INTRODUCTION

The increasing world wide demand for animal proteins for human consumption, vast and fast development of animal production, especially in poultry field, has become a very popular business.

The effective natural programs and health management system are used in poultry farms at different scales of production. It is now evident that our most serious industry problems related to metabolic disorders, immunological disorder as well as the diseases which lead to limitation of production potential.

The use of antimicrobial agents in either treatment of poultry or to improve their performance, stimulated many investigators to reveal their physiological, pharmacological effect on living birds as well as the residues of these drugs in edible parts of the poultry (**Feltwell and Fox, 1979)**.

Fluroquinolones have emerged as antimicrobial class in this decade **(Brawn, 1996).** They are species of synthetic antimicrobial agents that are undergoing extensive investigation for both human and veterinary use in the treatment of variety of bacterial infections.

Quinolones are serious of synthetic antimicrobial agents, the first of which was nalidixic acid introduce in 1964. They were developed as by-products of novel synthesis of antimicrobial choroquine.

The early members of the group (first generation) include nalidixic acid, oxalonic acid and flumequine. They are active against Gram-negative organisms and their use is limited to the treatment of urinary tract and entric infections. Further synthesis and investigations have given rise to the second generation quinolones (fluroquinolones), with extended antibacterial activity and included enrofloxacin and ofloxacin **(Brander *et al.*, 1991).**

Ciprofloxacin is effective in treatment of Streptococcal endocarditis, *Pseudomonal meningitis, Pneumonia*, *Escherichia coli* infection and Osteomylitis **(Nix and Devito, 1987).**

Beside the fore mentioned advantage of ciprofloxacin in effective treatment of different disease in human, animal and poultry field, the disadvantage of the use of ciprofloxacin as prophylactic additives in food are noticed in the antibody response (by hemagglutination inhibition) are variable on chickens vaccinated against Newcastle disease either high or low depending on the type of quinolone used.

Other disadvantage, the difficult to isolate organisms like Mycoplasma gallisepticum infection giving false impression that the flock is free from infection due to the reduction of the immune response **(Kempf, 1991).**

The physiological, pharmacological, immunological and biochemical effect of the drug should be known for poultry health during the life as well as to define the withdrawal priod for minimizing the risk of ciprofloxacin residue in poultry edible tissues **(Anadon *et al.*, 1992).**

The poultry meat and poultry offal's are not eaten raw but require different way of cooking. The heat treatment may influence the amount of drug residues.

Thus, the present study aimed to study the effect of synthetic fluroquinolone (ciprofloxacin) on:

PART I:

1- Blood chemistry of poultry

2- Immunological changes.

3- Hematological changes.

4- Tissue drug residues.

PART II:

1- Effect of the freezing storage on the drug residue.

2- Study the effect of different temperature of cooking on the residue of ciprofloxacin.

2.1. Boiling

2.2. Roasting

2.3. Frying.