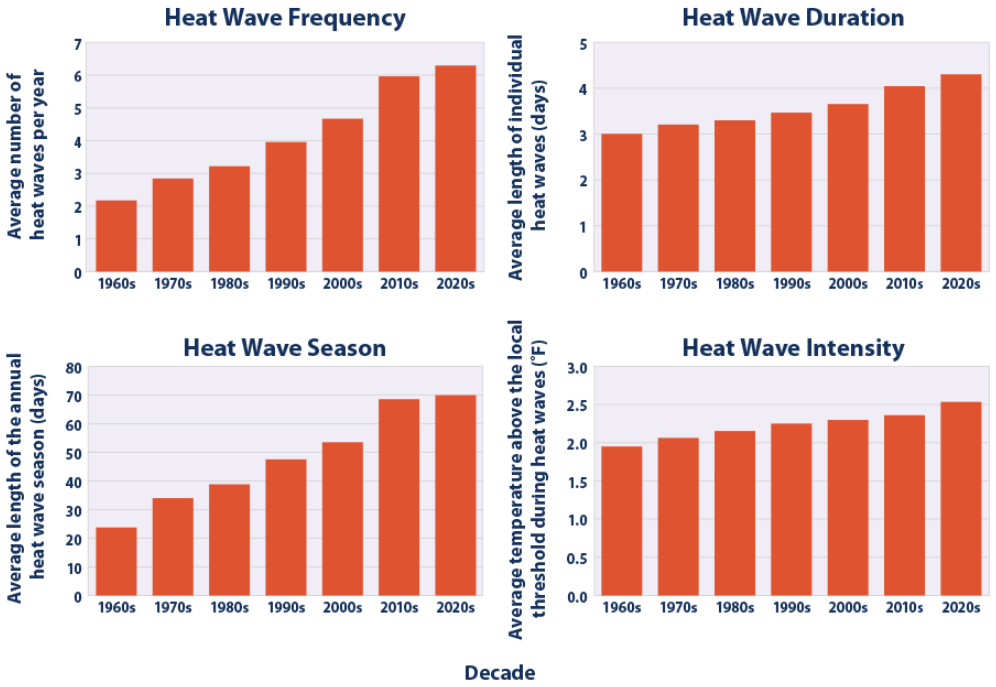
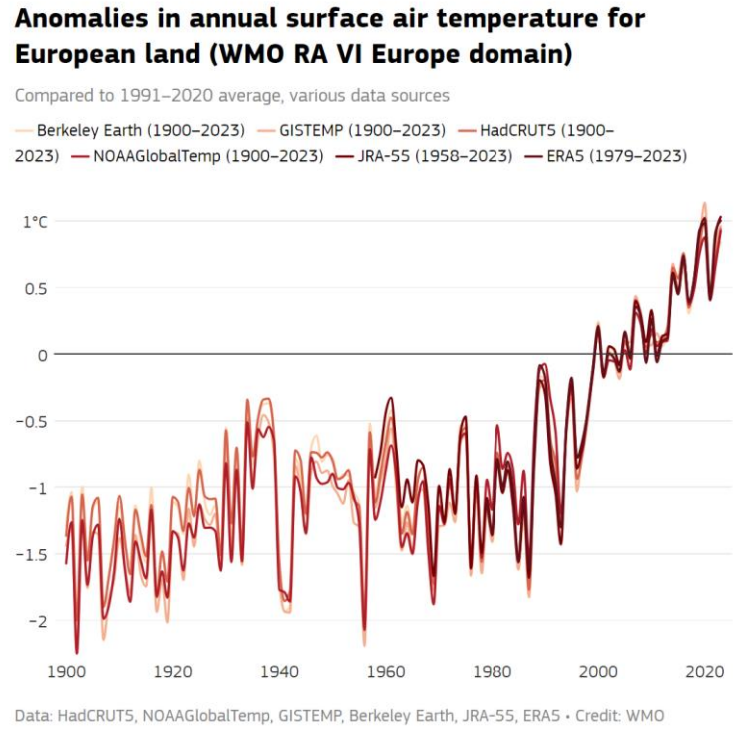

lumiforte®
COOL-FX
the easy & cost-effective way to reduce the temperature in your buildings, reduce heat stress for your livestock and save on cooling costs

Heat waves and warm days: an increasing challenge

USA



Europe



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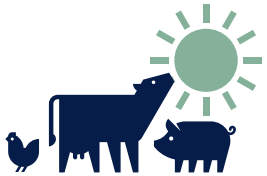
Why keep the sun and heat out of your buildings?

