

## **THE ACTION OF MICROCLIMATE FACTORS ON THE MAINTAINANCE SYSTEMS FOR THE LACTATING SOWS**

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### **Abstract**

*Maternity sector represents a step in the technological flow, being the area in which a constant number of weaned piglets are bought, as required for this sector.*

*To maintain desired rates animals prolificacy must ensure optimal conditions for sows and piglets. For this purpose an essential role is granted to the microclimate factors.*

**Key words:** sow, microclimate factors, stall.

### **INTRODUCTION**

For proper maintenance of sows and appropriate piglets developed, it has to be considered the environmental conditions. Therefore, maternity departments, in summer and especially in winter, should ensure constant environmental conditions.

Important components of the environmental conditions are the microclimate factors.

Through this work, it is intended to assess microclimate factors and how they act of lactating sows.

### **MATERIAL AND METHOD**

The study was conducted in Ghiorac pig farm. Ghiorac farm has a total of 15,000 animals, of which 1500 are breeding sows. The concept design is the Italian type, being provided with two breeding areas:

- breeding sector – maternity
- growth sector – fattening

Breeding sector - maternity is operating in two halls:

- hall of breeding boars where there are housed breeding sows and gilts pending mating, groups of pregnant sows;
- motherhood with 5 compartments of every 66 boxes of birth.

There have been used lots of sows of Large White breed fitted with boars from the same race.

Control lot (M) - with a total of 10 sows - was maintained in stalls with free maintenance. Experimental lot 1 (L1), with a total of 10 sows, was placed in stalls with floor heating, and experimental lot 2 (L2) was

composed of 10 sows kept in a farrowing box with total grid and electric heating in concrete slab.

## RESULTS

Free maintenance of sows in the farrowing stall, provides comfort for lactating sows and piglets. Local heating of the piglets is made with infrared lamps and a fixed rubber mat on the floor. For the L1 group maintained in stalls with floor heating, provides good conditions for growth of piglets, and L2 for the lot, it was found that ensures a high degree of preservation of cleanliness especially in the area of feeding and resting area piglets.

Microclimate factors values obtained are given in Table 1.

*Table 1*

Microclimate parameters				
Microclimate factors	Name	Lots		
		M	L1	L2
Temperature °C	Boxes with free maintenance of sows	20-22 °C	-	-
	Boxes with under floor heating	-	22-26 °C	-
	Boxes with grid and electrical heating in the concrete slab	-	-	28-33 °C
Humidity %	lactating sows	56-60%	60-62%	62-64%

Temperature in maternity, have a crucial role both in maintaining health and to achieve a high average daily gain.

Based on the investigations it was found that lactating sows maintained at a temperature greater than 32 ° C had a feed consumption by 37% less feed, but also had greater weight loss compared with those who were between bound temperatures between 16 - 26 ° C.

Use of heating the entire surface of the farrowing stall while providing a uniform temperature and submit a number of disadvantages with negative effects on sow and piglets. Boxes whit local heating (nest piglets) have the advantage of ensuring the microclimate needed by piglets and boxes whit total heating make fermentation of manure leading to increasing concentration of ammonia and loss of feeding capacity of sows.

The loss of feeding capacity reflected negatively on the contribution made by piglet weight.

Lot L1 where was used heating all over the boxes while had manage to obtain the appropriate microclimate conditions recorded for the lowest weight weaned piglets compared with group M and L2.

Moisture plays an important role in maternity especially infant piglets.

## **CONCLUSIONS**

Failure to provide an optimum temperature for baby piglets, lead to losses by mortality during the first days of life, which can go up to 60% of the total losses from birth to weaning. It is very important for piglets ensure optimal air temperature in the compartment, the optimal temperature and the floor.

Ambient temperature benefiting mainly sow, does not exceed 24 ° C and piglets must be provided a heated zone and well insulated from the sow.

In conclusion we can say that the technology used in providing microclimate has a major influence in ensuring the track parameters.

Humidity has a negative, in that it promotes increased microbial load of the shelter, animal sensitivity, increased morbidity and mortality in piglets.

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