Some Factors Affecting Economic And Productive Efficiency Of Layer Production Farms

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ABSTRACT

This study was carried-out during the period extended from year 2007 to year 2009 on (33) random cycles of layer farms. Different localities were the areas of research which include EL-Kaliobia, EL-Mnofia, EL-Gharbia and Kafr EL-Elsheikh governorates, the data were collected from the accurate health and production records and also, by using the structured questionnaires methods in case of no record farms.The aim of this study was to determine and highlight the most important factors affecting the efficiency of such farms and their profitability under Egyptian conditions. This study indicated that, the most important factors affecting layer farms production were breeds of layers, locality of the farm and the diseases affecting layer as Coccidiosis, Mycotoxicosis, Gumboro, ILT and CRD. This study indicated that, the net return from sales among localities and breeds, was ranged from LE 457.05 to 5661.01 / 100 layers for Bovan and Lohman brown breeds; respectively, in El-Kaliobia governorate. And densities and breeds within densities, the net return ranged from LE 457.05to 3448.23 / 100 layers for high and medium density, for Balady and Lohman brown breeds; respectively. And among the different infection pattern,the lower net income infection pattern observed in Bovan breeds infected with Gumboro (LE -2.11 /100 layers). While, the control Lohman brown breeds achieved net income by LE 4572.87 /100 layers.

INTRODUCTION

Poultry industry constituted a major economic benefit to several areas in the world *(1)*.The economic and productive efficiency of layer farms depend upon selected breed *(2)*, season of rearing *(3)*, housing and hygienic status of the farm *(4,5)*; size of operation, diseases and mortalities *(6)*, localities, feed and its efficient utilization *(7)* and veterinary management *(8)*.

Poultry production has the following advantages over the other livestock; as poultry are good converters of feed into useable protein in the form of meat and eggs, the production cost per unit is relatively low to compared with other types of livestock and the return to investment is high, thus farmers need just a small amount of capital to start a poultry project, it has a short production cycle (pay back period) through which capital is not tied down over a long period *(9)*.

Poultry enterprises can be made more profitable if critical standard limits for cost of production are determined and given close attention *(10)*.

Poultry farms have been increasing during recent years which lead to the development of poultry industry and its requirements *(11)*.

So, the aim of this study was to determine the most important factors affecting the efficiency of layer farms and their profitability under Egyptian conditions.

MATERIAL AND METHODS

This study was carried-out during the period extended from year 2007 to year 2009 on 33 random cycles of Layer farms. Different localities were the areas of research which include EL-Kaliobia, EL-Mnofia, EL-Gharbia and Kafr EL-sheikh governorates.

The data were collected from accurate health and production records and also, by using the structured questionnaires, the data were collected for 3 different Layer breeds (Bovan, Lohman brown, Balady). According to the implied methods by *(8.12)*.

1-These data were classified into

Production traits and resources: That included, Breed type, number of day old chicks, year and season of fattening cycles, amount of starter, layer (1), layer (2), layer (3) and finisher rations consumed, mortality percentage and its causes, age at beginning of laying, egg number/layer, total egg production/cycle , prices of drugs, vaccines and disinfectants.

Production costs: Which include both fixed and variable costs.

Production returns: It included returns from total egg sales, total hen sales at the end of production cycle and the litter sales.

2- Data analysis

The data were collected, arranged, summarized and then analyzed statistically using the computer program (١٣). The analytical design was multifactorial (nested) design. (١٢ and ٨)

3- Analysis of layer production parameters and the affecting factors

All production parameters affecting Layer production farm including their costs and returns were calculated on 100 Layers. Then the analyses were done to determine the effect of the following interactions on the calculated Layer parameters: breed within year and, breed within locality, breed within density, and breed within disease.

D- Economic analysis

The economic analysis used depend upon the economic evaluation of locality and breed, density and breed, diseases and breed through the evaluation of returns, costs and net profit of the farms under this study according to the method implied by ***(8)***.

RESULTS AND DISCUSSION

1- Effect of different localities and breeds within localities on total feed consumption (Kg) / 100 layers, and constituents of veterinary management costs (LE) / 100 layers

Table 1 indicated that, there was a significant locality effect (P<0.01) on total ration consumed, where it ranged from 5200.00 kg / 100 layers for Balady breeds in EL-Gharbia governorate, to 5440.00 kg / 100 layers for Lohman brown breeds in EL-Mnofia governorate.

