



ISSN 2357-0725

<https://jsasj.journals.ekb.eg>

JSAS 2024; 9(2): 234-245

Received: 12-11-2024

Accepted: 02-01-2025

El. Sheikh T. M

Poultry Production Department
Faculty of Agriculture
Sohag University
Sohag
Egypt

Mariam S. A. Ali**Amal S. Omar**

Animal Production Department
Research Institute Agriculture
Research Center

Corresponding author:**Amal S. Omar**amal_omer2005@yahoo.com**DIAGNOSTIC STUDY OF SEMI-INTENSIVE
BROILER PRODUCTION SYSTEM IN
ASWAN.****El. Sheikh T. M, Mariam S. A. Ali and Amal S. Omar****Abstract**

A single visit questionnaire-based survey was performed to characterize semi-intensive broiler production system in Aswan governorate. Findings revealed that according to the flock size of broiler, the semi-intensive system of broiler production involves two subsystems: the first is Small-scale and the second is Medium-scale. The most of broiler producers (55.17% and 75.41%) range between 31-49 years (middle aged collection) in small and medium semi-intensive sub-systems, respectively. The main strain was Sasso chicken (44.83 %) and Cobb & Ross (47.54%) in the small and medium scale semi-intensive subsystem, respectively. Flock size average was 2204.42 and 4888.30 for the aforementioned subsystems in that order. Increasing income was the main purpose of rearing under the small-scale (79.31%) and medium-scale (52.46%) subsystems. Most of farmers used concentrated ration under the medium-scale (86.89%) and small-scale (72.41%) systems. Most of the broiler housing were separate from the farmers' homes being 86.21% under the small-scale and 70.49% under the medium-scale. Wood sawdust is the most widespread bedding material in broiler houses being 96.55 and 93.44 % under the small-scale and medium scale subsystems, respectively. Around 55.56 and 54.24% of the respondents prefer chicken meat for its good taste under the previous subsystems. Most of consumers (62.07%) buy live birds and slaughtered in front of them under the small-scale subsystem however, the majority (47.54%) of the respondents under the medium-scale subsystem prefer buying chilled chickens. The majority of the consumers around 82.76% and 75.41% prefer Baladi chickens either for its good taste (58.33%) or because its odorless (65.22%, Has a good smell) under the small and medium subsystems, respectively.

Key words :Semi-intensive, Flock size, Flock source, Small-scale, Housing ,medium-scale.

INTRODUCTION

Poultry farming is an industry that has a big importance and impact on the national economy of Egypt and plays an important role in securing nutritious animal protein at acceptable prices comparable to the prices of red meat. Egypt's poultry industry investment reaching EGP 100 billion and it employs about three million labors. In 2021, the poultry industry produced 1.5 billion broilers with a self-sufficiency of 95%, and 13 billion table eggs with a self-sufficiency of 100% (Wally and Mello, 2022). Over 74 % are small scale production units with one or two shed of 5000 bird capacity / cycle, generating 4 to 5 cycles / year (Hosny, 2006). Poultry sheds are open sided, without cooling methods. Right now Egypt is witnessing a staggering rise in the price of feed, the shortage of foreign currency led to intense drop in feed stocks, poultry breeders are struggling as a result to feed crisis. Broiler production in Egypt consists of extensive, semi-intensive and commercial production. Of these the semi-intensive system, which is the most widespread system. There are growing understanding in developing countries of the role of small-scale commercial poultry production in poverty reduction (FAOSTAT, 2014). The popularity of broiler production may be due to low production cost, low product prices, short production cycle, good marketing, and good feed conversion ratio, this is ensure reasonable profits on the investment in the production process of broiler meat. (OECDFAO, 2020). That make broiler industry to be one of the most favorable agricultural business that could have a role in the elimination of poverty and play a part in food security of any country (Awad *et al.*, 2015). roiler production considered an important industry in that it provides a great opportunity for creating job opportunities, an important source of income and valuable protein for families. The poultry production industry played an important role among agricultural industries in several countries (Al-Fataftah and Abdelqader, 2013; Al-Dawood, 2016). The per capita poultry meat consumption accounts 70% of total meat consumed, and nearly 66 billion broilers slaughtered annually in the world

