Summary of the DVM thesis No 17785, Factually of Veterinary Medicine, Urmia University.

The Academic year: 2024-2025

Author: Mehran Farah-bakhsh

Thesis Title: Detection of *Mycoplasma agalactiae* from sheep and goat milk in Piranshahr region by PCR method.

Abstract:

Mycoplasma agalactiae is a cell wall-less bacterium belonging to the class Mollicutes, recognized as the primary etiological agent of contagious agalactia in sheep and goats. Contagious agalactia is a severe syndrome affecting small ruminants, reported in numerous countries worldwide, including Mediterranean regions, Europe, Western Asia, America, and North Africa. The main objective of this study was to identify *Mycoplasma agalactiae*, the causative agent of mastitis in sheep and goats, using the PCR method on milk samples collected from traditional livestock farms in Piranshahr County. A total of 253 raw milk samples were collected from animals exhibiting clinical signs suggestive of mastitis (inflammation, pain in the mammary gland, elevated temperature in the mammary glands, and abnormal milk appearance) from traditional sheep and goat herds in the Piranshahr region of West Azerbaijan Province. DNA extraction from milk samples was performed using a commercial kit (Denazist Asia) following the manufacturer's protocol. Subsequently, the samples were analyzed using PCR, targeting the *16S rRNA* and *vspA* genes. Results indicated that 180/25 samples (13.88%) from sheep milk and 73/5 samples (6.84%) from goat milk were positive for the Mycoplasma genus based on the *16S rRNA* gene. Of these positive samples, 6 out of 25 sheep samples and 2 out of 5 goat samples were also positive for the *vspA* gene. One of the crucial methods for early diagnosis of this disease is the use of techniques such as PCR, which offers a rapid, specific, and accurate diagnostic approach. In this study, bacterial DNA was extracted using a commercial kit, and PCR was employed for identification. This method demonstrated the ability to identify apparently healthy animals in the early stages of infection, allowing for timely detection.

Keywords: *Mycoplasma agalactiae*, sheep, goat, PCR.