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Toxoplasma gondii infection in pork meat samples from Erexim. Phase I: Characterization of the rate of contamination and identification of the organisms from tongue and diaphragm.

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Purpose: To determine the rate of contamination (incidence) of Toxoplasma gondii on commercial pork meat samples from Erexim, RS, Brazil. Methods: Meat samples were collected from tongue and diaphragm of commercial pigs that were recently abated on both small and large butcheries. The samples were kept on a saline solution and latter grind and frozen until DNA extraction was performed. All care was taken to avoid contamination. The PCR was performed using two specific primers for T. gondii - CGCTGCAGGGAGGAAGACGAAAGTTGAG and AGCGCTGCAGACACAGTGCATCTGGATT - respectively from the 5' and 3' ends of a 533 bp fragment fom the T. gondii genome. After optimization of the PCR reaction for pH and MgCl2 concentration using tissue culture parasites, the PCR reaction was performed in a 50 ml reaction mixture containing 0.5 mM of each primer, 100 mM dNTP (Pharmacia Biotech), 60 mM Tris±HCl (pH 9.0), 15 mM (NH4)2SO4, 2 mM MgCl2, 0.5 U Taq PLATINUM (Applied Biosysthems). Amplification was performed on a PerkinElmer/Applied Biosysthems 9600 thermo cycler by 10 min incubation at 94ºC, followed by 38 cycles of 1.5 min at 94ºC, 1 min at 56ºC, 1 min at 72ºC and a final 10 min incubation at 72ºC. PCR products were analyzed using Southern blot methodology. Results: Seventeen out of 50 (34%) samples from diaphragm and 33 out of 50 (66%) samples from tongue tested positive for T. gondii. Conclusions: The high incidence of Toxoplasma gondii found on meat from both small and large slaughter houses shows high risk for people that consumes or handle the meat products to be infected by Toxoplasma gondii. The next study, to type the different strains of Toxoplasma gondii are on the way.