(Faostat, 2019). Chicken meat is cheap and good protein source and is the second most produced and consumed meat in the world (Ritchie and Roser, 2017; FAO, 2021). Characterization of broiler production system will help the government to better understand this system and in doing so, they can coalesce with industry participants to derive the most benefits out of this activity and putting specific strategies to improve it. Despite the importance of broiler production, and although the government supported the expansion of poultry industry there is a scarcity of published research about broiler production systems on the ground of reality. Therefore, this study aims to provide a detailed baseline information on semi-intensive broier production system

MATERIALS AND METHODS

This study was carried out in Aswan governorate. Thirty households were randomly selected from each of the three selected districts (Komambo, Draw_ and Edfo) as shown in Fig 1. This sample (90) was collected from six villages namely, Alatomor Selwa, Elmansoria Elshatb Ramady and Ratage in Aswan governorate through semi-structured interview with a questionnaire. The Householders were informed about the objective of the current study in order to provide reliable and accurate information. The questionnaire was designed, containing specific questions assessing the required information at the household level in accordance with a set of indicators. These indicators reflected the objectives of the study, which is describing the current broiler production system in the study area. The designed questionnaire was pre-tested in the field and adjusted before wide application. Data collection techniques included direct questioning and discussions from the households' broiler producers through face-to-face interview. and where possible a review of farmers' records. Observations were used to verify the collected data. In the survey form, household were asked to answer questions about flock size, the source of day-old chicks, breeding objective, feeding pattern ,housing and consumer preference of chicken meat and palatability. In the present work qualitative and

measurable methods were used (Mixed-methods approach). In systems thinking mixed methods are the most used (Walker *et al.* 1999; König *et al.* 2012).

Statistical analysis

In order to discover the relationships between independent and dependent variables Chi-square was done. This test is more suitable for categorical data (Cohen *et al.* 2007). In order to analyze the variation of numerical parameters such as flock size, the General Linear Model (GLM) of SAS program (SAS, 2010) was used.

The following fixed model was proposed:

$$Y_{ijk} = \mu + S_i + e_{ijk}$$

Where

Y_{ijk} = is the value of the observed trait

μ = is the overall mean.

S_i = is the effect due to the system, $i = 1, 2$ (1= Small-scale, 2= Medium-scale) .

e_{ijk} = is a random error.

Sample size of study area

Komambo	•Alatmor	15
	•Selwa	15
Draw	•Elmansoria	15
	•Elshatb	15
Edfo	•Ramady	15
	•Ratage	15

Fig 1. Estimated numbers of surveyed broiler farmers under the selected villages within districts

RESULTS AND DISCUSSION

The foremost production system of broiler production in Aswan governorate is semi-intensive system. According to the flock size of broiler, the semi-intensive system involves two subsystems: The first is Small-scale and the second is Medium-scale.

Semi-intensive broiler production system

Under the semi-intensive system, farms are traditional open houses; all the birds raised indoors, this improved flock health for a number of reasons. First of all, indoor growing protects the birds from predators and dangerous weather. In addition it permitted the broiler producers to manage the flocks in a better way. Consequently,

broiler mortality will decrease, enabling farmers to incur less losses and make more money.

Small-scale semi-intensive broiler production sub-system

Poultry houses are open sided, with no cooling systems, ventilation is natural with windows or open sided curtains, the poor ventilation causing respiratory problems and high mortality rate especially during brooding. There is a manual filling of the feed hoppers and hanging feeders allowing feed loss into the litter. Thirty-two farms from the total number of farms (90 farms) in the areas surveyed were belonging to small-scale intensive production sub-system. Farms relied on physical worker than on machinery. With an average flock size of 2204.42 {as} indicated in Table 1.

Medium-scale semi-intensive broiler production sub-system

Birds under medium-scale semi-intensive production system are reared with better feeding, housing, management practices, etc., the survey found that this sub-system represented about 61.77% percent of all the farms. Under this sub-system thousands of broilers reared and broiler houses have been constructing large enough to hold these thousands of birds. Some houses rely on machinery such as feed and water lines running through the houses, and ventilation fans to control broiler house temperatures. With an average flock size of 4888 {30} as shown in Table 1.

