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EFFECT OF GENOTYPE, SEX AND AGE ON CARCASS CHARACTERISTICS OF GUINEA FOWL UNDER DESERT CONDITIONS

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ABSTRACT

A study was conducted to evaluate the effect of genotype, sex, age and generation on carcass traits of four varieties of guinea fowl. Three hundreds and twenty birds were distributed into four varieties. White, Lavender, Chocolate and Pearl guinea fowl were evaluated at 12, 16, 20 and 24 weeks of age. Percentages of dressing were 68.2, 69.7, 70.1 and 71.0 % at 12, 16, 20 and 24 weeks of age respectively. No significant differences between 16 and 20 weeks of age were found for the meat yield, the giblets, bone, dressing, heart, neck and leg percentages. Male birds showed significantly meat yield, dressing and heart percentages ($P<0.05$). Opposite trend was observed with abdominal fat, feather and giblets percentages. Live body weight, meat yield and dressing percentages of birds in second generation were slightly heavy. They were 832.2 vs. 1145.1 g, 53.1 vs. 58.3 % and 68.3 vs. 71.1% in the first and second generation, respectively. Phenotypic correlations were obtained among carcass traits, age and organ weights as well as linear regression coefficient for carcass weight on organ weights. The linear regression coefficients were positive and significant for all organ traits except for spleen weight. Correlations between the organ weights and body weight were positive. The present study indicates that improved meat yield or the dressing percentages may be achieved by selection for quick growth.

Keywords: Guinea fowl, Carcass traits, organ weights, , sex, age.

INTRODUCTION

Wild guinea fowl of West Africa is regarded as original of domestic stock. There are two common varieties, pearl and white. Carcass produces relatively large amount of meat. In France the guinea fowl strains were developed. Not only they grow quickly but also lay as many as 190 eggs per year. The guinea fowl birds had lower abdominal fat percentages than domestic fowl that gave slightly high carcass yield (68 to 74 %). Ricard (1987) compared the dressing yields of broilers to guinea fowls that were slaughtered at 12 weeks of age. Results showed that guinea fowl had high-eviscerated carcass yield of 69% vs. 66%. Ayorinde (1989) reported that slightly lower dressing percentages were found in guinea fowl than in domestic fowl.

In guinea fowls, the influence of stocking density, age and diet composition on growth performance and carcass composition have also been studied. Mahapatra et al.(1986) showed that only breast yield increased, from 27% to 29.9% of eviscerated carcass. Between 6 and 14 weeks of age, breast yield increased from 17.3% to 19.4% of body weight and abdominal fat from 0.7% to 2.2% (Ricard et al. 1986). Other factors such as sex on body

from 0.7% to 2.2% (Ricard et al. 1986). Other factors such as sex on body weight and rearing temperature can markedly influence carcass composition and meat quality (Ricard, 1988; Ricard and Touraille 1988)

Generally the carcass fatness of females was higher (Ricard et al. 1986) In a study by Valancony et al (1999) female guinea fowls had 1.4% and 2.2% of abdominal fat vs 1.1% and 1.9% in males at 70 and 84 day of age. For meat production strains development, it is necessary to study the relationship between body weight and carcass parameters in guinea fowl.
The present study was designed to evaluate the carcass traits of guinea fowl, reared under desert conditions, to compare between four varieties of guineas and to study effect of age, sex and generation on carcass characteristics of guinea fowl.

MATERIALS AND METHODS

The experiment was carried out over two year from January 2003 to November 2004 in the Experimental South Sinai Station, Desert Research Center. Four flocks of guinea fowl were reared in four houses. Chicks were wing-banded and housed on deep litter in an open house at a housing density of 8 birds/ m^2. Three hundreds and twenty birds were distributed in four varieties; White, Lavender, chocolate and Pearl guinea fowl. They were evaluated at 12, 16, 20 and 24 weeks of age during first and second generations. The flocks were kept during experiment under same environmental conditions. Each line had 20 males and 20 females in each generation. At 12 weeks of age and every 4 weeks to 24 weeks of age thereafter, 5 males and 5 females from each line were used.

Feed and water were given *ad libitum* throughout the experiment period. The birds were fed starter ration containing 16.5 %CP and 2750 Kcal/kg ME .

