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БҰЗАУЛАРДЫҢ БРОНХОПНЕВМОНИЯСЫ, ОНЫҢ ПАТОГЕНЕЗІ ЖӘНЕ ПАТОЛОГИЯЛЫҚ-АНАТОМИЯЛЫҚ ӨЗГЕРІСТЕР

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Зерттеу жұмыстарын жүргізу барысында Алматы облысы, Райымбек ауданында төлдердің бронхопневмониясының жергілікті патологиясы толық зерттелмеуіне байланысты бұл ауруды емдеу мен алдын алудың тиімді шаралары толық жүргізілмегендігі анықталды.

BRONYOPNEUMANIA SAPLINGS HERITS PATOGENESIS AND PATOLOGICAL CHANGE

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The Results of the own studies give the basis to suppose that in Rayymbekskom region Almatinskoy area it is not enough is studied local pathology бронхопневмонии beside saplings of the large horned live-stock that does not allow to develop the efficient measures and facility treatments and preventive maintenances.

UTC 636.6.083

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THE EFFICIENCY OF SOME EGYPTIAN FARMS FOR MEAT PRODUCTION OF BROILER CHICKENS AS AFFECTED BY FEED CONVERSION, MORTALITY RATES AND STOCKING DENSITIES

Abstract Data wee collected from six different Egyptian broiler farms (closed system) and analyzed to obtain meat production, the efficiency of each farm and also to study the effect of feed conversion, mortality rates and stocking densities on some broiler meat production.

Samples of meat and blood were analyzed to estimate some physiological and hematological parameters. The results showed the effective roll of mortality rate on meat production in Egypt.

Key words: Egypt- broiler meat production – feed conversion – mortality rate – stocking density – chemical meat analysis – blood analysis.

Introduction In 2009 chicken meat production in Africa was 3.57 mill. ton and about 4.5 % of the world chicken meat production (79.596) mill. Ton). Northern Africa produced 1.481 mill ton and it presented about 45 % of the total African chicken meat production. The ranking of the Northern African countries according to their production volume show that Egypt had the highest value (580 000 ton) and this presented 37.8 % from production of Northern African and 16.3 % of the total African chicken meat production (Source FAO database according to Hans Wilhelm Windhorst, 2011).

The poultry industry in Egypt is continuing its effort to increase annual production in order to meet demand. The production system content two systems the first is closed system broiler houses, which was used in large farms (more than 5000 Birds) and presented about 60 % of the production capacity and the second is open system broiler houses, which was used in small farms (5000 birds or less) and produced about 40 % of the total production capacity. The closed farms were provided with high technology in all production process and applied high biosecurity requirements, so its well controlled. But the small farms with open system had a weakness biosecurity requirements and manual production process.

The present study was compared the efficiency of different large farmers with closed system for meat production in order to obtain the effect of feed conversion, mortality rates and stocking densities on the meat production Kg/m^2 of each farm.

Material and methods Data from different commercial broiler chicken farms in Egypt were collected and analyzed. These farms were applied the closed system house, in which all environmental conditions were automatically controlled. The light system was 24 h light for 1 week, 23 h for the second week, 21 h from 3-5 weeks and 20 h for the last week. Temperature degrees were 34°C for the first week then were decreased 2°C weekly till 24°C in the last week. High requirements of biosecurity system were applied. Body weight at different ages, feed consumption per house and number of mortality birds were recorded daily in all farms. All birds (more than 90000 birds) at all farms were fed similar diets and the composition of the three diets (starting, growing and finishing were illustrate in Table 1).

Data were statistically analyzed and computerized by using SPPS Program.

Results and discussion Data in Table (2) illustrated that the densities of broiler chickens per/m^2 were ranged from 14 to 15/m^2 and the meat production per/m^2 were ranged from 20.87 to 22.1 Kg/ m^2. The lowest meat production/m^2 was noticed for house 4 (20.87 Kg / m^2) in which the density was 14 / m^2, while the highest meat production per/ m^2 was noticed for house 2 (22.1 Kg/ m^2), house (3) (21.85 Kg/ m^2) and house (5) (21.58 Kg/ m^2) in which the densities (14.4/ m^2 and 15/ m^2 and 15/ m^2 for house 2, 3 and 5, respectively). Lowest mortality rate was observed for house (5) 4.1 % while the highest was reported for house (4) 10.1 %.

The efficiency of houses for meat production was determine of according to three factors : feed conversion, mortality rates and growth rates (Tables 3, 4, 6 and 7). The efficient house was house (2) where it have 1.94, feed conversion, 6.7 % mortality rate and 189.8 % growth rate from 1 – 39 days. It was marked also that house (5) had lowest mortality rate 4.1 % but had 2.09 feed conversion and 189.3 growth rate (1 – 39 days) (Tables 5 and 7). House (4) have a good feed conversion 1.92 and 188.3 growth rate (1 – 39 days) but have the highest mortality rate 10.1 % therefore the efficiency of the house was 177.7 % (Table 2).

