Coxiella burnetii is a gram-negative, intracellular bacterium and the causative agent of the zoonosis Q fever. Infected animals, especially ruminants, can shed the organism amongst others via the milking process. Therefore it is necessary to pasteurize raw milk products before they enter the human food chain. Experiments for the regulations of milk pasteurization were performed during the 1950s and 1960s and until now, they are still the international standard.

The aim of this study is to determine optimal short-time heat-treatment conditions for effective reduction of Coxiella burnetii in milk in agreement with the specifications of the Codex Alimentarius. Furthermore, the heat resistance mechanisms of the organism should be tested by comparative studies of the spore-like form and the metabolic active form, using transcriptional analyses.

Keywords: Coxiella burnetii, milk, pasteurization, food safety, foodborne diseases