Pre-slaughter weight was recorded. All the birds in the four groups were deprived of feed during morning of slaughter day at approximately 12 hrs before being slaughtered. After bleeding each bird was reweighed to calculate blood weight by difference. It was sub scalded at 50-52 °C for approximately 30 seconds. Feathers were removed by hand. Each bird was again reweighed to calculate feather weight by difference. Each bird was then processed by removing head, neck, and legs. It was eviscerated by cutting around vent and removing viscera without disturbing its fat pad along its abdominal wall. The heart, liver and gizzard were dissected from the viscera. Gizzard was cut open and rinsed of its contents. All of above components remaining gastrointestinal tract, including fat and mesentery were determined by differences between the whole picked birds weights minus the various components. Dressed carcass weight and yields were calculated in relation to the live body weight.

Giblets = (heart + liver + gizzard).
Hot carcass = pre-slaughter weight – (blood + feather)
Dressing=pre-slaughter weight-(Giblets+ Inedible+ neck+ Leg)

All the weights were recorded to nearest gram, except for the heart

weights, which were measured to the nearest 0.01 g.

The agro-ecological condition of the south Sinai area of Egypt is shown in Table 1.

Table 1. Meteorological data RAS Sudr experimental station.

Month	2003				2004			
	Min	Max	Ave.	RH.	Min	Max	Ave.	RH.
January	8.4	20.6	14.5	61	8	20.1	14	60
February	8.5	20.3	14.4	56.5	7.2	19	13.1	60
March	10.2	22.7	16.5	52	9.5	21	15.3	52
April	13.6	28.0	20.6	46.5	13.0	25.9	19.5	48
May	18.1	32.1	25.6	48	18	33	25.5	49
June	21.4	34.1	27.8	49.5	21	34.8	27.9	50
July	22.5	36.7	27.6	50	22	37.2	29.6	50
August	23.5	37.8	30.7	54	23	37.5	30.3	52
September	20.7	39.1	27.1	56.5	21	35.1	28.1	58
October	17.6	29.8	23.7	57	17.5	29.3	23.4	58
November	14.1	26.1	20.1	62.5	15.1	26	20.6	61
December	10.0	21.6	15.8	59	12	21.5	16.8	60

Statistical analysis

Data were processed with statistical software package SAS version 8.1 (SAS Institute, 2000).Statistical analysis was based on following model:

$Y_{ijklm} = \mu + L_i + S_j + A_k + G_l + (L*A)_{ik} + (L*S)_{ij} + (L*G)_{il} + (L*A*S)_{ijk} + e_{ijklm}$

Where Y_{ijklm} = an observation,

μ = overall mean,

L_i = fixed effect of the i^{th} genotype (I = 1, 2....4),,

S_j = fixed effect of sex (J =1 and 2),

A_k = fixed effect of age (k = 1,2...,4),

G_l = fixed effect of generation (l= 1 and 2),

$(L*S)_{ij}$, $(L*A)_{ik}$, $(L*G)_{il}$, and $+(L*A*S)_{ijk}$ = interaction effect between fixed factors and e_{ijklm} = Random error.

Pre-slaughter Body weight, hot carcass weight and relative weights of carcass parts were analyzed by General Linear Model (GLM) procedure. They were analyzed with the genotypes, age, sex, generation and the interactions among them as main effects. The other interactions were not significant and dropped from the model. Multiple comparisons among genetic groups, sex, age and generations were tested by their least square means. The linear regression coefficients were calculated for the relationships between carcass traits and hot carcass weight. The phenotypic correlations were calculated among the carcass traits and the relative organ weights.

RESULTS AND DISCUSSION

Genotype effect:

Genotype effect on carcass traits and the weight of organs in guinea fowl are shown in Table 2. Differences among genotypes in respect of relative weights were significant except GIT, spleen and meat yield

percentages The pre-slaughter and hot carcass weights were not significantly effected by genotype. Baeza et al., (2001) found significant effects of genotype, sex and season on carcass weight (P<. 001) in guinea fowls. In the present study blood loss percent ranged from 3.69 to 3.89 %. The Chocolate guineas had the highest blood volume as compared with other varieties. Dickens and Lyon (1993) noted that blood loss were 2.46 and 2.86 % of the live body weight.