Table 1. Flock size under semi-intensive system

Items	Semi- intensive production system	
	Small-scale	Medium-scale
Number of questionnaires (N)	29	61
Percent of questionnaires (%)	32.22	61.77
Flock size (birds)	94790	229750
Mean flock size \pm SE	2204.42 \pm 118.46 ^b	4888.30 \pm 242.78 ^a

^{a-b} Means with dissimilar superscripts significantly differ (P< 0.0001)

Statistical description related to households

The majority of broiler producers (55.17% and 75.41%) fall between 31-49 years (middle aged collection) under the small and medium semi-intensive sub-systems, respectively. They fit in economically active people category between 25-59 years, old according to FAO (1997). Our results agreed with El-Menawey *et al.*, (2019). The majority of broiler producers (62.07% and 72.13%) were married. A married person have additional duties regarding taking care of his family needs, contrasting a single one who has no duties, and all his income is completely for himself. These results support the findings of Oluwatayo *et al.*, (2008); Issa *et al.*, (2013); Kyule *et al.*, (2014) and Omar *et al.* (2016). The majority of broiler

producers were educated under the small and medium semi-intensive subsystems being 75.86% and 90.61 % respectively. The current results in accordance with those achieved by Alders and Bagnol, (2007) El-Menawey *et al.*, (2019), but they are contradicting the results of Pandian *et al.* (2009) and Oni *et al.* (2010). Most of the broiler producers under the small and medium semi-intensive subsystems their main source of income from government being 58.62%, and 57.38% respectively as indicated in Table 2. The obtained results are not in agreement with those found by {Omar *et al.*, (2012).}

Table 2. Some Statistical description related to households under the semi-intensive broiler production system.

Semi-intensive production system						
	Small scale		Medium scale		Overall	%
	N	%	N	%	N	
Age						
< 30	10	34.48	2	3.28	12	13.3
31-49	16	55.17	46	75.41	62	68.9
≥50	3	10.34	13	21.31	16	17.8
Marital status						
Single	0	0	3	4.92	3	3.3
Married	18	62.07	44	72.13	62	68.9
Divorced	7	24.14	10	16.39	17	18.9
Widow	4	13.79	4	6.56	8	8.9
Education						
Yes	22	75.86	55	90.61	77	85.6
No	7	24.14	6	9.84	13	14.4
Main income source						
Governmental	17	58.62	35	57.38	52	57.8
Non-governmental	12	14.38	26	42.62	38	42.2

Differences between systems for age are significant ($\chi^2 = 16.8521$, $P = 0.0002$)

Differences between systems for marital status are not significant ($\chi^2 = 3.4969$, $P = 0.3213$)

Differences between systems for education level are not significant ($\chi^2 = 3.2533$, $P = 0.0713$)

Differences between systems for main income source are not significant ($\chi^2 = 0.0125$, $P = 0.9111$)

Flock source

The source of the flock in the small-scale semi-intensive subsystem was the local agent being 51.72%, and the main source of the flock in the medium-scale semi-intensive subsystem was the company being 80.33%. Chi

square analysis yielded significant differences among the two subsystems in terms of flock source (Table 3). Similarly El-Menawey *et al.*, (2019) indicated that most breeders (62.79%) bought their chicks through commercial breed company and 37.21% through local agents.

Table 3. Source of chicks under the semi-intensive broiler production system.

Semi-intensive production system

Items	Small		Medium		Overall	
	N	%	N	%	N	%
Breed company	14	48.28	49	80.33	63	70
Local agent	15	51.72	12	19.67	27	30

Differences between subsystems for broiler source are significant ($\chi^2=9.61.55$, $P=0.0019$)

Flock type and size

The results clearly showed that respondents rearing Sasso chicken represented the largest percentage being 44.83 % under the small-scale semi-intensive subsystem. While, respondents rearing Cornish Cross chickens (Cobb & Ross) represented the largest percentage being 47.54% under the medium-scale semi-intensive subsystem (Table 4).

Table4. Flock type and size under the semi-intensive production system.