It has been reported that the ration consumption in different growing stages and the total feed consumption and feed conversion ratio differed significantly (P<0.01) among breeds and localities due to the differences in environmental conditions ***(12,14)***.

Table 1, explained also that, the highly significant effect (P<0.01) of different localities and breeds within localities on values of drugs, as the drugs values ranged from LE 16.0 / 100 layers for Lohman brown breeds in Kafr EL-Sheikh governorate, to LE 133.77/ 100 layers for Bovan breed in EL-Kaliobia governorate, and also, the vaccines values, it differed significantly (P<0.01) among different localities, as it ranged from LE 13.57 to 45.00 / 100 layers for Balady and Bovan breeds ; respectively in EL-Gharbia and EL-Kaliobia governorates; respectively.

While, the values of disinfectants, ranged from LE 1.04 to 10.85 / 100 layers for Balady and Bovan breeds ; respectively in EL-Gharbia and EL-Kaliobia governorates; respectively.

Moreover, the values of veterinary supervision differed significantly (P<0.01) among the different localities, as it ranged from LE 3.00 to 11.28 / 100 layers for Lohman brown and Balady breeds , in Kafr EL-Sheikh and EL-Gharbia governorate; respectively.

The values of total veterinary management differed significantly (P<0.01) among different localities, as it ranged from LE 41.00 to 199.62/ 100 layers for Lohman brown and Bovan breed; respectively in Kafr EL-Sheikh and EL-Kaliobia governorate; respectively.

The previous results showed that, the values of drugs, vaccines, disinfectants, veterinary supervision and total veterinary management differed among different localities; this may be due to the differences in disease prevalence among different localities according to the environmental conditions, susceptibility of breeds to different diseases and the experience

of the farmers to prevent the diseases. The values of veterinary inputs (drugs, vaccines, disinfectants and veterinary supervision) differed significantly (P<0.01) among different layers breeds and localities ***(4,12)***.

Table 1. Means ± SE of feed consumption (Kg / 100 layers) and values of drugs, vaccines, disinfectants, veterinary supervision and total veterinary management (LE / 100 layers) of different layer breeds among different localities

Governorate	Breed	N	Total feed	Drugs	vaccines	disinfectants	veterinary supervision	Total veterinary management
			$\bar{X}$ ±S.E	$\bar{X}$ ±S.E	$\bar{X}$ ±S.E	$\bar{X}$ ±S.E	$\bar{X}$ ±S.E	$\bar{X}$ ±S.E
EL-Kaliobia	Lohman brown	10	5320.00^{c}±151.77	98.66^{b}±12.37	16.00^{c}±4.03	1.20^{d}±1.67	10.00^{b}±1 .46	125.86^{c}±13.15
	Bovan	6	5350.00^{b}±195.93	133.77^{a}±2.38	45.00^{a}±0.77	10.85^{b}±0.32	10.00^{b}±0.28	199.62^{b}±2.53
EL-Mnofia	Lohman brown	5	5440.00^{a}±214.63	99.38^{b}±1.90	15.09^{d}±0.62	1.29^{d}±0.25	10.78^{b}±0.22	126.55^{c}±2.03
EL-Gharbia	Balady	5	5200.00^{d}±214.63	95.44^{bc}±4.67	13.57^{d}±1.52	1.04^{d}±0.63	11.28^{b}±0.55	121.35^{c}±4.97
Kafr EL-Sheikh	Lohman brown	7	5329.14^{c}±181.40	16.00^{c}±12.37	16.00^{d}±4.03	6.00^{c}±1.67	3.00^{d}±1.46	41.00^{c}±13.15

Means within the same column carrying different letters are significantly different at (P<0.01).

2-Effect of different localities and breeds within the localities on the age at beginning of laying, mortality percentage and total eggs production (Cartons / 100 layers), total costs, total returns and net profit (LE / 100 layers)

The results in Table 2 indicated that there was a significant (P<0.01) effect of localities and breeds within localities on the age at beginning of laying, mortality rate and total egg production (Carton/ 100 layer), as for age at the beginning of laying it was ranged from 132 to 145 day for Balady and Bovan breeds; respectively, in EL-Gharbia and EL-Kaliobia governorate.