Table 2: Genotype effect on carcass traits and organ weights in guinea fowl.

Traits	Genotype (Mean±SE)			
	White	Lavender	Chocolate	Pearl
Pre-sluaghter (g)	981.2 ± 24.3 ^{a}	1003.8±29.1 ^{a}	974.7±27.4 ^{a}	995.3± 8.1 ^{a}
Hot carcass (g)	805.1 ± .14 ^{a}	821.3 ±.13 ^{a}	799.4±.15 ^{a}	816.2 ±.12 ^{a}
Dressing %	70.1 ± .26 ^{a}	69.6 ± .26 ^{b}	69.5 ±.32 ^{b}	69.6 ±.26 ^{b}
Meat yield %	56.2 ± .50 ^{a}	56.1 ± .51 ^{a}	55.0 ±.82 ^{a}	55.4 ±.54 ^{a}
Bonn %	13.5 ± .23 ^{b}	13.6 ± .27 ^{b}	13.69 ±.25 ^{b}	14.1 ±.26 ^{a}
Heart %	0.55 ± .01 ^{a}	0.53 ± 01 ^{ab}	0.547±.01 ^{a}	0.52 ±.01 ^{b}
Liver %	1.42±.02 ^{b}	1.5±.03 ^{a}	1.43±.02 ^{b}	1.52±.05 ^{a}
Gizzard %	2.31±.05 ^{b}	2.32±.05 ^{b}	2.41±.06 ^{ab}	2.49±.06 ^{a}
Giblets %	4.28±.06 ^{b}	4.36±.06 ^{b}	4.39±.06 ^{b}	4.53±.07 ^{a}
Feather %	7.34±.13 ^{b}	7.67±.12 ^{a}	7.38±.14 ^{b}	7.32±.12 ^{b}
Head %	3.89±.07 ^{a}	3.91±.08 ^{a}	3.78±.07 ^{b}	3.87±.08 ^{a}
Blood %	3.69±.06 ^{b}	3.71±.05 ^{b}	3.89±.06 ^{a}	3.85±.05 ^{a}
Neck %	2.98±.06 ^{b}	2.83±.06 ^{c}	3.19±.06 ^{a}	2.88±.06 ^{bc}
Leg %	3.12±.05 ^{a}	3.0±.06 ^{b}	3.1±.05 ^{ab}	3.10±.06 ^{a}
*G-I-T %	4.38±.13 ^{a}	4.58±.14 ^{a}	4.46±.16 ^{a}	4.5±.14 ^{a}
Spleen %	.077±.003 ^{a}	.068±.003 ^{a}	.077±.01 ^{a}	.073±.01 ^{a}
**AF %	0.14±.01 ^{b}	0.153±.01 ^{ab}	0.16±.01 ^{ab}	.18±.01 ^{a}

.abc means in the same raw with different superscript are significantly (P<0.05).
***: Gastrointestinal tract %, **: Abdominal fat %.**

The percentage of the dressing (sexes combined) for the White guinea was 70.1%. It was higher than those of other varieties. However, the Lavender guineas had higher percentage of feather than those of the other groups. Ayorinde (1989) reported that the dressing values were higher than 70.3 % for wild adult guinea fowls in Nigeria. In the present study, the White guinea fowl had low abdominal fat percentage. The results were similar to those obtained by Ayorinde (1989) reported that the abdominal fat percentages in Black, Pearl, White and Ash guineas were 0.98, 0.42, 0.40 and 0.89%, respectively.

Differences among genotypes for meat yield, hot carcass and pre-slaughter weights were not significant. The liver percentages tended to be significantly higher in Lavender and Pearl, than in White and Chocolate. While, heart relative weights were significantly higher in White, and Chocolate, than in Lavender and Pearl guineas. The higher heart proportions in the White and Pearl than the Lavender and Chocolate guineas suggest great cardiac output and liver activity. They support high metabolic rate resulting in high growth speed. The liver and heart play an important role in

metabolic activity of whole organism. These are consistent with the findings of Gavin and Devitt (1999).