Semi-intensive production system						
Types of breed	Small scale		Medium scale		Overall	
	N	%	N	%	N	%
Cornish Cross chicken (Cobb & Ross)	8	27.59	30	47.54	38	42.22
Sasso chicken	13	44.83	19	31.15	32	35.3
Baladi	8	27.59	12	21.31	20	.22
Average flock size						
Cornish Cross chicken	2276.92±237 ^b		5308.7±407 ^a			
Sasso chicken	2016.76±178 ^b		4920.83±467 ^a			
Baladi	2189±160 ^b		3910±114 ^a			

Differences between subsystems for flock types are not significant ($\chi^2=1.3266$, $P=0.5151$)

Means in the same row having different letters are significantly different

The average flock size was significantly higher in the medium-scale subsystem than in the small-scale subsystem. This can be illustrated by the fact that as the production system intensify chicken are kept in large numbers where intensive management is structured. The average flock size of Cornish Cross chickens, Sasso and Baladi chickens under the medium-scale subsystem was significantly higher than that under the small-scale subsystem being 5308.7, 4920.83 and 3910 vs 2276.92, 2016.76, and 2189, respectively (Table 4). Our results regarding the flock size of small-scale subsystem are in good agreement with those obtained by El-Menawey *et al.*, (2019) where flock size in the semi-intensive broiler production system ranged from 2000-3000 with average 2393 chicks.

Rearing objective

Most of broiler producers under the small-scale (79.31%) and medium-scale subsystem (52.46%) replied that their main

purpose for rearing broiler chicks was to increase their income as shown in Table 5. Under the current situation of the financial crisis in Egypt and increasing unemployment rate, many youth run their own projects, Broiler farming considered one of the most widespread project for youth. Hence the second reason for rearing broiler chickens was as a way for employment represented about 20.69% and 47.54% under the small-scale and medium-scale broiler production subsystems, respectively. The differences for breeding objective, between the two subsystem were statistically significant (Table 5). Demirulus, (2005) indicate that the respondents under small and medium subsystem rear broiler chickens as a way for job alternatives, with rates of 20.69% and 47.57% for the aforementioned subsystems respectively. Therefore, raising broiler chickens plays a very important role for farmers as their income is increased and thus they achieve a better standard of living or an alternative to employment in order to combat unemployment.

Table 5. Rearing objective under the under the semi-intensive broiler production system.

Semi-intensive production system						
Items	Small		Medium		Overall	
	N	%	N	%	N	%
Gaining profit (increasing income)	23	79.31	32	52.46	55	61.1
For employment	6	20.69	29	47.54	35	38.9

Difference between subsystems was significant ($\chi^2=5.9631$, P = 0.0146)

Feed pattern

It was obvious that most of broiler breeders under the small-scale broiler production system (72.41%) and the medium-scale broiler production system (86.89%) depended on commercial ration to feed their flock. Regarding the overall, the results of the current study revealed that of the majority of the respondents (82.2%) use commercial ration as indicated in Table 6. Current study results are in good agreement with those obtained by El-Menawey *et al.*, (2019) who indicated that 72.09% of the respondents use commercial ration under semi-intensive broiler production system.

Table 6. Feed pattern under the semi-intensive system.

Items	Small		Medium		Overall	
	N	%	N	%	N	%
Commercial ration	21	72.41	53	86.89	74	82.2
Homemade ration	5	17.24	4	6.56	9	10
Both	3	10.34	4	6.56	7	7.8

Difference between systems for feed type was not significant ($\chi^2= 3.1068$, P = 0.2115)

Housing

Irrespective of the production system, almost all the respondents under semi-intensive production systems housed broilers with roofing and walls. The majority of the broiler chicken houses were separate from the farmers' homes being 86.21% under the small-scale subsystem and 70.49% under the medium-scale subsystem. The majority of houses were open sided with machinery represented 68.97% and 60.66% for the small-scale subsystem and the medium-scale subsystems, respectively. More than half of the houses (55.17%) under the small-scale semi-intensive broiler production system were average cleanliness, while the majority of houses under the medium-scale semi-intensive broiler production system were good cleanliness (54.10%) as indicated in Table 7.

Table 7. House properties under semi-intensive system.