Also, the total eggs production (Carton/ 100 layer) ranged from 768.57 to 1093.33 Carton for Lohman brown and Balady breeds; respectively, in Kafr EL-sheikh and EL-Gharbia governorate; respectively.

Also, total mortality percentage ranged from 4.35 to 12.10% for Lohman brown breed in EL-Kaliobia and EL-Mnofia governorates; respectively. These results agreed with those of (Ahmed, 2007), who concluded that, the mortality percentage differ significantly (P<0.01) among localities and breeds within localities, which attributed to the differences between location and another in disease incidence due to differences in stress factors from location to another, immune status of the bird and lower level of veterinary supervision with unexperienced farmers for the prevention and treatment of diseases among the localities.

Also, Table 2 indicated that, the locality and breeds within locality had a significant (P<0.01) effect on total costs, as it ranged from LE 12093.50 to 12889.20 / 100 layers for Bovan and Lohman brown breeds; respectively, in EL-Kaliobia and EL-Mnofia governorates; respectively.

Also, the total returns from egg sales, hen sales and litter sales differed significantly (P<0.01) among localities and breeds within localities, as they were ranged from LE 12132.00 to 18067.16 / 100 layers for Lohman brown breeds, in EL-Mnofia and EL-Kaliobia governorates; respectively.

The net return from the sales differed significantly (P<0.01) among localities and breeds, as it was ranged from LE 457.05 to 5661.01 / 100 layers for Bovan and Lohman brown breeds; respectively, in Kaliobia governorate. The localities had a significant effect on the total returns, total costs and net return from eggs, hens and litter sales ***(15)***.

Table 2. Means ± SE of total eggs production (Cartons/ 100 layers), total mortality%, age at beginning of laying (days), total costs, total return and net return of different layer breeds among different localities

Governorate	Breed	N	Total eggs prod. (Carton/ 100 layers)	Total mortality %	Age at beginning of laying (days)	Total costs (LE)	Total return	Net return
			X̄ ±S.E	X̄ ±S.E	X̄ ±S.E	X̄ ±S.E	X̄ ±S.E	X̄ ±S.E
EL-Kaliobia	Lohman brown	10	1053.33^{c}±24.74	4.35^{c}±0.16	133.00^{c}±2.30	12406.15^{b}±320.65	18067.16^{a}±504.35	5661.01^{a}±708.18
	Bovan	6	944.44^{d}±31.94	4.75^{c}±0.21	145.00^{a}±2.97	12093.50^{c}±413.96	12550.55^{d}±651.12	457.05^{d}±914.25
EL-Mnofia	Lohman brown	5	1073.33^{b}±34.99	12.10^{a}±0.23	135.00^{c}±3.25	12889.20^{a}±453.47	12132.00^{e}±713.27	-757.20^{e}±1001.51
EL-Gharbia	Balady	5	1093.33^{a}±34.99	11.80^{b}±0.23	132.00^{c}±3.25	12371.60^{d}±453.47	12953.33^{c}±713.27	581.73^{c}±1001.51
Kafr EL-Sheikh	Lohman brown	7	768.57^{e}±29.57	4.36^{c}±0.19	140.00^{b}±2.75	12433.05^{c}±383.25	15724.04^{b}±602.82	3290.99^{b}±846.43

Means within the same column carrying different letters are significantly different at (P<0.01).

3- Effect of different densities and breeds within density on total feed consumption (Kg/100 layers), and constituents of veterinary management costs (LE/100 layers)

The results in Table 3 showed that, there was a significant effect of the density (P<0.01) on total ration consumed, where it ranged from 5150.18 kg / 100 layers for Lohman brown breeds for medium density, to 5350.00 kg / 100 layers for Balady breed for high density.

Also, Table 3, explained the highly significant effect (P<0.01) of the different densities and the breeds within the densities on the values of drugs, as the drugs values ranged from LE 214.00 / 100 layers for Bovan breed farms for medium density, to 295.83 kg / 100 layers for Balady breeds for high density.