Reduce heat stress for your livestock



Heat stress is a condition arising from high temperatures and humidity where livestock are unable to adequately regulate their body temperature. It results in production losses due to:

- Reduced feed intake
- Increased risk of diseases
- Heat stroke and even death

Save on cost of cooling

Reduction of the inside temperature and "shaving off the high temperature peaks" will save on the cost of cooling:

- Less energy consumption of cooling equipment (OPEX)
- Peak capacity of cooling installation can be less due to reduced (CAPEX)

Create better working conditions for people

Reducing the temperature in poorly insulated barns and buildings will improve working conditions, blocking direct sunlight coming in via skylights avoids the creation of extreme warm heat islands.

Have less degradation of your roof material

The temperature of a black roof in summer can easily be over 75 °C resulting in higher degradation of the roofing material, also the adverse effect of direct UV light can be reduced by applying a white reflective coating .

How to keep out the heat?

There are several ways to keep your barn cool, like for example insulation, ventilation, cooling or misting.

But these solutions:

- Require heavy capex investments
- Consume a lot of electricity

What if...
there would be a solution that:

- can provide you cooling without heavy CAPEX investment, making it also viable for your less-insulated barns and buildings or even your rental properties.
- would be complementary to your existing cooling solution but you can save on energy cost by reducing the heat load.
- will allow you to make use of the heat provided by the sun in wintertime.

COOL-FX: THE EASY & COST-EFFECTIVE WAY TO COOL YOUR BUILDINGS

COOL-FX

Reduce roof temperature by up to
40°C

Reduce indoor temperature by up to
7°C

- ✓ **Cost-effective**
  €0,4- €0,6 per m2, excluding application
- ✓ **Easy to apply**
  Mix with water and spray yourself or hire a (drone) contractor
- ✓ **Biobased & biodegradable**
  Completely safe to use around your farm
- ✓ **Temporary solution**
  Solution will work for 3-6 months

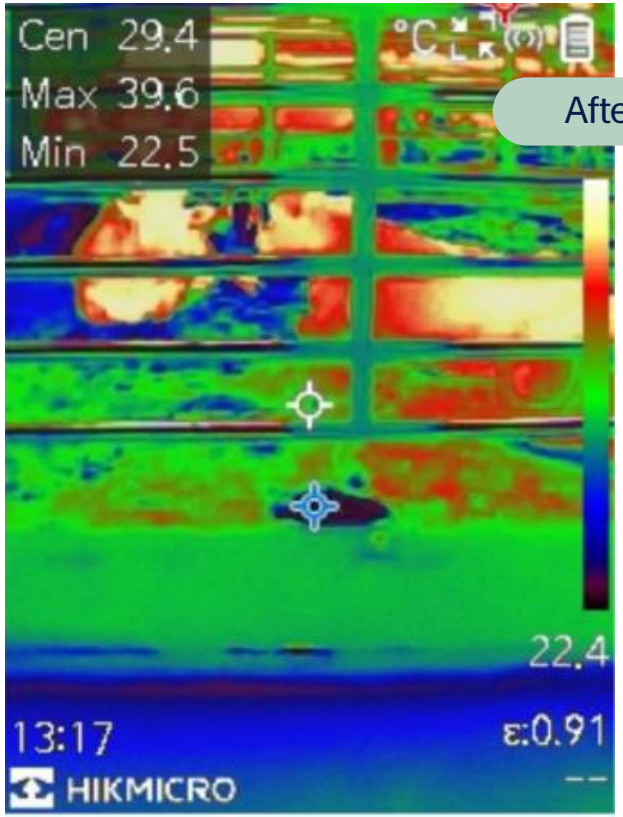
Additional cooling to support ventilators at pig farmer in the Netherlands

"The fans available in this pig stable help, but not enough. With hot weather, more passive cooling is really needed, and this is where a coating like Cool-FX really comes in handy."

Result of applying Cool-FX:
Measured **7°C** difference in a non-insulated barn

Providing cooling in a cattle barn in South-Korea

Before



After

Cool-FX has been applied on several barns with cows. When measuring the inside temperature at the place where the cattle are resting you can see **a difference of around 4 °C**.