Semi-intensive production system

Items	Small		Medium		Overall	
	N	%	N	%	N	%
Broiler house location						
In the breeder home	2	6.90	10	16.39	12	13.3
Separated	25	86.21	43	70.49	68	75.6
Attached	2	6.90	8	13.11	10	11.1
House type						
Open sided with machinery	20	68.97	37	60.66	57	63.3
Open sided without machinery	9	31.03	24	39.34	33	36.7
Type of cooling						
Cooling cells	26	78.69	48	89.66	74	82.2
Air conditioner	1	3.45	7	11.48	8	8.9
Fans	2	6.90	6	9.84	8	8.9
Type of heating						
Heater	16	55.17	37	60.66	53	58.9
Electric heater	13	44.83	20	32.79	33	36.7
Gas heater	0	0	4	6.56	4	4.4
Electricity (available)						
Yes	29	100	61	100	90	100
No	0	0	0	0	0	0
House cleanliness						
Good	13	44.83	33	54.10	46	51.1
Average	16	55.17	28	45.90	44	48.9
Bad	0	0	0	0	0	0
Ventilation						
Good	21	72.41	41	67.21	62	68.9
Average	8	27.59	20	32.79	28	31.1
Bad	0	0	0	0	0	0
Floor material						
Cement	29	100	61	100	90	100
Mud soil	0	0	0	0	0	0
Wall material						
Red bricks	29	100	61	100	90	100
White bricks	0	0	0	0	0	0
Litter type						
Wheat straw	1	3.45	4	6.56	5	5.56
Wood sawdust	28	96.55	57	93.44	85	94.44

Difference for house location was not significant ($\chi^2=2.6560$, $P = 0.2650$)

Difference for house type was not significant ($\chi^2=0.5845$, $P = 0.4446$)

Difference for type of cooling was not significant ($\chi^2=1.9034$, $P = 0.3861$)

Difference for type of heater was not significant ($\chi^2=2.7792$, $P = 0.2492$)

Difference for house cleanliness was not significant ($\chi^2=0.6761$, $P = 0.4109$)

Difference for ventilation was not significant ($\chi^2=0.2481$, $P = 0.6185$)

Difference for nature of floor material was not significant ($\chi^2=67.0$, $P = 0.7383$)

Difference for wall material was not significant ($\chi^2=67.0$, $P = 0.5373$)

Difference for litter type was not significant ($\chi^2=0.3621$, $P = 0.5473$)

The percentage of good ventilation reached 72.41% and 67.21% for small-scale and medium-scale subsystems, respectively (Table 7). Obtained results from the current study demonstrated that cement floors were easier to clean and cheaper to build, hence it represented 100% in the aforementioned broiler production subsystems, 100% red brick materials were used in the previous subsystems. The deep litter system is the most widespread system for housing broiler chickens. The most widespread litter material used in Egypt is the wheat straw and wood sawdust. The results of the present study revealed that wood sawdust is the most widespread bedding material in broiler houses being 96.55 and 93.44 % under the small-scale and medium scale subsystems respectively as indicated in Table 7. Our results disagree with El-Menawey *et al.* (2019) who mentioned that the majority of the respondents (76.74%) use straw and the remaining percent 23.26% use wood sawdust in the semi-intensive system.

Consumer preference and chicken meat palatability

The customer's perception and preference to broilers meat change quickly, many basic features affecting the customer's choice to buy broiler meat. Information on customer preference will help producer to produce broilers that meet their favorite, hence request of broiler meat in markets will increase. It was obvious that most of the respondents prefer chicken meat being 93.10 and 96.72 % under the small-scale and medium scale subsystems, respectively. Taste is the main measure for accepting chicken meat that is why around 55.56 and 54.24% of the respondents prefer chicken meat for its good taste under the aforementioned subsystems, respectively. Low

