

## ABSTRACT

This study aimed to realize the effect of chain speed in chain feeding poultry system and location of cages on the components of forage and production. Samples were taken from chicken nurture into three batteries, each of them by different chain speed. Data were taken on four distances from the beginning to end of line of feed. A mechanical analysis for samples of forage were taken on distance of study and separated according to their size by riddles. By using (*SPSS*) program, fitting curves were used to express the relation to indicate the proper speed of the chain and distance (location of cage).

Statistical analyses were conducted for the significance of effect of (speed and distance) on egg production number, eggs weight and broken eggs number. The best speed for chain is 12 m/minute. So speed of 12 m/minute was compared with the other two systems (trolley and manual). It was found that the trolley feeding was the best for feeding poultry inside cages.

<b>CONTENTS</b>	<b>PAGE</b>
<b>I INTRODUCTION.....</b>	<b>1</b>
<b>II REVIEW OF LITERATURE.....</b>	<b>2</b>
1-Feeding system .....	2
2-Feeding time .....	6
3-Development of feeder.....	7
4-Comparison between different feeding system:.....	9
5-Effect of dietary calcium and protein level .....	12
5-1-Live weight of laying fowl.....	12
5-2-Egg number and rat of laying (%)......	12
5-3-Egg weight and egg shell quality.....	13
6-Drinking system:.....	15
7-Ventilation systems:.....	15
7-1- Air velocity:.....	16
7-2- Ventilation rate:.....	18
<b>III MATERIALS AND METHODS.....</b>	<b>22</b>
<b>1-Materials.....</b>	<b>23</b>
1-1- Stop watch:.....	
1-2- Liner tape measure:.....	23
1-3- Electrical balance:.....	23
1- 4- Growing period:.....	23

1-5- Laying period:.....	23
1-5-1- Body weight:.....	23
1-5-2- Egg production:.....	23
1-5-3- Break down time:.....	23
1-6- description of battery for all system:.....	23
1-6-1- Laying cage Battery:.....	24
1-6-2- Cage font:.....	24
1-6-3- Cage depth:.....	24
1-6-4- Cage floor:.....	24
1-6-5- Trough:.....	24
1-7- Automatic chain feeding .....	25
1-7-1- Corner Assembly:.....	25
1-7-2- Motor:.....	26
1-7-3- Flat chain:.....	26
1-7-4- Drive Hopper:.....	26
1-7-5- Troughs:.....	26
1-7-6- Couplers:.....	26
1-8- Truly feeder: .....	26
1-8-1- wire: .....	27
1-8-2- motor: .....	27
1-8-3- Drive hopper: .....	27
1-9- forage component .....	27

<b>2- Methods:</b> .....	34
2-1- Body weight: .....	34
2-2-Feed consumption: .....	34
2-3-Growth rate: .....	34
2-4-Mortality rate: .....	34
2-5-Break down time: .....	35
2-6-Forage losses: .....	35
2-7-Mechanical Analysis for Forage.....	35
2-8-Statistical analysis.....	35
2-9-Electrical Energy.....	36
<b>IV RESULTS AND DISCUSSIONS.....</b>	<b>37</b>
1-Effect of the speed on percentage samples component .....	37
2-Effect of the chain speed on chicken weight.....	41
3-Effect of the chain speed on egg production.....	43
4-Effect of the chain speed on average of broken eggs in the different production stages (40 weeks) .....	43
5-Effect of the chain speed on average eggs mass in the different production stages (40 weeks) .....	45
6-Simple regression.....	55
7- Multiple Regression .....	58
8-Lost time and forage for all speeds during production period .....	60

## IV

9-Power used for all speeds.....	62
10-The different between production for all speeds.....	65
11-The feed used at all speeds.....	68
12- comparison between the feeding system .....	71
13- Used power for all systems.....	73
14-The difference in production for all systems...	73
15-The forage used in all systems.....	77
16- Cost production for all systems.....	77
<b>V SUMMARY AND CONCLUSION.....</b>	<b>79</b>
<b>VI REFERENCE.....</b>	<b>84</b>
<b>APENDIX .....</b>	<b>91</b>
<b>ARABIC SUMMARY.....</b>	<b>1</b>