The farmer observed quieter and less stressed cows.

Footage from storage barn with metal roof the United States

In the **non-treated metal roof**,
107° Fahrenheit (**41°** Celcius)

In the **treated metal roof**,
56° Fahrenheit (**13°** Celcius)

Outside temperature
70° Fahrenheit (**21°** Celcius)

Cool-FX has been applied on a storage barn with a metal roof. Even with an outside temperature of **21°C**, the difference in surface temperature was **28°C**

Not only for your barns!

Cool-FX is also very beneficial for cooling down poorly insulated and warm industrial buildings.

Ideal for preventing extreme temperatures and heat island of direct sunlight via sky domes and skylights.

Permanent versus **Temporary coating**

Characteristics	 **Longevity**	 **Price applied (€/m²)**	 **Application**	 **Yearly benefit**	 **Environmental profile**
Permanent Solutions	10-20 years	High (investment)	Difficult (Several layers, surface cleaning and preparation, long drying time)	Gains in summer balanced by energy loss in winter	Petrochemicals with huge environmental impact
Temporary Solution*	3-5 months	Low (Consumable)	Easy (Fast, No surface preparation, 1 layer)	No energy loss in winter, only summer gains	Development of biobased/biodegradable formulas (patented solution) with local raw materials**

* Temporary solution: Cool-FX coating

** >98% of raw materials are European, >96% are grown, extracted and transformed in France

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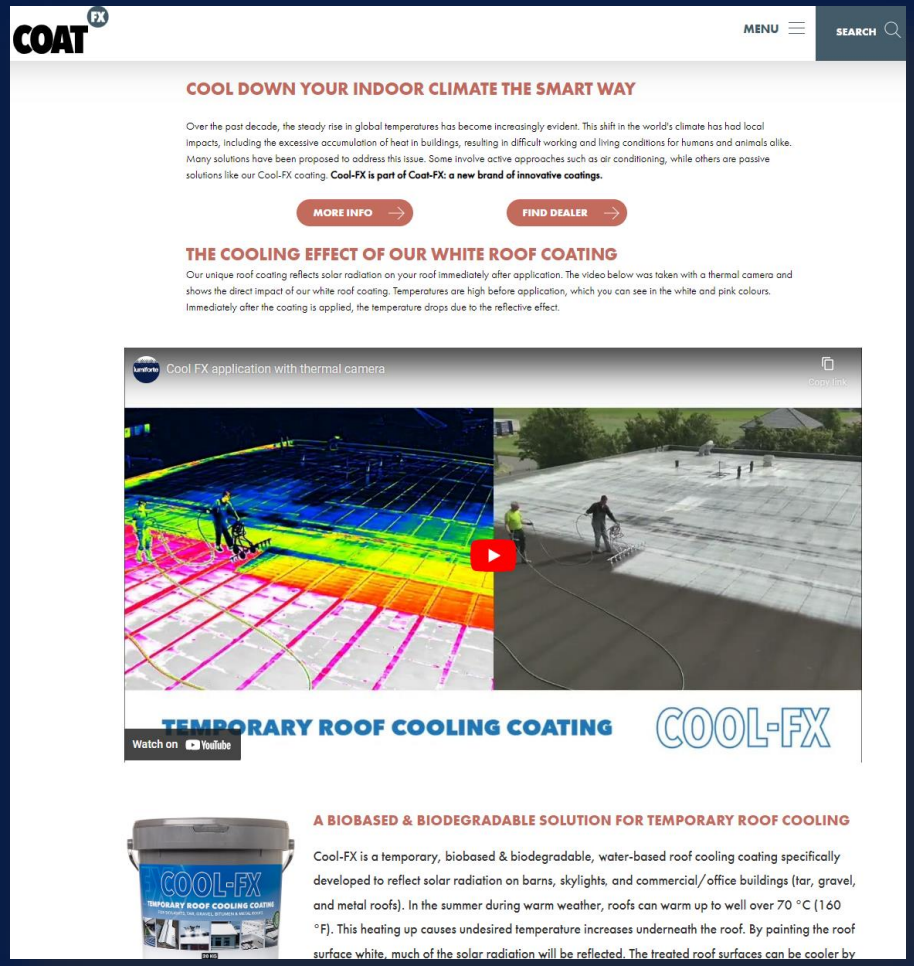
Get support!