prices have made chicken meat of choice for consumers, about 44.44 and 23.73 % prefer chicken meat because it is cheap as compared to red meat under the aforementioned subsystems respectively, and only 22.03% under the medium-scale subsystem prefer it because it is easy to digest. The differences, for why do you prefer chicken meat, between the two subsystems were statistically significant. Ale Most chickens are sold as live birds and slaughtered in front of the consumers under the small-scale subsystem being 62.07% however, the majority (47.54%) of the respondents under the medium-scale subsystem prefer buying chilled chickens followed by frozen (31.15%) the remaining percent (21.31%) buy live birds. The differences, for how do you prefer buying chicken, between the two subsystems (small-scale and medium-scale) were statistically significant (Table 8). Regarding the place to buy chicken meat, the majority of the respondents (89.66 and 95.08 %) prefer to purchase chicken at poultry shops under the small-scale and medium scale subsystems, respectively. Only minor percentage get chicken from supermarket (10.34 and 4.92%) under the aforementioned subsystems. We asked them why they buy chickens from the supermarket the majority of them replied, because it is a trusted place being 62.07 and 73.77 % under the small-scale and medium-scale subsystems, respectively. The respondents less preferred other places such as directly from producers. Most of the respondents (89.66 and 93.44 %) read the production date before buying chilled or frozen chickens from the supermarket as shown in Table 8. According to Arnoldus *et al.* (2021) upper- income consumers who represent approximately 10% of the population .

Table 8. Consumer preference of chicken meat and palatability under the different subsystems of semi-intensive broiler production system.

Semi-intensive production system						
Items	Small		Medium		Overall	
	N	%	N	%	N	%
Do you prefer chicken meat?						
Yes	27	93.10	59	96.72	86	95.56
No	2	6.9	2	3.28	4	4.44
Why do you prefer chicken meat?						
Easy to digest	0	0	13	22.03	13	15.12
Cheap	12	44.44	14	23.73	26	30.23
Has a good taste	15	55.56	32	54.24	47	54.65
Why you don't prefer chicken meat?						
Don't like the taste	2	100	2	100	4	100
Expensive	0	0	0	0	0	0
How do you prefer buying chicken?						
Frozen	0	0	19	31.15	19	21.11
Chilled	11	37.93	29	47.54	40	44.44
Live and slaughtered	18	62.07	13	21.31	31	34.44
From where do you buy chicken						
Poultry shops	26	89.66	58	95.08	84	93.33
Supermarket	3	10.34	3	4.92	6	6.67
Why do you buy from supermarket						
It is trusted place	18	62.07	45	73.77	63	70
The chicken is clean	11	37.93	16	26.23	27	30
Do you read the production date?						
Yes	26	89.66	57	93.44	83	92.22
No	1	3.45	1	1.64	2	2.22
Sometimes	2	6.90	3	4.92	5	5.56
How do you think of chicken prices?						
Convenient	28	96.55	32	52.46	60	66.67
Expensive	1	3.45	29	47.54	30	33.33
Why do you order a specific weight (smaller)?						
For the unavailability of money	2	6.90	21	34.43	23	25.56
For a certain recipe	27	93.10	40	65.57	67	74.44
Do you prefer exotic or Baladi chicken?						
Baladi	24	82.76	46	75.41	70	77.78
Exotic	5	17.24	15	24.59	20	22.22
Why do you prefer Baladi chicken?						
Has a good taste	14	58.33	14	30.43	28	40
Cheap	3	12.5	2	4.35	5	7.14
Odorless (good smell)	4	16.67	30	65.22	34	48.57

Differences for do you prefer chicken meat was not significant ($\chi^2=0.6058$, $P = 0.4364$)

Differences for Why do you prefer chicken meat was significant ($\chi^2=8.5843$, $P = 0.0137$)

Differences for Why you don't prefer chicken meat was not significant ($\chi^2=2.7473$, $P = 0.2532$)

Differences for how do you prefer buying chicken was significant ($\chi^2=18.9206$, $P < 0.0001$)

Differences for where do you buy chicken was not significant ($\chi^2=0.9303$, $P = 0.3348$)

Differences for Why do you buy from supermarket was not significant ($\chi^2=1.2816$, $P = 0.2576$)

Differences for do you read the production date? Was not significant ($\chi^2=0.4585$, $P = 0.7951$)

Differences for how do think of chicken prices? Was significant ($\chi^2=17.1962$, $P < 0.0001$)

Differences for why do you order a specific weight? Was significant ($\chi^2=7.8301$, $P < 0.0051$)

Differences for do you prefer exotic or Baladi chicken? Was not significant ($\chi^2=0.6141$, $P = 0.4332$)

Differences between subsystems for Why do you prefer Baladi chicken? was significant ($\chi^2=12.4934$, $P = 0.0019$)

