

código del documento

REGISTRO DE HEMBRA NOVEDADES DIARIAS

versión

Madre:

[illegible]

Training: Climate control in pig houses

Code: **CLIMATE PIGS**

Time: 100 min

11-11-25

Climate in pig houses

The younger the birds and the higher the production level the higher the demands on the climate will be. The climate as a total can be divided in 5 climatic factors:

- temperature
- relative humidity
- composition of air
- airspeed and movement
- light.

1.1 Temperature

The standards for temperature for pigs are as follows:

TEMPERATURE	AGE	COMFORTZONE
FARROWING HOUSE	week 1	20-24
	next weeks	17-23
	piglet area	30-35
	till weaning	22-28
WEANERS	start	26-33
	4 weeks	25-32
	6 weeks	23-29
	8 weeks	19-26
	10 weeks	18-25
GESTATION SOWS	Early gestation	20-27
	End gestation	16-23
DRY SOWS		21-26
BOARS		20-29
GILTS (YONG SOWS)	See fatteners	
FATTENERS	start 24 kg	25-30
	1 week 26 kg	21-28
	3 weeks 32 kg	19-27
	7 weeks 50 kg	16-26
	10 weeks 70 kg	13-24
	15 weeks 100 kg	12-24

When temperatures are too high feed consumption will drop and thus milk production or growth will drop. When temperatures rise above 30°C heat stress starts and above 35°C mortality due to heat stress can occur.

When temperatures are below the desired temperature feed consumption will increase.

Temperature can be measured with a thermometer.

1.2 Relative humidity

The most optimal relative humidity is 60 - 80%.

Relative humidity can be measured with a hygrometer.

1.3 Composition of house air

Harmful gasses pig houses are:

Carbon dioxide, this gas is produced by the pigs themselves, when concentration is too high respiratory problems and ascites can occur.

The concentration in pig houses should be less than 2500 ppm or 0.25 vol %

Ammonia, this is produced by bacteria in manure and urine. A too high concentration will give affected mucous membranes, and can cause blindness for young birds. The maximum allowed concentration is 10 ppm.

Carbon monoxide, this is a dangerous, odourless gas. It is the result of incomplete combustion, due to lack of oxygen, especially with gas heaters there is a risk for too high carbon monoxide concentration. This will give immediate mortality. The maximum allowed concentration is 100 ppm.

Gasses can be measured with a gas detector.

1.4 Airspeed and movement

In hot climates a high airspeed is positive because it can give a cooling effect for the pigs. In cold climates a high airspeed is negative because it can cause draughts, a draught is a cold air flow over a warm surrounding. Draughts are dangerous for pigs and can easily lead to diseases. When there is a risk for draughts, airspeed at pig level should be less than 0,1 - 0.2 m/ sec.

Air movement can be made visible with smoke. airspeed can be measured with an anemometer.

1.5 Light

Light has a big influence on pigs

At daytime (welfare law) 20 lux is needed, but for a good controlling you need extra artificial light.

Especially for the dry sows extra light is important for heat stimulation and for young weaners for extra feed intake.

Light intensities can be measured with a lux meter.

Practical worksheet climate pighouses House: Age pigs:

	TEMPERATURE	RELATIVE HUMIDITY	AIRCOMPOSITION	AIRSPEED AND MOVEMENT		LIGHT
Observation See, Hear, Feel Smell						
Measuring	Air inlet	Airinlet	NH ₃ at pig level	Air inlet	Place air inlet?	Under lamp
	°C	%	.PPM	m/s		lux
	Passage	Passage	CO ₂ at pig level	Passage	Where is air outlet?	At pig level
	°C	%	vol%	m/s		lux
	Pig level	Pig level		Piglevel	Airmovement through house?	
	°C	%		m/s		
Standard	20 - 34 °C	60 - 80 %	NH ₃ 10 PPM CO ₂ 0,2 - 0,3 Vol%	0,1 - 0,2 m/sec		Welfare : 40 Lux Control: 100 lux
Conclusion						
Advice						