

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

THERMAL COMFORT OF PIGS IN FREE RANGE SYSTEMS

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Free-Range Systems is an alternative for swine producers related to a better animal welfare condition compared to traditional intensive systems. However, for the success of this system it is necessary the development of researches about the influence of meteorological variables on physiological and behavioral characteristics of the animals on tropical conditions. Based on these information the main goal of this research is to evaluate the availability and use of shading structures and the behavior of sows on free range system. The trial was conducted on the Unidade Demonstrativa de Criação de Suínos ao Ar Livre (UDCAL) from the Água Limpa Farm of the Universidade de Brasília (15.78°S; 47.93°O; 1100m) during summer season from 9 AM to 4 PM. The sows maintained in pickets on rotational grazing strategy (1,000m² each) received concentrated feed and ad libitum water. Meteorological variables: air temperature, relative humidity, wind speed, mean radiant temperature, short-wave radiation were measured. An etogram was developed for behavioral measurements considering the place where animals were (under the natural or artificial shading or under the sun), body posture (standing or lying) and the activity (eating, drinking, rooting, positive or negative interactions, urinating and defecating), using behavioral and scanning samplings to evaluate the frequency and duration of each observed activity. Data were analyzed using the “Statistical Analysis System” software. The mean values observed for mean radiant temperature under the shade (33.5°C) and exposed to the sun (59.8°C) are highly correlated to the expression of sows’ behavior. Air temperature ranged between 22.6°C at 9 AM to 29.5°C at 15 PM and the mean value of solar irradiance was 1,026 W m⁻², reflecting a thermal amplitude higher than 6°C in few hours and an exposure to high levels of short-wave radiation, which resulted on a decreasing permanence of the animals exposed directly to the sun, from 76% at 9 AM to 44% at 2 PM. The sows were standing 63% at 9 AM and layed down just under the shade structure and the natural shading was the preferred one. The most frequent activities were grazing and idling, which indicates that these free range systems allow the expression of the natural behavior of the animals; however, it becomes fundamental the availability of shading resources, preferably natural.

Keywords: animal behavior, free range, physiology, swine

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