More information

Check out our website for the latest news and more background information.
www.coat-fx.com

Find your dealer

Cool-FX can be bought with one of our distributors in your country.

Find an application partner

We can bring you into contact with one of our trusted application partners!

If you would like to become a distributor or application partner, please contact: coat-fx@lumiforte.com

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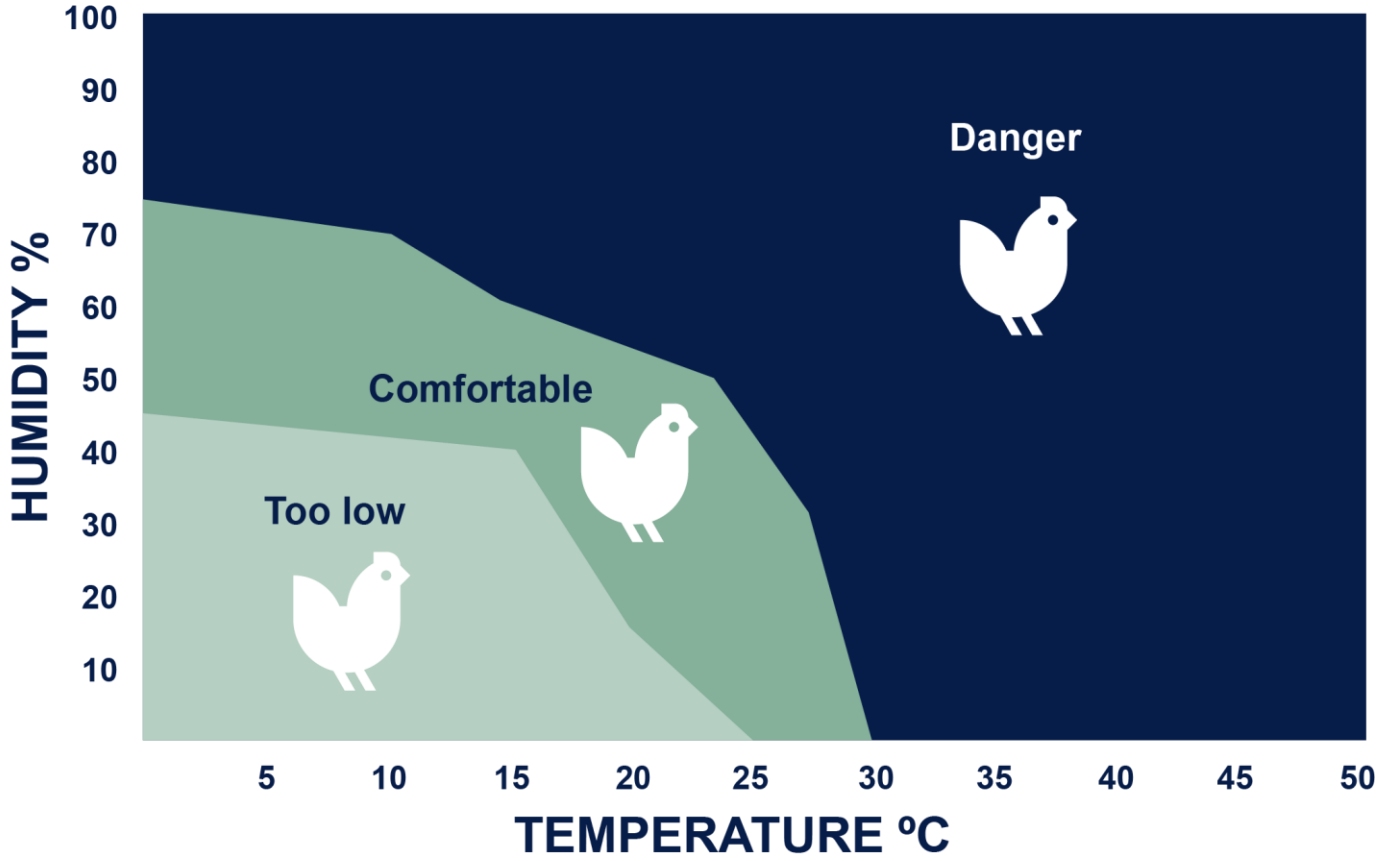
Video link
How to apply Cool-FX

