

THE INFLUENCE OF PREGNANT SOWS' MOVEMENT RESTRAINT ON LYMPHOCYTE PROLIFERATION IN SOWS AND PIGLETS

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OBJECTIVE

The movement restraint is a strong stress incentive among the animals, which may influence the immunologic reactions. Currently valid standards concerning husbandry of pregnant sows allow movement restraint that delimits basic behavioural reactions and also may influence the animals' health.

METHODS

The aim of the study was to define the influence of movement restraint usually used in pig husbandry on lymphocyte proliferation. In the experiment we used pregnant pigs:

- I – no movement restraint (1–100 day from insemination pigs were housed in group crates, 100–135 day in stroll parturition crates)
- II – movement restraint (1–28 day from insemination pigs were housed in individual crates, 30–100 day group crates, 100–135 day in individual parturition crates)
- III – movement restraint through the whole parturition period (1–100 day from insemination pigs were housed in individual crates, 100–135 day in individual parturition crates).
- Blood were taken from *vena cava*:
- sows – 30, 98, 100, 135 day from insemination
- piglets – 3, 7, 21 day of live

Mitogen-induced lymphocyte proliferation was used as an *in vitro* index of cellular immune function. Concanavalin A, pokeweed mitogen and phytohemagglutinin were used in the lymphocyte proliferation assay.

RESULTS

On the 99th day the proliferation results were comparable to all groups and on the 101st (after inserting into parturition crate) showed the highest immunity suppression in the 2nd group. A similar result could be observed on the 30th day of the experiment. The prenatal stress resulted in deterioration of lymphocytes' proliferation of piglets from the 3rd group at the age of 3, 7 and 21 days.

CONCLUSIONS

The results unequivocally indicate the possibility of influence of prenatal stress on the immunological system's ontogenesis, which may cause higher susceptibility on diseases during the fattening period.

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