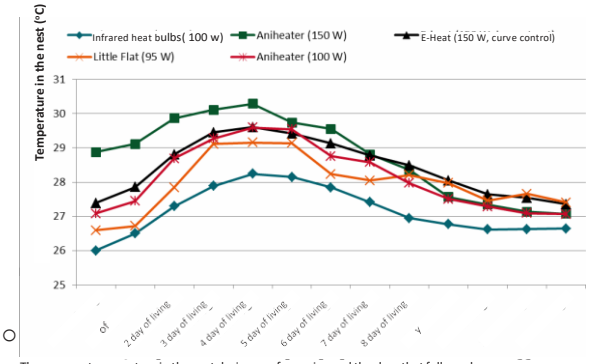
Aniheater®, the original heater

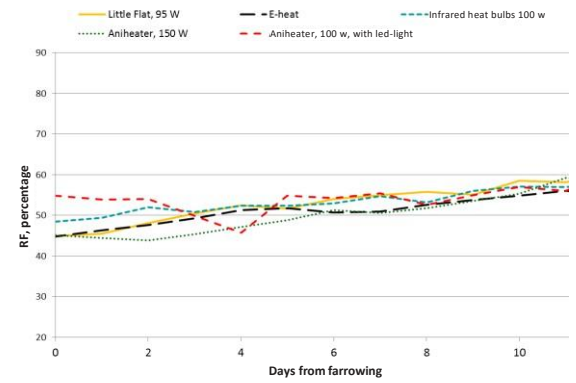
- Aniheater® gives an even heat in the nest for piglets. The perfect design of the heating element and the reflector makes the heat dissipate, so that all pigs receive the same heat.
  - The average temperature in the nest is clearly higher with the Aniheater®, during the first days of life.



The average temperature in the nest during pre-farrowing and the days that followed.

[1]

  - on the bacterial environment in the nest.



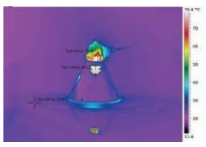
The humidity in the nest dependent of groups and numbers of days after farrowing.

[2]

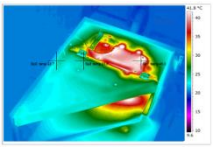
- The thermographic images support the above studies from Danish Pig Research Centre.
  - 13 degrees difference in temperature in the nest, when using the traditional infrared heat bulbs.
  - In comparison Aniheater® has only 5,5 degrees in difference in the nest.
- Suckling piglets use the nest earlier when the heat is coming from radiant heat – versus traditional infrared heat bulbs.[3]
- With radiant heat there is no light at night, which increases the suckling piglets' usage of the nest. [4]

[3] Strategic heat supply for suckling pigs – Aarhus Uni.
[4] Strategic heat supply for suckling pigs – Aarhus Uni.

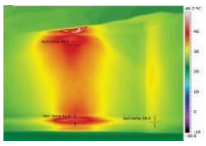
  - This reduces the risk of hypothermia and can lower the mortality.



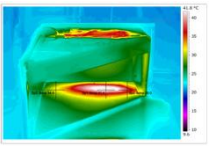
162 °C Above the bulb
72,0 °C Lamp base
23,6 °C Left side from the lamp



41,9 °C Above the heating element Aniheater®
23,8 °C Left part over Aniheater®
22,7 °C Next to Aniheater®, front



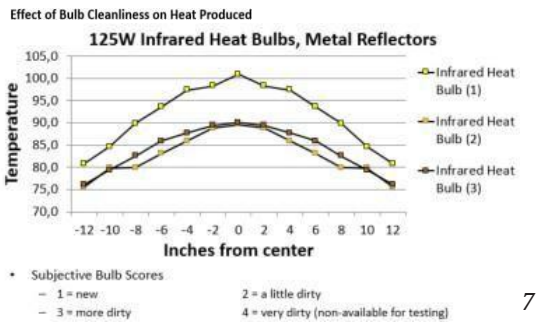
41,8 °C Floor under the lamp
28,8 °C The right side from the lamp
39,3 °C Under the lamp/ lid