Sex and generation effects:

Table 3 shows sex and generation effects on the carcass traits and organ weights. Dressing percentages of males were significantly higher (P< 0.05) than females. In contrast, the dressing percentages of the females were significantly higher than those of the male birds (Gurvinder et al 1984). There was no significant difference between males and females for spleen, liver, bone, neck and head percentages. These are in agreement with the data reported by Adeyemo and Oyejola (2004). However, the significant difference (P<0.05) was observed in weights of heart, gizzard, meat yield, dressing, blood, feather, and leg due to sex effect. Males had significant higher heart and meat yield than female birds. The results were similar to those obtained by Baeza *et al.* (2001). Females had consistently lower (P<0.05) percentages of dressing and pre-slaughter weight than males. The same trend was found due to sex effect for the percentages of the abdominal fat. Ayeni *et al.* (1983) reported that the wild- captured guinea fowl males weighed more than females. Their finding was not in agreement with that reported by Gurvinder et al (1984) who reported that the high body weight of females was primarily due to their heavy reproductive organs, intestines and abdominal fat pads. Table 2 declared significant effects of generation on the carcass traits and relative organ weights (P<. 05). Live body weight, meat yield and dressing percentages of the birds in the second generation were slightly heavy. They were 832 vs. 1145 g, 53.1 vs. 58.3 % and 68.3 vs. 71.1 %, respectively.

Table 3: Sex and generation effects on carcass traits and organ weights in guinea fowl.

Traits	Sex		Generation	
	Males	Females	First	Second
Pre-sluaghter (g)	1027±17.6[a]	950±20.3[b]	832±17.5[b]	1145±11.4[a]
Dressing %	70.1±.43[a]	69.3±.23[b]	68.3±.21[b]	71.1±.12[a]
Meat yield %	56.2±.16[a]	55.2±.20[b]	53.1±.38[b]	58.3±.37[a]
Bonn %	13.6±.04[a]	13.8±.05[a-]	14.9±.19[a]	12.6±.10[b]
Heart %	0.56±.001[a]	0.52±.01[b]	0.54±.01[a]	0.53±.01[a]
Liver %	1.44±.02[a]	1.49±.02[a]	1.41±.01[b]	1.53±.03[a]
Gizzard %	2.33±.04[b]	2.44±.05[a]	2.69±.04[a]	2.10±.03[b]
Giblets %	4.34±.04[b]	4.45±.05[a]	4.64±.05[a]	4.15±.04[b]
Feather %	7.33±.03[b]	7.52±.09[a]	6.58±.07[b]	8.28±.06[a]
Head %	3.88±.04[a]	3.84±.06[a]	4.37±.05[a]	3.35±.03[b]
Blood %	3.72±.05[b]	3.84±.04[a]	3.90±.05[a]	3.67±.03[b]
Neck %	2.97±.17[a]	2.97±.05[a]	3.21±.04[a]	2.73±.04[b]
Leg %	3.11±.09[a]	3.00±.05[b]	3.38±.04[a]	2.78±.02[b]
*G-I-T %	4.30±.09[b]	4.71±.11[a]	5.37±.09[a]	3.59±.06[b]
Spleen %	0.074±.003[a]	0.073±.003[a]	0.063±.002[b]	0.085±.003[a]
Abdominal fat %	0.143±.01[b]	0.168±.01[a]	0.161±.01[a]	0.151±.01[a]

. abc Means in the same raw with different superscript are significantly (P<0.05).

* Gastrointestinal tract %.

Age effect

Carcass and organ weights of guinea fowl as affected by age are shown in table 4. The percentages of carcass fat increased with the age in all genotypes. The proportion of the liver weight in relation to body weight decreased with age (P<0.05). At 24 weeks of age the proportions of the meat yield and dressing were high (P<0.05) when compared to other ages. Mahapatra et al (1986) reported that live weight in guinea fowl that were slaughtered at 12, 14 and 16 week of age increased significantly with increasing age. Their values were 698, 846 and 1035 at the three ages, respectively. The same authors also reported that between 12 and 16 weeks of age only the breast yield increased from 27% to 29.9% of eviscerated carcass. Also, they added that between 6 and 14 weeks of age, the breast yield increased from 17.3% to 19.4% of body weight. Ricard et al., (1986) found that abdominal fat increased from 0.7% to 2.2 %. With increasing age.

Table 4: Age effect on carcass traits and organ weights in guinea fowl.