The majority of the respondents (96.55%) under the small-scale subsystem considered chicken prices are convenient. However 47.54% of the respondents considered chicken prices is expensive under medium-scale subsystem. It could be concluded from Table 8 that, under the small-scale subsystem most of the respondents (93.10 %) buy smaller chicken weight to make certain recipe. The same trend was observed under the medium-scale subsystem being 65.57 %, and around 34.43 % of the respondents favored small weight birds because larger birds are more expensive for them. Chi square analysis yielded a significant difference among the two subsystems regarding this issue. In order to make fruitful marketing plan for poultry production, it is essential to know which product consumers like the most. Consumers' intention to purchase a product is determined by their attitudes. When asked the respondents whether they prefer exotic or Baladi chickens the majority of the respondents around 82.76% and 75.41% prefer Baladi chickens while, 17.24% and 24.59% prefer exotic chickens under the small-scale and medium-scale subsystem respectively. The differences, to prefer exotic or Baladi chicken, between the two subsystems (small-scale and medium-scale) were statistically not significant. {Han (1998) }and contradict with Lee *et al.*, (2017) indicated that majority of respondents (46.6%) preferred broilers while 30% did not care about the breed and only 23.4% preferred native breeds. When asked why they preferred Baladi chickens, 58.33% under the small-scale subsystem preferred Baladi chickens because its good taste. 65.22% of the respondents under the medium-scale preferred Baladi chickens because it is odorless (has a good smell). The differences, between the two subsystems for why do you prefer Baladi chicken, were statistically significant (Table 8). These results were alike to those of a study directed by Lee *et al.*, (2017) who demonstrated that indigenous chickens have a chewy texture as compared to broiler and that reason of differentiation represented 63.6%.

CONCLUSION

The current study aim to obtain a base line information about the semi-intensive broiler production system in Aswan governorate. Broiler are found to have a significant role in increasing income and providing job for people in the study area. The majority of the respondents rear Cobb and Ross strain in open sided houses. Most of the consumers prefer Balady chicken because it is odorless and for its good taste. More studies required to identify the challenges and detect the more profitable system.

REFERENCES

- Al-Dawood A. (2016) Application of acute phase proteins as biomarkers in chickens. Bulletin of the Faculty of Agriculture, Cairo University 2016; 67:193-212.
- Alders, R.G. and B. Bagnol, (2007). Effective communication: the key to efficient HPAI prevention and control. World's Poultry Science Journal 63(1): 143-151.
- Al-Fataftah A. and A. Abdelqader (2013). Improving performance of laying hens in hot regions by desert coolers. International Journal of Poultry Science 2013;12:590-595
- Arnoldus, M., K Kyd .P. Chapusette, F., van der Pol, F. and B Clausen, (2021). Senegal value chain study - Poultry, RVO Netherlands Enterprise Agency RVO-022-2021/RP-INT, Assen.
- Awad, E. A., LZulkifli, A.F.Soleimani, and T.C.Loh, (2015). Individual non-essential amino acids fortification of a low-protein diet for broilers under the hot and humid tropical climate. Poultry Science, 94(11), 2772–2777.
- Cohen, L., L. Manion, and K.Morrison, (2007). Research methods in education. 6th edition. London: Routledge.
- Demirulus, H. (2005). Dogu Anadolu'da modern kaz yetistiriciligi. Infovet Dergisi 19 (7): 6265.
- El-Menawey M.A. , A.A Attallah, Y.A. Abdel-Aziz, Mai A.M. Youssif, and H.B. Gharib (2019). Characterization and constrains of