Heat stress for chickens

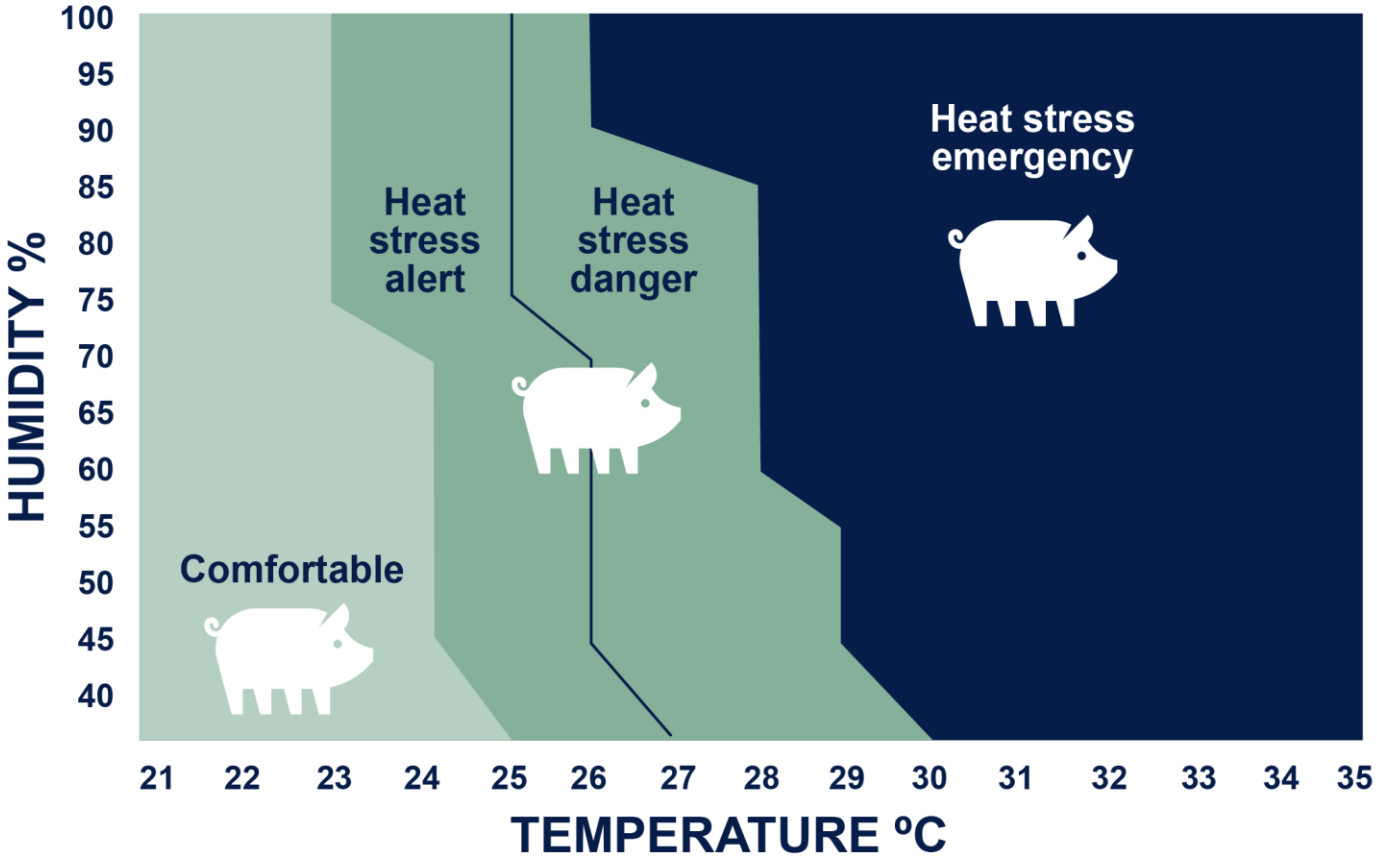


Heatstroke with chickens

- Chickens can't sweat
- Too much heat means a decrease in food consumption and production
- Too much humidity disables chicken to decrease their body heat by evaporation
- This could possibly lead to death from a heart attack

*image source: https://yorspharmaceuticals.com/2023/01/11/heat-stress-in-poultry/
source: University of Minnesota Extension: Preventing heat stress in poulty

