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P23 SEROPREVALENCE OF *TOXOPLASMA GONDII* INFECTION IN FARMED SOWS IN THE REPUBLIC OF MACEDONIA

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Introduction: Toxoplasmosis is a globally distributed zoonotic disease caused by the protozoan parasite *Toxoplasma gondii*. Cats play an important role in the transmission of *T. gondii*, since they are the only animals that can shed infective oocysts in their feces. Pigs get infected by ingesting food or water contaminated with oocysts from cat feces, ingesting bradyzoites or tachyzoites through cannibalism of other infected pigs and by eating infected rodents. To date, there is no data about *T. gondii* presence in farmed sows in the Republic of Macedonia, so this study was undertaken to determine the seroprevalence of *T. gondii* in sows with different parities.

Material and Methods: Sera from 183 sows with parity from 1 to 10, kept in 5 pig farms in Macedonia were used in the study. Blood samples were taken from the jugular vein 24 hours after parturition. The blood was centrifuged and the obtained serum was stored at -20°C until analysis. An ELISA test was performed by using a commercial test kit (*Toxoplasma gondii* Antibody Test Kit, Bio-Rad Laboratories, USA) for the detection of IgG antibodies to *Toxoplasma gondii* in swine according to the manufacturer's instructions. The data were analyzed with Chi-square test and the results were considered statistically significant at $p < 0.05$.

Results: *Toxoplasma gondii* IgG antibodies were detected in 31 (17%) sows in 4 out of the 5 tested farms. The average seroprevalence in affected herds was 21.2%, ranging from 10.8% to 38.1%. Significantly higher number of positive samples ($p < 0.05$) was found in sows with parity from 5 to 10 (20/31) compared to sows with parity from 1 to 4 (11/31). Additionally, the increasing parity was positively correlated to the seroprevalence of *T. gondii* ($r = 0.79$).

Conclusion: This study shows that *Toxoplasma gondii* is present in farmed sows in Macedonia and that the seroprevalence is proportional to the increasing parity. The different prevalence among herds could be associated with the

different level of implemented biosecurity measures regarding control of rodents, cats, birds and wildlife. In order to improve the control of toxoplasmosis, additional research should be carried out to identify the relationship between the seropositivity and the farm management practices.

Key words: seroprevalence, *Toxoplasma gondii*, Macedonia