Concerning values of vaccines, it differed significantly (P<0.01) among different densities, as it ranged from LE 98.33 to 114.54 / 100 layers for Balady and Lohman brown breeds; respectively, for high density and medium density respectively.

The different densities had a significant (P<0.01) effect on values of disinfectants, as it ranged from LE 15.60 to 49.18 / 100 layers for Bovan and Lohman brown Balady breeds ; respectively for medium density.

Moreover, the values of veterinary supervision differed significantly (P<0.01) among the different densities, as it ranged from LE 40.00 to 44.33 / 100 layers for Bovan and Balady breed; respectively for medium and high density; respectively.

The values of total veterinary management differed significantly (P<0.01) among different densities, as it ranged from LE 370.60 to 457.52 /100 layers for Bovan and Lohman brown breeds; for medium density. The values of veterinary inputs (drugs, vaccines, disinfectants and veterinary supervision) differed significantly (P<0.01) among different layers breeds and densities *(16)*.

Table 3. Means ± SE of feed consumption (Kg / 100) layers and values of drugs, vaccines, disinfectants, veterinary supervision and total veterinary management (LE / 100) layers of different layer breeds among different densities.

Density	Breed	N	Total feed	Drugs	vaccines	disinfectants	veterinary supervision	Total veterinary management
			X̄ ±S.E	X̄ ±S.E	X̄ ±S.E	X̄ ±S.E	X̄ ±S.E	X̄ ±S.E
Medium (6-8 b/m^2)	Lohman brown	22	5150.18^{c}±99.25	250.34^{b}±5.74	114.54^{a}±3.40	49.18^{a}±3.87	43.45^{b}±3.23	457.52^{a}±11.44
	Bovan	5	5200.00^{b}±208.20	214.00^{c}±12.04	100.00^{b}±7.13	15.60^{c}±8.13	40.00^{c}±6.77	370.60^{c}±24.00
High (>9 b/m^2)	Balady	6	5350.00^{a}±190.06	295.83^{a}±10.99	98.33^{c}±6.51	46.66^{b}±7.42	44.33^{a}±6.18	445.16^{b}±21.91

Means within the same column carrying different letters are significantly different at (P<0.01).

4- Effect of different densities and breeds within densities on the age at beginning of laying, mortality percentage and total eggs production (Cartons / 100 layers), total costs, total returns and net profit (LE/ 100 layers)

The results in Table 4 illustrated that there was a significant (P<0.01) effect of densities and breeds within densities on the age at beginning of laying, mortality rate and total eggs production (Cartons/ 100 layers), as for age at the beginning of laying it ranged from 132 to 145 days for Bovan and Balady breeds; respectively for medium and high density layer farms; respectively.

Also, total eggs production (Cartons/ 100 layers) ranged from 944.44 to 1093.33 cartons for Bovan and Balady breeds; respectively, for medium and high density layer farms; respectively.

Also, total mortality percentage ranged from 4.75 to 11.80% for Bovan and Balady breeds; respectively, for medium and high density layer farms; respectively. The mortality percentage differ significantly (P<0.01) among different farm densities and breeds within the densities, which attributed to differences in disease incidence *(14,15)*.

Also, Table 2 indicated that, densities and breeds within densities had a significant (P<0.01) effect on total costs, were it ranged from LE 12093.50 to 12524.49 / 100 layers for Balady and Lohman brown breeds, for high and medium density farms; respectively

Also the the total returns from egg sales, hen sales and litter sales differed significantly (P<0.01) among different densities and breeds within densities, as it ranged from LE 12550.55 to 15972.72 / 100 layers for Balady and Lohman brown breeds, for high and medium density; respectively.

The net return from sales differed significantly (P<0.01) among different densities and breeds, as it was ranged from LE 457.05 to 3448.23 / 100 layers for Balady and Lohman brown breeds, for high and medium density farms; respectively. The densities had a significant effect on the total returns, total costs and net return from eggs, hens and litter sales*(4,17)*.

Table 4. Means ± SE of total eggs production (Cartons / 100 layers), total mortality%, age at beginning of laying (days), total costs, total return and net return of different layer breeds among different densities.