Heat stress for pigs



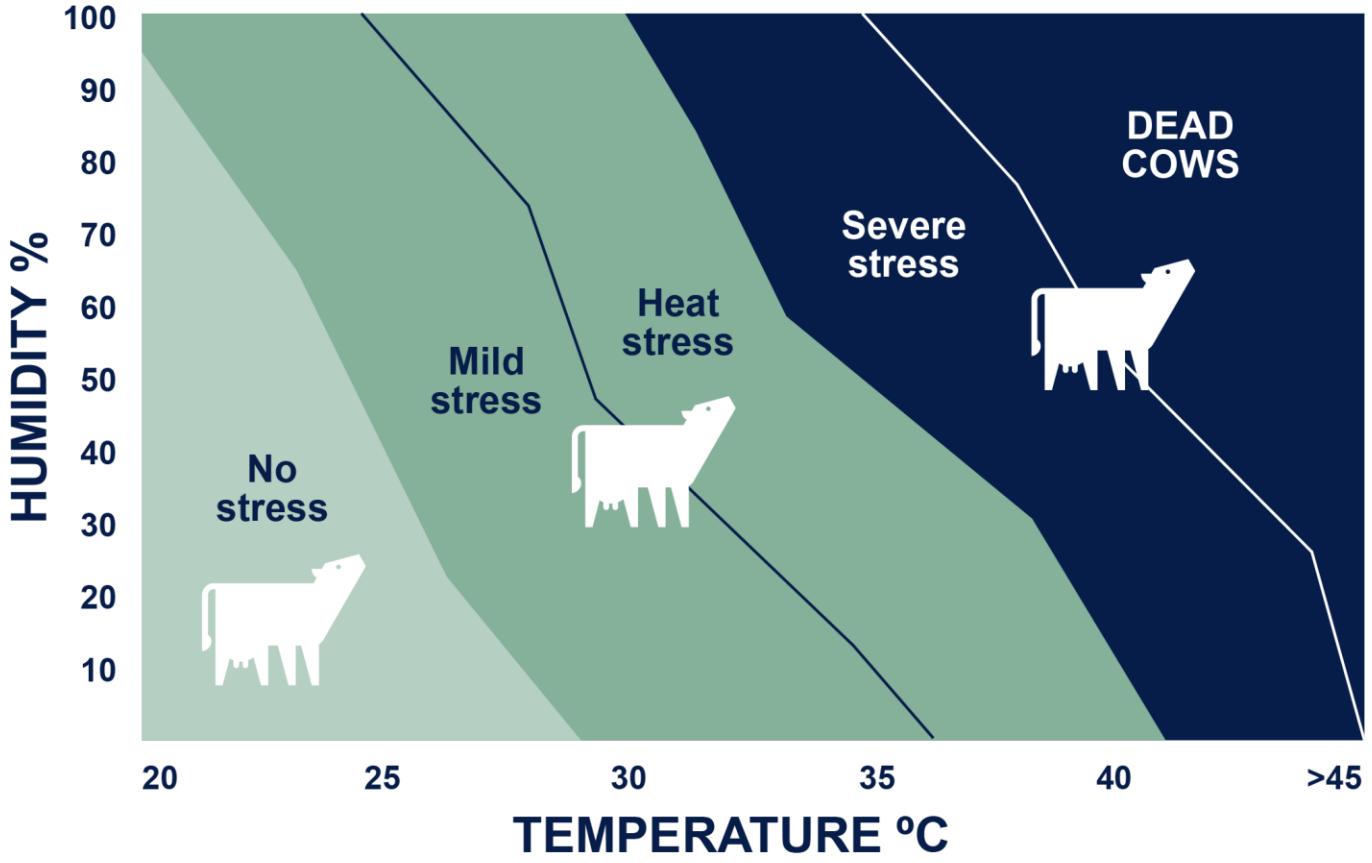
Heatstroke with pigs

- Pigs can't sweat
- Too much heat can lead to:
  - Stress,
  - Less activity
  - Reduced food consumption
  - Increased hart rate and breathing frequency
  - Fouling

- This could possibly lead to death from a heart attack

*image source: : EU Reference Centre for Animal Welfare Pigs, Review on heat stress in pigs on farm REV-Pigs-2023-01

Heat stress for cows



Heatstroke with cows

- At temperatures above 22◦C, cows are unable to dissipate their body heat effectively
- This can result in:
  - Reduced feed intake
  - Reduced milk production
  - Higher rate of diseases
  - Poor fertility
- This could possibly lead to death from a heart attack