Table 3 illustrates that final body weight were ranged from 1450 to 1525 g. and this weight was suitable and preferred for Egyptian customers according to cost. Most of Egyptian customers preferred and bought whole carcass and not preferred parts or cutting carcass.

Therefore, most of producers were market the broiler chickens at 39 days of age with weights ranged from 1 – 1.5 Kg.

It is clear that in Egyptian farms for broiler chickens the three factors : stocking density, feed conversion and mortality rates played a great roll on the meat production of such farms (Table 8). The same trend was marked by Kusainova *et al.* (2012) in three different Egyptian farms.

Table 8 showed that the interaction between the three factors were effective on producing meat production Kg/ m^2. Therefore, farm 2 have a better feed conversion 1.94 density of 14.4 / m^2 and moderate mortality rate 6.7 and produced 22 Kg meat per m^2. But in farm 4 have better feed conversion 1.92 and density of 14/ m^2 and high mortality rate 10.2 then produced 20.87 Kg/m^2 of meat. Also, farms 5 have high density (15/m^2) low mortality rate (4.2) but moderate feed conversion 2.09 therefore produced 21.58 Kg/m^2 meat production.

From the previous results, mortality rate was more effective than feed conversion, similar finding was reported by El Homidan (1912), Soltan (1994) and Meltzer (1980).

Table (9) showed some carcass traits of samples collected from slaughtering houses. The results of all edible parts was 1312g and presented 75% from live body weight and this was agree with that found by Soltan (1992), El Homidan (1994), Mahgoub (2000), El Neny (2003), Renema (2007) and Kusainova *et al.* (2010). The chemical analysis of carcass was presented also in Table (9) and it content 16.5 % crud protein and 5.4 % fat.

Blood and plasma analysis were illustrated in Table (10). White and red blood cells were normal. Hemoglobin (AB) volume was 11.6 / dL. Similar results were reported by El Neny (2003) and Enan Nagy (2005).

Table 1- Composition and Calculated analysis of the experimental diets

Ingredients	Starting diet	Growing diet	Finishing diet
Yellow corn	514	579	657
Soybean meal (48%)	370	317	236
Gluten	60	40	40
Ingredients	Starting diet	Growing diet	Finishing diet
Oil	21	31	36
Mono calcium phosphate	14	14	14
Limestone	8	7	7
Premix	4	4	4
NaCL	3.4	3.5	3.4
Methionin	2.3	1.4	7
Lysine	2.3	2.6	1.1
Anti cocodial	1	-	-
Bio Cox	-	0.5	0.5
Total	1000	1000	1000.0
Calculated values			
Crude Protein (%)	25.72	23.28	20.29
ME K cal / Kg diet	3065.8	3147.73	3257.6
Calcium %	0.74	0.64	0.62
Total Phosphorus %	0.63	0.60	0.57

Table 2- Data collected from sex different commercial farms for broiler production in Egypt

Traits	House 1	House 2	House 3	House 4	House 5	House 6
House area (m^2)	1000	1000	1000	1000	1000	1000
No. of birds at beginning (1 day)	15525	15525	15525	15550	15525	15525
No. of birds at end (39 day)	14543 a	14486 a	14.565 a	13977 b	14881 a	14532 a
Density / m^2	14.5/ m^2b	14.4/m^2 b	14.6/ m^2 b	14 c	15 a	14.5 b
Mean body weight at 39 days (Kg)	1450 b	1525 a	1500 a	1493 a	1450 b	1450 b
Meat production (Kg) / m^2	21.09 b	22.1 a	21.85 b	20.87 c	21.58 a	21.1 b
Meat production (Kg / house)	21087.35b	22091.15a	21847.5 b	20867.6c	21577.45a	21071.4 b
Feed conversion						
Fattening index (F.E)	1.96 b	1.94 b	1.93 b	1.92 d	2.09 a	1.96 b
House efficiency rate	739.79 a	786.08 a	777.2 a	777.6 a	693.8 b	739.8
Mortality rate %	107.60 b	113.92 a	113.19 a	108.69 b	103.26 c	107.7 b
Livability rate %	6.3 % b	6.7 b	6.18 b	10.1 a	4.1 c	6.4 b
European production	93.7 % a	93.3 a	93.82 a	89.9 b	95.9 a	93.6 a
efficiency (EN)	177.74 a	188.06 a	186.96 a	179.25 b	170.59 b	177.55 b

a,b,c,d - means have the same superscript in each raw did not differ significantly $P \leq 0.05$

