

CONTENTS

1- INTRODUCTION	1
2- REVIEW OF LITERATURE.....	3
3-MATERIALS AND METHODS	16
Experimental birds	16
Methods and techniques	16
PartI: Determination of body weight, wing surface area, wing loading index and relative organ weights in the three studied birds	16
PartII:- Determination of some hematological parameters and respiratory functions of blood	17
a: Hematological parameters.....	
1- Determination of erythrocytes count	17
2- Determination of hemoglobin concentration ..	18
3- Determination of hematocrit value	20
4- Calculation of mean corpuscular volume ..	20
5- Calculation of mean corpuscular hemoglobin.....	20
6- Calculation of mean corpuscular hemoglobin concentration	20
b- Respiratory functions of blood	21
1-Blood sampling.....	21
2-Analysis of blood gases and acid-base status	21
3-Determination of oxygen equilibrium curve (OEC)	22

Part III: Determination of some biochemical analysis :	23
a-Metabolites	24
1-Determination of serum glucose	24
2-Determination of liver and muscle glycogen	25
3-Determination of serum total protein	26
4- Determination of serum total lipids	28
5-Determination of serum triglycerides	29
6-Determination of serum cholesterol	31
7-Determination of serum uric acid	32
B-Enzymes	34
1-Determination of serum aspartate amino transferase (AST)	34
2- Determination of alanine amino transferase (ALT)	35
C. Hormones	36
1-Determination of insulin	36
2- Determination of triiodothyronine	38
3- Determination of tetraiodothyronine	40
4- Determination of cortisol	41
III. Statistical analysis	43
3-RESULTS	44
Part I: Body weight, wing surface area, wing loading index and relative organ weights in the three studied birds	44
1-Total body weight	44
2-Wing surface area	44

3-Wing loading index	48
4-Heart width	48
5-The relative weight of the heart	48
6-The relative weight of pectoralis major muscle	48
7-The relative weight of pectoralis minor muscle	52
8-The relative weight of spleen	52
9-The relative weight of liver	52
10-The relative weight of gizzard.....	52
11-The relative weight of kidney	57
Part II: Hematological parameters and respiratory	
functions in the three studied birds	57
a-Hematological parameters	57
1-Erythrocyte count	57
2-Hemoglobin content	57
3-Hematocrit value	63
4-Mean corpuscular volume	63
5-Mean corpuscular hemoglobin	63
6-Mean corpuscular hemeoglobin concentration	63
b-Respiratory functions of blood	68
1-Blood gases	68
2-Blood acid-base status	75
3-Oxygen equilibrium curve	83
Part III: Some metabolite, enzyme and	
Hormone activities in the three studied birds	89
a-Metabolites	89
1-Serum glucose level	89
2-Liver glycogen concentration	89

3-Muscle glycogen concentration	93
4-Serum total protein	93
5-Serum total lipids	93
6-Serum triglyceride concentration	97
7-serum cholesterol level	97
8-serum uric acid level	97
b-Enzymes	101
1-Serum aspartate amino transferase (AST)	101
2-Serum alanine amino transferase (ALT)	101
c-Hormones	101
1-Insulin level	101
2-Triiodothyronine	107
3-Tetraiodothyronine	107
4-Cortisol	107
4-DISCUSSION	111
5-SUMMARY	133
6-REFERENCES	137
7-ARABIC SUMMARY	