POSSIBILITIES OF USING THERMOGRAPHY IN FARMED FALLOW DEER

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Introduction Presently a thermovision is more commonly used non-invasive diagnostic method in animal husbandry. It can be useful for animals with a low level of taming, such as deer farms, zoos, wildlife parks, etc. For this reason, the Department of Fur-bear Animal Breeding and Game Management at UWM in Olsztyn (Poland) has been studying various the possibility of using thermovision in farm breeding of fallow deer (Dama dama). Materia and methods Described research works were carried out at the deer farm of the Research Station of the Institute of Parasitology of the Polish Academy of Sciences in Kosewo Górne (NE Poland), where a herd of about 300 fallow deer is kept under farmed conditions. The Thermo TP8S camera and the Launch Guide IR Analyzer was used for the research works. Results The following research issues were analyzed and tested: Determining of labour time - the changing temperature differences between the lower abdominal area and the control area of the rump was calculated from the thermograms taken from pregnant hinds and postpartum. It has been found that detecting the temperature difference in fallow deer female in the last trimester of pregnancy is possible, but the test, taking into account the level of taming of the animals, can be time-consuming. Finding hidden newborns - thermovision method is effective in finding calves in the early postpartum period, however, hidden in the vegetation (invisible to the naked eye) are located by the method from a distance of no more than 20 m. As one approach the calf, the infrared image showed more perfectly the hidden young. Unfortunately, at a greater distance, the body temperature emitted by the calves did not clearly distinguish between its location and its surroundings. Monitoring of antler ossification process - the ossification of antlers was assessed by measuring temperature at different parts of the beam (covered by velvet). This knowledge concerning an ossification is frequently useful on deer farms or wild parks to guarantee the safety of personnel and to prevent lethal accidents during stag fights. Antler cutting dates should be carefully planned to improve animal welfare, minimize stress and eliminate pain without the need for pharmacological sedation. Monitoring of stress reactions based on the eye temperature - this is the

current realised research field. Preliminary results of the comparison of the infrared image of the eye and changes in body temperature measured rectally in stressed fallow deer (immobilization in crush) indicate that the first of the above-mentioned measurements can be helpful in determining the stress level in farmed fallow deer. Summary It has been found that thermography can be a useful diagnostic technique in deer farming, allowing the control of selected physiological processes and the level of animal welfare. However, the condition for its effective use is to tame the animals, allowing them to meet technical and methodological requirements.