Table 3- Average body weights at different ages in different farms

	Farms					
Ages	**1**	**2**	**3**	**4**	**5**	**6**
1 day	40 a	40 a	45 a	45 a	40 a	40 a
7 day	150 a	150 a	155 a	110 b	150 a	150 a
14 day	319 a	320 a	325 a	286 b	329 a	319 a
21 day	700 a	750 a	720 a	439 c	729 a	970 b
28 day	990 a	1000 a	1000 a	936 b	940 b	990 b
39 day	1450 b	1525 a	1500 a	1493 ab	1450 b	1450 b

a, b, c - means have the same subscript in each column raw did not differ significantly different $P \leq 0.05$

Table 4- Meat production (Kg) per / m^2 for different farms as affected by feed conversion and mortality rates

Farms	Mortality rate % (1-39 day)	Feed conversion (Feed / Gim)	Meat production Kg per / m^2
1	6.30 c	1.96 b	21.09 b
2	6.70 b	1.94 b	22.10 a
3	6.18 c	1.93 c	21.85 b
4	10.10 a	1.92 c	20.87 c
5	4.10 d	2.09 a	21.58 b
6	6.40 b	1.96 b	21.10 c

a, b, c, d- means with the same subscript in each column were not significantly different $P \leq 0.05$

Table 5- Number of live and died chicks at different ages in different farms

Ages	Houses											
	1		2		3		4		5		6	
	Live	Died	Live	Died	Live	Died	Live	Died	Live	Died	Live	Died
1 day	15525	-	15525	-	15525	-	15550	-	15525	-	15525	-
1-7 day	15436	89	15497	78	15464	61	15472	78	15467	58	15459	66
7-14 day	15386	50	15376	71	15376	88	15428	44	15426	41	15391	98
14-21 day	15365	21	15340	36	15348	28	15387	41	15402	24	15360	31
21-28 day	15273	92	15244	96	15286	81	15106	281	15299	103	15270	90
28-39 day	14543	730	14486	758	14565	715	13977	1129	14881	418	14532	738
Total 1-39	14543	982	14486	1039	14565	960	13977	1573	14881	644	14532	993

Table 6- Interval growth rate and interval livability percentages at different ages in different farms

Ages	Growth rate %						Livability %					
	1	2	3	4	5	6	1	2	3	4	5	6
1-7 day	115.8 a	115.8 a	110.0 a	96.8 b	115.8 a	115.8 a	99.4 a	99.5 a	99.4 a	995 a	99.6 a	99.5 a
7-14 day	72.1 b	72.5 b	70.8 b	88.9 a	79.7 b	72.5 b	99.6 a	99.5 a	99.6 a	99.7 a	99.7 a	99.5 a
14-21 day	74.7 a	80.0 a	75.6 a	42.2 b	75.6 a	70.9 a	99.8 a	99.7 a	99.8 a	99.7 a	99.8 a	99.7 a
21-28 day	34.3 b	28.6 b	32.6 b	72.3 a	25.3 b	38.6 b	99.4 a	99.3 a	99.4 a	98.2 a	99.3 a	99.4 a
28-39 day	41.6 a	41.6 a	40.0 a	45.8 a	42.6 b	41.6 a	95.2 a	95.0 a	95.2 a	92.5 b	97.3 a	95.2 a

a, b - means have the same subscript in each raw did not differ significantly $P \leq 0.05$

Table 7- Cumulative growth rat and cumulative livability percentages at different ages in different farms

Ages	Growth rates %						Livability %					
	1	2	3	4	5	6	1	2	3	4	5	6
1-7 day	115.8 a	115.8 a	110.0 a	96.8 b	115.8 a	115.8 a	99.4 a	99.5 a	99.6 a	99.6 a	99.6 a	99.5 a
1-14 day	155.4 a	155.6 a	156.1 a	145.6 b	156.6 a	155.4 a	99.1 a	99.0 a	99.0 a	99.2 a	99.3 a	99.1 a
1-21 day	178.4 a	179.7 a	179.1 a	162.8 b	179.2 a	180.0 a	98.9 a	98.8 a	98.8 a	98.9 a	99.2 a	98.9 a
1-28 day	184.5 a	184.6 a	182.8 a	181.7 a	183.7 a	184.4 a	98.3 a	98.2 a	98.4 a	97.1 a	98.5 a	98.3 a
1-39 day	189.9 a	189.8 a	189.6 a	188.3 a	189.3 a	189.3 a	93.6 a	93.3 a	93.8 a	89.8 b	95.8 a	93.6 a

a, b - means have the same subscript in each raw were not differ significantly $P \leq 0.05$

Table 8- The effect of stocking densities, feed conversion and mortality % on meat production (Kg / m^2) in different farms

