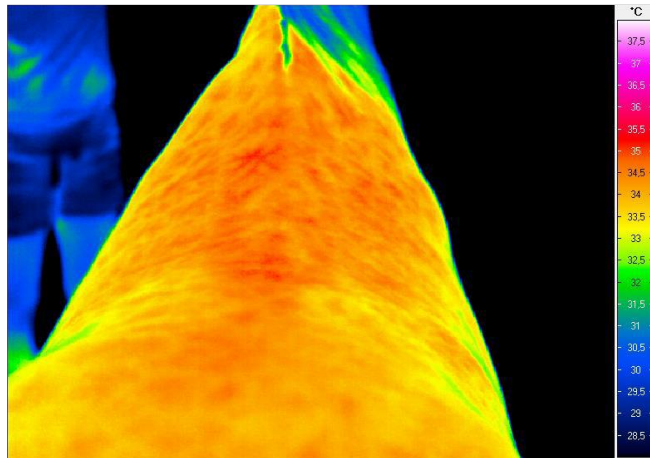
## 1. First thermographic study – horse – Angel Queen



Thermogram 1. The ridge from dorsal side at rest before influence of the solarium.

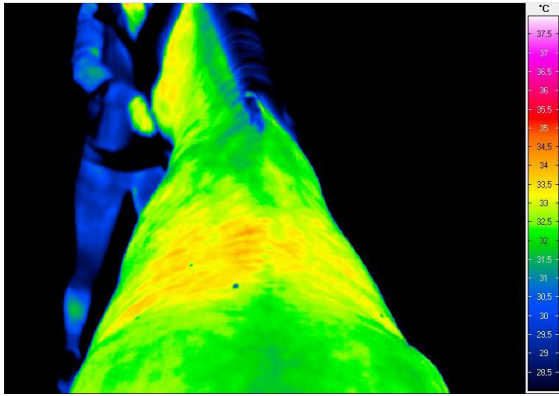


Thermogram 2. The ridge from dorsal side just after influence of the solarium.

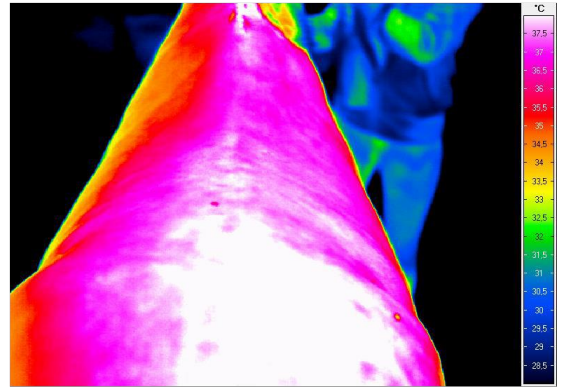


Thermogram 3. Ridge from dorsal side 30 minutes after using the solarium.

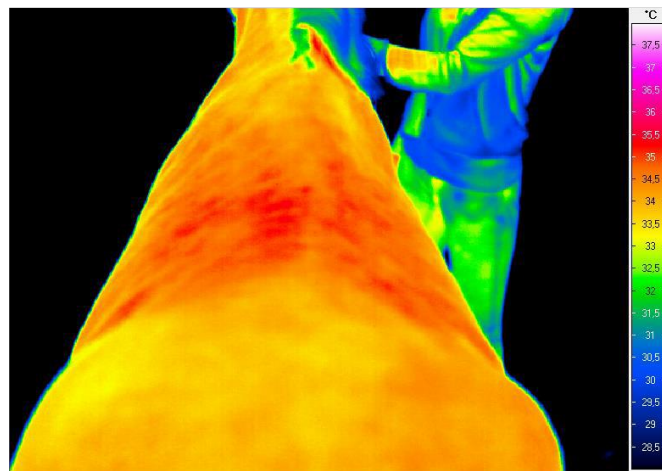
## 2. Thermographic study – horse – Nuszi



Thermogram 1. The ridge from dorsal side at rest before influence of the solarium.

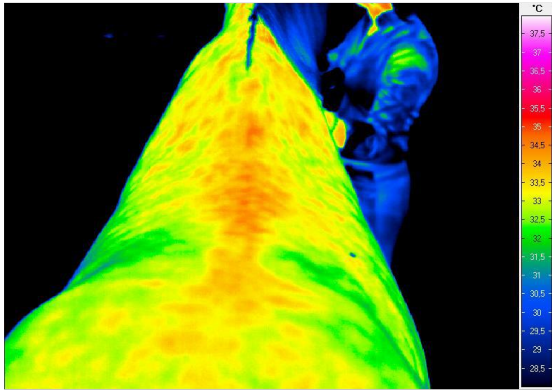


Thermogram 2. The ridge from dorsal side just after influence of the solarium.

