College: Veterinary Medicine **Student's Name:** Huda Abdulhussein Abbas

Dept.: Veterinary Microbiology & Parasitology **Supervisor's Name:** Prof. Dr. Abdalbari A. Al-Faris

Certificate: Master **Specialization:** Parasitology

Title:

MOLECULAR AND EPIDEMIOLOGICAL DETECTION OF *Haemonchus contortus* IN BASRAH CITY- SOUTHERN IRAQ

Abstract:

In the present study, a total of (705) animals were examined, this animals divided in to (556) sheep and (149) goats which are taken from Basrah slaughter house during the period June 2016 to January 2017. The total number of the infested animals was (90) which is divided into (78) sheep and (12) goats while the total number of isolated worms was (2439) from both sheep and goats.

The percentage of infestation was (13.18, 16.23) in sheep for both males and females respectively, while in goats the percentage of infestation was (8.39) for males only.

The present study focused on four important parts:

The first part of this study was the macroscopic and microscopic examination of *Haemonchus contortus* worm which was isolated from the fourth stomach of both sheep and goats, this part shows the morphological characterization of the worm.

The second part shows scanning and transmission electron microscope for adult *H. contortus*, the scanning electron microscope shows the posterior part of the body of female, the finger flap of female, the anterior part of female with cervical spine and with clear lips and the copulatory bursa in the posterior part of the male.

On the other hand the transmission electron microscope showed the tegument, plasma membrane, mitochondria, a muscle lies below the basal plasma membrane and vacuoles.

The third part of this study was a histopathological section of the infested abomasum of sheep which shows different changes, like, a stomach glandular region with fibrosis at the base of lamina properia, infiltration of mononuclear cells at the base of lamina properia, a debris of parasite with completely fibrosis in glandular tissue of abomasum with inflammatory cells and showed aggregation of inflammatory cells in the sub mucosa, degeneration of mucus gland associated with infiltration of mononuclear cells, edema and inflammatory cells in the lamina properia, inflammatory cells and congested blood vessels in the lamina properia with or without congestion.

On the other hand some results show a section of adult *H. contortus* parasite with gut and testes, a part of parasite penetrated mucosa and submucosa surrounding with inflammatory cells.

Finally, the fourth part was for the identification of *Haemonchus* genus and detection of the presence of ITS-2 (295bp) Internal Transcribed Spacer gene (nuclear ribosomal DNA), Nad4 (800bp) Nicotinamide Dehydrogenase gene (Mitochondrial DNA). This purpose occurs by Extracting the total DNA which was done by using the iNtRON kit and then by using designed primers specifically for each gene.

The results show (2) sheep and (14) goats were positive for ITS-2 gene, while Nad4 gene amplification shows (14) sheep and (11) goats were positive.