Farm	Stocking densities	Feed conversion	Portability % 1 – 39 days	Meat production Kg per / m^2 of 39 days
1	14.5 / m^2	1.96 b	6.4 b	21.09 b
2	14.4 / m^2	1.94 b	6.7 b	22.10 a
3	14.6 / m^2	1.93 b	6.2 b	21.85 a
4	14.0 / m^2	1.92 b	10.2 a	20.87 c
5	15.0 / m^2	2.09 a	4.2 c	21.58 b
6	14.5 / m^2	1.96 b	6.4 a	21.1 b

a, b, c, - means have the same superscript in each column were not differ significantly $P \leq 0.05$

Table 9- Carcass traits of broiler chickens at 39 days of age under of (14.4 bird / m^2, 6.7 % mortality rate and feed conversion of 1.94)

Traits	mean
1. Live body weight at 39 days of age	1750 g
2. Cleaning carcass, weigh (without non edible parts)	1237.7 g
3. Dressing %	70.7 %
4. weight of edible parts (liver, Gizzard, heart and spleen)	74.8 g (4.3 % from live weight)
5. Carcass + edible parts)	1312.5 g (75 % from live weight)
6. Chemical analysis of carcass :	
a. Moister	12.6 %
b. Dry matter	8.7.4 %
c. Crud protein	16.5 %
d. Ash	35.67 %
e. Fat	5.4 %

Table 10- Chemical analysis of broiler blood chickens at 39 days of age under (14.4 bird/m^2, 6.7 % mortality rate and 1.94 feed conversion)

Components	Value
Haemoglobin (HB)	11.6 g / dL
Red blood cells (RBCS)	1.54 M / C^2
While blood cells (WBCS)	56 M / C^2
GoT (AST)	2 Mg / dL
GPT (AL)	17 Mg / dL
Sperate transamin Albumen (ACB)	2.2 Mg / dL
Total protein TP	3.8 Mg / dL
Glucos	225 Mg / dL
Creatien	0.7 Mg / dL
Cholesterol	101 Mg / dL

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ЕГИПЕТТЕГІ БРОЙЛЕР ШАРУАШЫЛЫҚТАРЫНДА ОТЫРҒЫЗУ ТЫҒЫЗДЫҒЫНА БАЙЛАНЫСТЫ БАЛАПАНДАРДЫҢ САҚТАЛУЫ МЕН АЗЫҚТАНДЫРЫЛУЫ ТИІМДІЛІГІ

Бройлер етінің тиімділігін анықтау үшін Египеттегі бройлер шаруашылықтарында тәжірибе жұмыстары жүргізілген (жабық жүйеде), сонымен қатар отырғызу тығыздығына байланысты балапандардың сақталуы мен азықтандырылуы зерттелді, ол үшін алты құс шаруашылығының көрсеткіштері алынды. Нәтижесінде Египеттегі ет өніміне сақталуы тиімді роль атқарады.

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ЭФФЕКТИВНОСТЬ КОРМЛЕНИЯ И СОХРАНЕНИЕ ПРИ ПЛОТНОСТИ ПОСАДКИ ЦЫПЛЯТ-БРОЙЛЕРОВ В БРОЙЛЕРНОМ ХОЗЯЙСТВЕ ЕГИПТА

Данные собраны из шести египетских бройлерных хозяйств (в закрытой системе), для получения эффективности мяса бройлеров анализировали мяса бройлеров каждого хозяйства, а также изучали кормление и сохранность поголовья, и их влияния на плотность посадки цыплят. Результаты показали, что на производство мяса в Египте эффективную роль играет оценка сохранности.

УДК 636.52/58:612

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ВОЗРАСТНЫЕ ИЗМЕНЕНИЯ ФИЗИОЛОГИЧЕСКИХ ПОКАЗАТЕЛЕЙ КУР КРОССА «РОДОНИТ»

Аннотация Выявленные различия температуры тела, частота сердечных сокращений, дыхательных движений во взаимосвязи с эмбриональной и постэмбриональной жизнеспособностью, продуктивностью кур кросса «Родонит» могут быть ориентировочным методом отбора лучших особей для дальнейшей селекции.

Ключевые слова. Куры кросса «Родонит», линии, помеси, температура тела, частота сердечных сокращении, частота дыхательных движений.

Актуальность. Сельскохозяйственные породы птиц обладают определенными биологическими качествами, которые формировались в конкретных природных и технологических условиях в течение многих поколений [1]. Данные свойства как правило передаются по наследству, в том случае если условия, при которых они создавались, остаются неизменными. Перемещение птицы из одних экологических условий в другие требует приспособления к ним. В различных климатических условиях птица по-разному проявляет свои биологические свойства [2].