Density	Breed	N	Total eggs prod. (Carton/ 100 layers)	Total mortality %	Age at beginning of laying (days)	Total costs (LE)	Total return	Net return
			X̄ ±S.E	X̄ ±S.E	X̄ ±S.E	X̄ ±S.E	X̄ ±S.E	MEAN±S.E
Medium (6-8 b/m²)	Lohman brown	22	967.27^{b}±29.59	6.11^{b}±0.60	135.68^{b}±1.60	12524.49^{b}±211.96	15972.72^{a}±535.52	3448.23^{a}±648.99
	Bovan	5	944.44^{c}±62.08	4.75^{c}±1.26	132^{c}±3.35	123714.60^{a}±444.62	12953.33^{b}±1123.33	581.73^{b}±1361.35
High (>9 b/m²)	Balady	6	1093.33^{a}±56.67	11.80^{a} ±1.15	145^{a}±3.06	12093.50^{c}±405.88	12550.55^{c}±1025.45	457.05^{c}±1242.73

Means within the same column carrying different letters are significantly different at (P<0.01).

5-Effect of different diseases and breeds within different affections on total feed consumption (Kg/ 100 layers), and constituents of veterinary management costs (LE) / 100 layers

Results in Table 5 we explained that, there was a significant effect of the diseases infections pattern (P<0.01) on total ration consumed, where it ranged from 4800.00 kg / 100 layers for Balady breeds infected with Mycotoxicosis, to the maximum level 5964.93 kg / 100 layers for Lohman brown control group. These results cleared that the affected layers with different diseases consumed less amount of feed than the control group.

Also, Table 5, explained the highly significant effect (P<0.01) of the different

diseases and breeds within diseases infections pattern on values of drugs, as the drugs values ranged from LE 211.25 / 100 layers for Lohman brown breed infected with Coccidiosis, to 316.66 LE / 100 layers for Bovan breeds infected with ILT.

Concerning values of vaccines, they differed significantly (P<0.01) among diseases infections pattern, as it ranged from LE 90.00 to 119.33 / 100 layers for Bovan breeds infected with Gumboro and Lohman brown control group.

The different diseases infected farms had a significant effect (P<0.01) of the different diseases and breeds within the diseases infection pattern on the values of disinfectants, as it ranged from LE 12.66 to 60.40 / 100 layers for Balady birds in infected CRD farms and Lohman brown control group.

Moreover, the values of veterinary supervision differed significantly (P<0.01) among the diseases and breeds within the diseases infection pattern, as it ranged from LE 15.50 / 100 layers for Lohman brown breeds infected with ILT, to LE 50.00 / 100 layers for Lohman brown breeds infected with CRD.

The values of total veterinary management differed significantly (P<0.01) among different diseases infection and breeds with different infection pattern, as it ranged from LE 364.33 to 490.56 / 100 layers for Balady infected with CRD and Lohman brown control group ;respectively. The diseases incidence and infection differ from breeds and locality according to the livability and the veterinary management program used to protect the birds against the infection with different diseases *(6,8)*.

Table 5. Means ± SE of feed consumption (Kg/ 100 layers) and values of drugs, vaccines, disinfectants, veterinary supervision and total veterinary management (LE / 100) layers of different layer breeds among different diseases

Disease	Breed	N	Total feed	Drugs	vaccines	disinfectants	veterinary supervision	Total veterinary management
			$\bar{X}$ ±S.E	$\bar{X}$ ±S.E	$\bar{X}$ ±S.E	$\bar{X}$ ±S.E	$\bar{X}$ ±S.E	$\bar{X}$ ±S.E
Coccidioces	Lohman brown	4	5199.99^{d}±251.91	211.25^{b}±10.08	107.50^{b}±7.76	12.75^{e}±3.71	37.50^{c}±6.81	369.00^{b}±16.97
CRD	Lohman brown	1	5300.00^{b}±503.82	225.00^{c}±20.16	100.00^{c}±15.53	20.00^{d}±7.41	50.00^{a}±13.62	395.00^{f}±33.94
	Balady	3	4900.00^{e}±290.88	215.00^{e}±11.64	100.00^{c}±8.97	12.66^{e}±4.28	36.66^{c}±7.86	364.33^{g}±19.59
Mycotoxicoses	Balady	2	4800.00^{e}±356.25	212.50^{g}±14.25	100.00^{c}±10.98	20.00^{d}±5.24	47.50^{b}±9.63	380.00^{e}±23.99
Gumboro	Bovan	3	5221.33^{c}±290.88	275.00^{c}±11.64	90.00^{d}±8.97	55.00^{b}±4.28	40.33^{c}±7.86	424.33^{c}±19.59
ILT	Lohman brown	2	5180.00^{d}±356.25	250.00^{d}±14.25	100.00^{c}±10.98	52.50^{b}±5.24	15.50^{d}±9.63	418.00^{d}±23.99
	Bovan	3	5333.00^{b}±290.88	316.66^{a}±11.64	106.66^{b}±8.97	38.33^{c}±4.28	40.33^{c}±7.86	466.00^{b}±19.59
Control	Lohman brown	15	5964.93^{a}±130.08	262.50^{b}±5.20	119.33^{a}±4.01	60.40^{a}±1.91	48.33^{b}±3.51	490.56^{a}±8.76

