INFLUENCE OF HIGH TEMPERATURE ON REPRODUCTION IN SOWS

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Abstract

Temperature is the key factor to maintain thermal homeostasis at warm-blooded animals.
High temperature is a constant factor that influences reproduction at sows,where were found disturbances in the ovary, egg, embryo and fetus.
Existence of critical periods in reproductive process is more vulnerable to heat stress than others.
Excessive temperature of over 25 ° C,induce sows great harm materialized in weight loss during lactation, metabolic compensation efforts, reduced fertility, lactation capacity, the extension of prolificacy and unproductive.
Is also worth mentioning that there was a decrease in voluntary food intake.
Ambient temperature in the roof shelter of sows is recommended to be secured around 20 ° C, where maintenance is done in individual piggery without bedding.
Where is necessary to ensure bedding, temperature may be lower.
In conclusion, the temperature has an important role in improving reproduction indicators.

Key words: *indicators, reproduction, sows, temperature.*

INTRODUCTION

Temperature is probably the most critical factor in the physical environment for pigs, because pigs have a thermoregulatory inefficient (I.Dinu). Experiments in controlled environment conditions and semicontroled showed that temperature affects growth rate, feed efficiency, animal behavior, and reproductive efficiency by decreasing fecundity, prolificacy and birth (AT Bogdan, 1999).
In sows, high temperatures have adverse effects on reproduction, as

evidenced by the low levels recorded in worm season.So were made research on seasonal variations in conception rate, estrous cycle length and number of piglets about high temperature(Teague, Warnick, Tompkins, Swiestra, Holmes et al., Legault)
Depending on the severity of heat stress and humidity and degree of acclimatization, sows subjected to high ambient temperatures, showed anormal estrous behavior (Warnick et al., Teague et al.) or during ovulation (d'Arce et al .).
The results obtained by different researchers show that high ambient temperature adversely affects fertility and prolificacy sows.
So, if halls with average temperature in the shelter of 17-18 ° C the proportion of sows entering oestrus in a flock was 5% in summer to 28 ° C was 3.5 to 3.7% (J. Gadd,2005).
Monthly average temperature rise of 1 ° C reduce the duration of oestrus + / - 6hours or appearance of silent estrous .In regarding fertility, sows installed in January remained pregnant in 80%, while those mounted in august in proportion of 47%. Biggest influences on fecundity have high temperatures in the first eight days after mating, so that later to exercise on fetal development and parturition weight achieved.
The negative effects are amplified when high temperature is accompanied by direct solar radiation by housing animals in paddocks. Access at shadows may be the solution for the protection of direct sunlight, but not to the high air temperatures .
Controlled effect by intermittent sprinkling sows using automatic devices or by shower.Showers increase prolificacy in summer average of 2.35 piglets / sow (RJ Smits, 1999)
Provided antepartum temperature during parturition and 2-3 days postpartum will fit in values 24-26°C (PW Ferguson et al, 1985). Temperatures above 25 ° C reduce appetite in lactating sows, feed intake may decrease with 2kg/day decreases milk secretion and consequently piglets.
In problems in such conditions, watering the front of the sows in breastfeeding can be a salutary solution Klober Kelly, 1997

Table 1. Influence of air temperature on reproductive performance of sows
(after Teague and colab.)

Reproductive performance	**Air temperature**		
	26,7°C	**30**°C	**33,3**°C
Number of sows	74	80	80
Number of sows mounted	74	78	73
Number notentered in heat	0	2	7
Number returned in heat	2	8	8
Number notentered,notpregnent	5	2	3
Number pregnant at 25 days after mating	67	67 *	62
% pregnant at 25 days after mating	90,5	84,8	77,5

*) a sow died 3 days after mating

Increasing air temperature decrease affected the percentage of pregnant female at 25 days after mating.
Maintenance and temperature control are generally more difficult and more critical in higher temperatures than in the low temperatures.
Cooling using various environmental control facilities and spray with cold water are important in reducing the effect of high temperature on reproduction in sows.
This measures are required to be applied during the pre-assembled, installed and gestation in places with high temperatures.
In current conditions it is estimated that there are better ways to control animal environment, but also on the progress made in the field of genetics and improvement, by applying a suitable selection can be changed and type of animal product.
So the researchers are able to act on both units for concomitant improvement of temperature, and the animals can become more adaptive to these environmental conditions.

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