Traits	Age			
	12 weeks	16 weeks	20 weeks	24 weeks
Pre-slaughter (g)	813.8±21.1^{d}	924.8±23.8^{c}	996.6±21.2^{b}	1219.3±11.1^{a}
Dressing %	68.2±.31^{c}	69.7±.31^{b}	70.1±.29^{b}	70.95±.15^{a}
Meat yield %	53.63±.57^{c}	55.4±.50^{b}	55.1±.84^{b}	58.7±.19^{a}
Bonn %	14.2±.24^{a}	14.18±.21^{a}	14.2±.32^{a}	12.27±.16^{b}
Heart %	0.50±.001^{c}	0.54±.001^{b}	0.52±.001^{b}	0.58±.001^{a}
Liver %	1.64±.04^{a}	1.47±.03^{b}	1.37±.03^{c}	1.37±.03^{c}
Gizzard %	2.47±.05^{ab}	2.39±.07^{b}	2.51±.06^{a}	2.18±.03^{c}
Giblets %	4.61±.06^{a}	4.41±.07^{b}	4.41±.07^{b}	4.14±.04^{c}
Feather %	7.39±.12^{b}	6.93±.14^{c}	7.45±.11^{b}	7.93±.13^{a}
Head %	4.00±.09^{b}	4.13±.07^{a}	3.92±.07^{b}	3.39±.05^{c}
Blood %	4.22±.06^{a}	3.79±.05^{b}	3.59±.05^{c}	3.53±.03^{c}
Neck %	3.21±.07^{a}	3.02±.08^{b}	2.96±.06^{b}	2.69±.04^{c}
Leg %	3.41±.05^{a}	3.17±.06^{b}	3.11±.06^{b}	2.64±.03^{c}
*G-I-T %	4.67±.14^{a}	4.65±.15^{a}	4.46±.16	4.40±.14^{b}
Spleen %	0.084±.005^{a}	0.072±.003^{ab}	0.064±.002	0.075±.003^{ab}
Abdominal fat %	0.1334±.01^{b}	0.163±.01^{ab}	0.16±.01^{ab}	0.17±.01^{a}

.abc Means in the same raw with different superscript are significantly (P<0.05).
*** Gastrointestinal tract %.**

Regression and correlation coefficients of carcass traits:

The regression coefficients for hot carcass weight on organ weight and carcass traits are presented in Table 5. The linear regression coefficients were significantly positive for all organ traits. Negative linear regression coefficient was found for spleen weight.

All correlations between organ weights and body weight were significantly positive Table 6. The correlation was intermediate for the spleen (0.41-0.53) and was relatively low for the abdominal fat (0.19-0.35). This result was in agreement with reports by Nahashon *et al.* (2005). They indicated that the positive correlations (P<0.01) were noted between live

weight and weight of carcass, breast thigh, drumstick, and wing in French guinea broilers.

Table 5: Linear regression coefficients of carcass traits and organ weights on hot carcass weight in guinea fowl.

Traits	Estimate ± SE	Significant
Pre-slaughter (g)	549.5±16.0	***
Dressing (g)	488.9±10.9	***
Meat yield (g)	431.7±22.6	***
Bonn (g)	60.9±5.8	***
Heart (g)	1.46±.36	***
Liver (g)	4.7±1.18	***
Gizzard (g)	6.49±1.6	***
Giblets (g)	12.6±2.1	***
Feather (g)	32.3±2.8	***
Head (g)	10.4±1.2	***
Blood (g)	60.9±5.8	***
Neck (g)	10.3±1.9	***
Leg (g)	8.29±1.03	***
Gastrointestinal tracts (g)	3.26±4.3	N.S
Spleen (g)	0.279±.17	N .S
Abdominal fat (g)	1.04±.53	*

N.S non-significant, * P<0.05, ** P< 0.01, *** P<. 001

Table 6. Partial correlation coefficients between carcass traits in guinea fowl.