41,4 °C Floor under Aniheater®, middle
38,0 °C Floor under Aniheater®, right side
34,0 °C Floor under Aniheater®, left side

[5]

- Aniheater® reduces the mortality in the farrowing unit.[6]
  - Due to the close environment, suckling piglets become stronger in the first days after farrowing.
  - Lower room temperature the days after farrowing, improves the comfort, appetite and gives the sows a better start-up.
  - The results from above, gave 1 more weaned piglet per. farrowing pen.
- The new model of Aniheater® with double metal plate, reduces the heat loss, which means that more heat is transferred to the nest.
- Aniheater® can be connected to existing automated systems (Veng, Skov og Gestall etc.).
- Aniheater® is free from maintenance, because of the unique patented solution.
- Aniheater® can easily be cleaned under high pressure, Aniheater® will therefore keep its temperature intact. When infrared heatbulbs get dirty, they can lose up to 5 degrees in temperature in the nest.



[7]

[5] Pictures taken of Bjeld & Lauridsen thermographic
[6] Jonas Juhl, Grøndal pig production
[7] Ellingson Heat Lamp Project – Swine Medicine

[8]

You get what you see

[9]

Aniheater® financially performed best in test when choosing the future farrowing pen [10].

- SEGES has done a research on heat and energy consumption for the future farrowing pen. The test has been performed at Siljebjerggaard in Denmark. Aniheater® came out with the best result.

Description of the floor	The floor in the pen is full slated (plastic and iron cast). Fixed insulation mat in the nest.
Heating source in the stable	Heat pipes in the room.
M² in the nest	0,9 m²
M² in the pen with full slated floor (incl. nest)	0,9 m²
Nest with heater and/or floor heat	Nest with heater
Heating source in the nest + control system	Adjusted insulation mat in the nest + 150-watt Aniheater in the cover. The control system is Future Farming`s dual system, where the choice is full power and half power.

  - The results from the Aniheater® energy consumption was 104 kWh per. sow per. year incl. room heating. This corresponding to 9,2 Euro per. sow per. year.
  - The remaining manufactures results were in the range from 175 kWh – 504 kWh per. sow per. year. Corresponding to 14 – 36 Euro per. sow per. year.
- The suckling piglets resting behavior got 3 stars, which is the character "Good" in the SEGES study.
- Jacob D. Justesen, owner of Siljebjerggaard pig production, has tested different types of products, but today all the farrowing pens are installed with Aniheater®.
  - *Quote: Aniheater® in combination with insulation mats, is the most energy efficient way to keep the suckling piglets warm.*
- Example 1: If there in SEGES study had been used a recommended temperature curve (3 days at 150 watt and 3 days at 75 watt) and more room heat during first week at farrowing, then the above study could have been improved by 43,74 kWh per. sow per. year.
  - 43,74 kWh per. sow per. year is equivalent to 4,08 Euro per. sow per. year in economic improvement.

Sample consumption of heating bulbs and lamps

- In 6 herds we have examined how much is spent on maintenance infrared heat bulbs and lamps per. sow per. year.
  - 1,54 Euro per. sow per. year in average. The herd with the highest cost was 4 Euro per. sow per. year. It is therefore very variable what the costs are in the respective herds.
  - There is no salary included in the calculation above.

Climate footprint by using the Aniheater®[11] with dual controller.

- The following is calculated according to Ex 1.

Type	Use [kWh]	CO_2 [kg]
Aniheater	16,2	3,078
Heat bulbs	21,6	4,104
Savings	**5,4**	**1,026**

[8] Pictures from Store Vognsbæk I/S, recently have installed Aniheater, 41 – 42 PSY.
[9] Pictures from Moutrup, 2800 sows, using Aniheater, 41 – 42 PSY.
[10] SEGES – Energy and heat consumption (1804)
[11] Danish Energy consultancy.