Means within the same column carrying different letters are significantly different at (P<0.01).
ILT (Infectious Laryngo Trachietis), CRD (Chronic Respiratory Disease).

6-Effect of different diseases and breeds within diseases on age at beginning of laying, mortality percent , total eggs production (Cartons/ 100 layers), total costs, total returns and net profit (LE / 100 layers)

The results in Table 6 illustrated that there was a significant (P<0.01) effect of diseases and breeds within the diseases on age at the beginning of laying, mortality rate and total eggs production (Cartons/ 100 layers), as for age at beginning of laying it was ranged from 120 days for Lohman brown breed infected with CRD, to 145 days for Bovan breed infected with Gumboro and ILT.

Also, total eggs production (Cartons / 100 layers) was ranged from 905.55 to 1133.33 cartons for Bovan breed infected with Gumboro,

to 1133.33 cartons for Lohman brown breed and Balady breed infected with CRD and Mycotoxicosis.

Also, total mortality percentage ranged from 4.30% for Lohman brown control group , to 12.25% for Balady breed infected with Mycotoxicosis; respectively. This results indicated that Mycotoxicosis of higher losses disease affecting Layer production.

Moreover, the total costs (TC) (total variable + total fixed costs) differed significantly ($P<0.01$) among the different infection patterns and also among different Layer breeds , as the lower total costs (LE 12054.33 /100 layers) observed in Bovan breeds infected with Gumboro, and the higher total costs (LE 13470.00 /100 layers) observed in Lohman brown birds that infected with CRD.

The total return / 100 layers differed significantly ($P<0.01$) among the infection pattern and among different Layer breeds, as it ranged from LE 11758.33 to 18297.50 / 100 layers for Lohman brown birds infected with CRD and ILT; respectively.

The net return / 100 layers differed significantly ($P<0.01$) among the different infection pattern. The lower infection pattern observed in Bovan birds infected with Gumboro (LE -2.11) /100 layers. While, Lohman brown birds infected with ILT achieved net income by (LE 5527.00) /100 layers. These results attributed to the farms infected with ILT diseases vaccinated and take a greater precaution against diseases and introduce to the birds good ration that achieved a higher body weight and returns.

These results indicated that, the diseases of Layers production farms especially Coccidiosis, Mycotoxicosis, Gumboro and CRD causes greater economic losses to layer production farms and it differed from farm to another according to the breed susceptibility and health program of the farm. Similar data has been reported in Korea *(6)* and Iran *(18)*.

This study concluded that the main factors affecting Layers production under Egyptian conditions were Locality, breeds , intensity of the Layers, housing system, diseases incidence and prevalence, feed , veterinary management, age at beginning of laying, egg number/layer, total egg production/cycle, total costs , total returns and net profit.