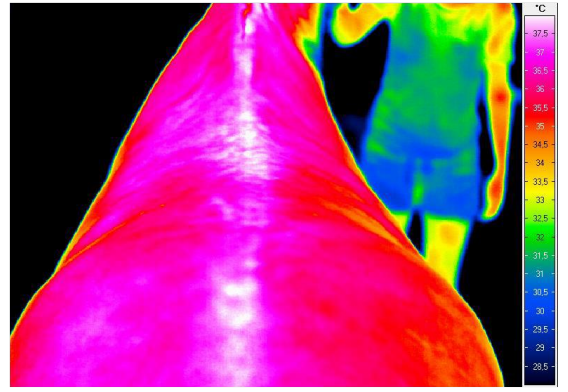


Thermogram 3. Ridge from dorsal side 30 minutes after using the solarium.

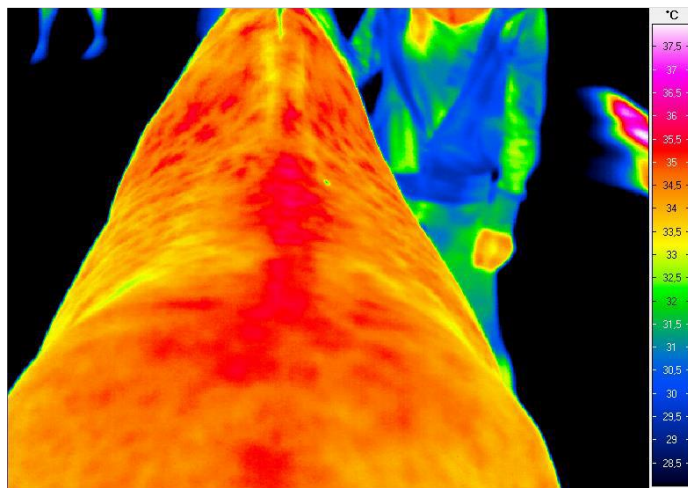
### 3. Thermographic study – horse – Diamonique



Thermogram 1. The ridge from dorsal side at rest before influence of the solarium.

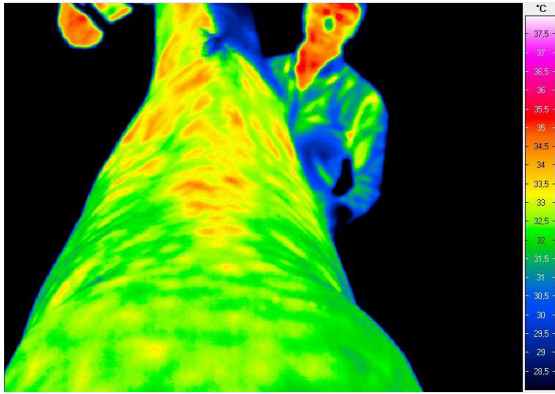


Thermogram 2. The ridge from dorsal side just after influence of the solarium.

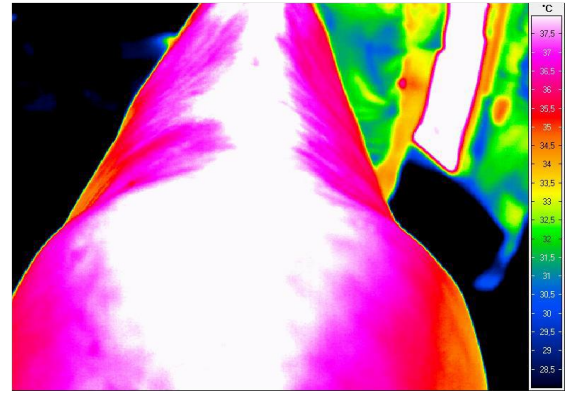


Thermogram 3. Ridge from dorsal side 30 minutes after using the solarium.

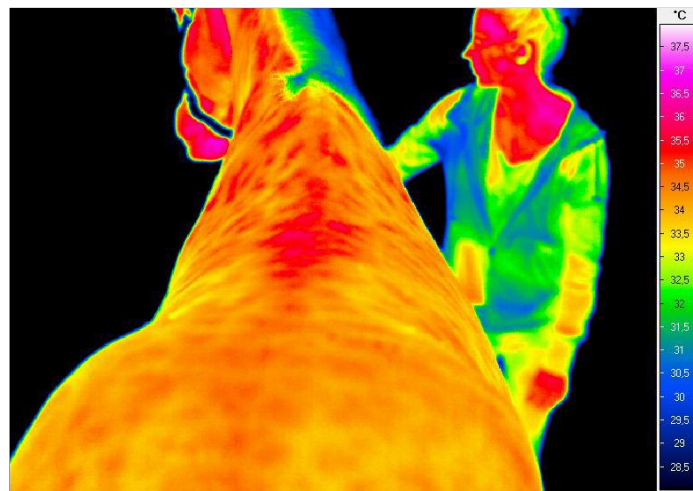
#### 4. Thermographic study – horse – Don Corleone



Thermogram 1. The ridge from dorsal side at rest before influence of the solarium.



Thermogram 2. The ridge from dorsal side just after influence of the solarium.



Thermogram 3. Ridge from dorsal side 30 minutes after using the solarium.

**SUMMARY: strong influence on heating up the ridge (increased temperature by 3-4 °C) just after using the solarium. Increased temperature of the ridge lasts after 30 minutes of using the solarium which confirms its healing influence on the organism.**