- semi-intensive broiler production system in rural sector of Alsharkia and El-Qaliobia governorates, Egypt. *Egyptian poultry science journal* 39(1),13-29.
- FAO (Food and Agriculture Organization of the United Nations). (2021) Overview of global meat market developments in 2020. Web link: <http://www.fao.org/3/cb3700en/cb3700en.pdf>. Accessed March 27, 2021.
- FAO. (1997). Impact du VIH/SIDA sur les systèmes d'exploitations agricoles en Afrique de l'ouest. Rome.
- (FAO(2020).The long-term future of livestock and fishery in Egypt – Production targets in the face of uncertainty. Rome. <https://www.fao.org/3/ca9574en/CA9574EN.pdf>
- Faostat, (2014). Livestock production, poultry meat production. <http://faostat.fao.org>
- Faostat, (2019). Food and agriculture organization of the United Nations, 2019.Production: Crops. Available online at: <http://faostat.fao.org>.
- Hosny, F. (2006). Poultry sector country review. FAO publication.
- Issa A .Y.; L.Y.Mopate.; S.B. Ayssiwede, and A.Missohou, (2013). Production practices,constraints and performance in traditional chicken breeding (c had) *International Journal of poultry science* 12(6):367-376.2013.
- König, B, A, Kuntosch, W,Bokelmann, A,Doernberg, W,Schwerdtner M., Busse, R,Siebert, k. koschatzky,and T.Stahlecker, (2012). 'Analysing agricultural innovation systems: a multilevel mixed methods approach', Paper presented to the 131st EAAE Seminar „Innovation for Agricultural Competitiveness and Sustainability of Rural Areas“, September 18-19, 2012, Prague, Czech Republic,viewed4/13/2013, <<http://ageconsearch.umn.edu/bitstream/135792/2/Konig.pdf>>.
- Kyule N. M., J. G. Mwangi, and O. A. Nkurumwa,(2014). Indigenous chicken marketing channels among small-scale farmers in Mau-Narok division of Nakuru County, Kenya. *International Journal of Social Sciences and Entrepreneurship*, 1 (9), 55-65.
- Lee, M.A., Y. Jung, C. Jo, J. y. Park, and K. C. Nam. (2017). Analysis of consumers' preferences and price sensitivity to native chickens.(*Korean J. Food. Sci. Anim. Resour.*) 37(3): 469476.
- Oluwatayo, I.B., A.B. Sekumade, and S.A. Ade-soji,(2008). Resource use efficiency of maize farmers in Rural Nigeria. Evidence from Ekiti State, *World journal of agricultural science* 4(1): 91-99.
- Omar A. S., Sahar A. Abd El-Rahim, Y.A.A. Abdel-Aziz, H.B. Sammour (2016). Socio-Economic analysis of pigeon production systems in Al-Sharqia governorate, Egypt. *Egypt. (Poult. Sci.)*Vol (34) (IV): (1039-1053).
- Oni S. A. L.L Maliwichi ,and O.S. Obadire,(2010).Socio-economic factors affecting smallholder farming and household food security:A case of thulamela local municipality in Vhembe District of Limpopo province, south Africa . *Africa Journal of Agricultural Research* Vol.5(17),PP.2289-2296, 4 September , 2010.Available online at <http://www.academicjournals.org/AJAR>.
- Pandian.C, N. Kumaravelu., A.Sundaresan. M. Murugan. and J. Priya Vinnarasi. (2009). A study on duck farming systems in Cauvery Delta region of Tamil Nadu. IV World Waterfowl Conference, 11-13 November,2009, Thrissur, India.
- Ritchie, H. and M. Roser (2017). Meat and dairy production. *Our World in Data*. Web link: <https://ourworldindata.org/meat-production>. Accessed January 20, 2021.
- SAS, (2010). SAS User's Guide: Statistics. Version 9.1. SAS Inst. Inc., Cary, NC., USA.
- Walker,P.A.R.:Greiner.: D McDonald, .and V.Lyne, (1999).The tourism futures Simulator: a systems thinking approach *Environmental modeling & software*, Vol .14, pp. 59-67.
- Wally A. and E. Mello (2022) Poultry sector in Egypt Impacted by the Repercussions of War in Ukraine. United State Department of Agriculture foreign Agriculture service, Date: October 25, 2022 Report Number: EG2022-0028.

SPSS (2008). Statistical Package for Social Sciences, Statistics for Windows, Version 17.0. Released 2008. SPSS Inc, Chicago.

Young, E. A., Yuan, J. V., & Everett-Hincks, J. (2010). Yearling lambing performance and primary cause of lamb death. In Proceedings of the New Zealand Society of Animal Production, 70(1): 96-100.

Zishiri, O. T., Cloete, S. W. P., Olivier, J. J., & Dzama, K. (2013). Genetic parameters for growth, reproduction and fitness traits in the South African Dorper sheep breed. Small Ruminant Research, 112(1-3), 39-48. <https://doi.org/10.1016/j.smallrumres.2013.01.004>