Table 6. Means ± SE of total eggs production (Cartons / 100 layers), total mortality%, age at beginning of laying (days), total costs, total return and net return of different layer breeds among different diseases

Disease	Breed	N	Total eggs prod. (Carton/ 100 layers)	Total mortality %	Age at beginning of laying (days)	Total costs (LE)	Total return	Net return
			X̄ ±S.E	X̄ ±S.E	X̄ ±S.E	X̄ ±S.E	X̄ ±S.E	X̄ ±S.E
Coccidioces	Lohman brown	4	1058.33^{b}±69.08	12.12^{a}±0.25	138.75^{b}±3.32	12744.00^{b}±528.92	12225.41^{g}±923.33	-518.58^{g}±1258.35
CRD	Lohman brown	1	1133.33^{a}±138.16	12.00^{a}±0.51	120.00^{f}±6.65	13470.00^{a}±1057.84	11758.33^{i}±1864.66	-1711.66^{f}±2516.7
	Balady	3	1066.66^{b}±79.76	11.50^{b}±0.29	130.00^{d}±3.84	12254.33^{e}±610.74	12436.11^{f}±1076.56	181.77^{e}±1453.01
Mycotoxicoses	Balady	2	1133.33^{a}±97.69	12.25^{a}±0.36	135.00^{c}±4.70	12547.50^{c}±748.00	13729.16^{d}±1318.51	1181.66^{c}±1779.57
Gumboro	Bovan	3	905.55^{d}±79.76	4.83^{e}±0.29	145.00^{a}±3.84	12054.33^{g}±610.74	12052.22^{h}±1076.56	-2.11^{h}±1453.01
ILT	Lohman brown	2	1000.00^{ab}±97.69	4.75^{e}±0.36	125.00^{e}±4.70	12770.50^{b}±749.00	18297.50^{a}±1318.51	5527.00^{a}±177.57
	Bovan	3	983.33^{c}±79.76	4.66^{e}±0.29	145.00^{a}±3.84	12132.66^{f}±610.74	13048.88^{e}±1076.56	916.22^{d}±1453.01
Control	Lohman brown	15	927.55^{d}±35.67	4.30^{e}±0.13	137.33^{b}±1.71	12370.12^{d}±273.13	16943.00^{b}±481.45	4572.87^{b}±649.80

Means within the same column carrying different letters are significantly different at ($P<0.01$).
ILT (Infectious Laryngo Trachietis), CRD (Chronic Respiratory Disease).

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الملخص العربى

بعض العوامل المؤثره على الكفاءة الاقتصادية والإنتاجية لمزارع دجاج إنتاج البيض(بيض المائدة)

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أجري البحث خلال الفترة من ٢٠٠٧-٢٠٠٩ على البيانات التي تم جمعها (٣٣) دورة لدجاج انتاج بيض المائدة من مزارع مختلفة لإنتاج البيض والتي تقع في محافظات القليوبية والمنوفية والغربية وكفر الشيخ ، لسلالات مختلفة هي (اللوهمان براون و البلدي والبوفن)، وتم تجميع البيانات من خلال السجلات المتاحة في بعض المزارع بالاضافة الى طريقة الاستبيان لبعض المربين ، وكان الهدف من البحث هو دراسة العوامل المؤثرة على الكفاءة الاقتصادية والإنتاجية لمزارع دجاج انتاج بيض المائدة ، وقياس ربحيتها تحت الظروف المصرية.

تم تحليل النتائج إحصائيا واقتصاديا باستخدام برنامج التحليل الإحصائي(SPSS.8) ، وقد أظهرت النتائج عند عمل علاقة بين الأماكن والسلالات ، أن أفضل الأماكن من حيث العوائد والأرباح / ١٠٠ طائر هي محافظة القليوبية ، حيث تراوح صافى الربح بين(٤٥٧,٠٥ الي ٥٦٦١,٠١ جنيه/ ١٠٠ طائر) لكل من سلالتي البوفن و اللوهمان براون على الترتيب ، وعند دراسة العلاقة بين الكثافات والسلالات ، وجد أن أفضل الكثافات من حيث العوائد والأرباح / ١٠٠ طائر هي على الترتيب (العالية – المتوسطة) ، حيث حيث تراوح صافى الربح بين (٤٥٧,٠٥ الى ٣٤٤٨,٢٣ جنيه / ١٠٠ طائر) لكل من سلالتي البلدى و اللوهمان براون على الترتيب ، ،وبالنسبة لمعدل الأصابات بالأمراض ، كان أقل صافى ربح/ ١٠٠ طائر لسلالات البوفن المصابه بمرض الجمبورو ، أما فى الحالات غير المصابة كان صافى ربح/ ١٠٠ طائر (٤٥٧٢,٨٧ جنيه) لسلالات اللوهمان براون .