traits	GT	SP	AF	H	L	G	GI	BO	My	Li	D	N	BL	F	Le
GT															
SP	.18														
AF	.28	.19													
H	.29	.43	.19												
L	.31	.62	.28	.56											
G	.38	.27	.26	.54	.41										
GI	.42	.53	.31	.76	.83	.83									
BO	.28	.26	.19	.69	.52	.56	.69								
MY	.33	.41	.35	.79	.70	.56	.80	.71							
Li	.37	.44	.35	.83	.72	.63	.86	.78	.96						
D	.33	.42	.34	.83	.70	.61	.83	.77	.96	.99					
N	.14	.28	.17	.65	.41	.45	.57	.49	.65	.68	.67				
BL	.32	.41	.33	.69	.66	.55	.75	.67	.82	.86	.85	.62			
F	.26	.46	.30	.77	.71	.53	.78	.73	.89	.92	.91	.59	.81		
Le	.18	.39	.16	.80	.57	.54	.72	.73	.79	.80	.79	.67	.69	.73	
Hd	.38	.33	.26	.74	.46	.53	.66	.58	.70	.74	.73	.55	.61	.57	.73
AG	-	-	-	.61	.22	.57	.53	.55	.55	.59	.58	.41	.38	.50	.45
Ge	-	-	-	.47	.61	.23	.52	.49	.63	.64	.65	.39	.59	.76	.53

(.13-.17) = * P <.01, (.18-.99) = *** P <.001, Gastrointestinal; tracts (GT), Spleen (SP), Abdominal fat (AF), Neck (N), Blood (B),
Feather F), Leg (Le), Head (Hd), Heart (H), Liver (Li), Gizzard (G), Giblets (Gi), Bonn (Bo), Meat yield (My), Dressing (D) and Live body weight (Li).

Our data show significantly relationships between meat yield, dressing and leg (P<.001). It may be concluded that the leg was considerably more dependent on the meat yield (Table 6). The results demonstrate existence of positive correlation between the proportions of the organ weights to body weight and carcass traits. The decrease in proportion of the liver with increasing age was observed. It might be due to decreasing metabolic levels with the advance of age. It might cause reduction in growth speed of the birds. It can be concluded that all organ weights and carcass traits in the guinea fowl were influenced by the age of birds. Selection for the fast growth during the first 16 weeks of rearing improved guinea fowl production.

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تأثير التركيب الوراثي و الجنس و العمر على صفات الذبيحة فى دجاج غينيا تحت الظروف الصحراوية"

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٢- مركز بحوث الصحراء - وزارة الزراعة و استصلاح الأراضي

أجريت هذه الدراسة بمحطة بحوث جنوب سيناء التابعة لمركز بحوث الصحراء - وزارة الزراعة و استصلاح الأراضي و استخدم فى هذه الدراسة عدد ٣٢٠ طائر من دجاج الوادي (المعروف علميا بدجاج غينيا) و تم توزيعها الى أربع مجاميع وراثية و هى الأبيض و الرصاصى و البنى و الرمادى و ذلك بهدف دراسة تاثير النوع و الجنس و العمر على صفات الذبيحة و تمت الدراسة على أعمار ١٢و ١٦و٢٠و ٢٤ أسبوع خلال جيلين متتاليين . وقد أوضحت النتائج الاتى :

وجد أن نسبة التصافى كانت ٦٨,٢ ، ٦٩,٧ ، ٧٠,١ ، ٧١ % عند عمر ١٢و ١٦و ٢٠و ٢٤اسبوع على التوالى ، وقد سجلت الديوك نسب أعلى معنويا من الإناث فى كل من نسبة التصافىوالتشافى و القلب منسوبا الى وزن الجسم الحى ، على العكس من ذلك فان الإناث سجلت نسب أعلى من الديوك فى كل من دهن البطن و الريش و الأجزاء المأكولة. كذلك وجد ان وزن الجسم الحى و نسبة التشافى و التصافى فى طيور الجيل الثانى كانت أعلى من الجيل الاول و كانت النتائج كالتالي ٨٣٢,٢ مقابل ١١٤٥,١ جم بالنسبة لوزن الجسم و ٥٣,٧ مقابل ٥٨,٣% لنسبة التشافى و ٦٨,٣ مقابل ٧١,١ % لنسبة التصافى .

وجدت علاقة خطية موجبة و معنوية بين وزن الذبيحة الغير مجوفة و جميع الاعضاء الداخلية للجسم بينما لوحظ وجود علاقة خطية سالبة مع الطحال و كانت جميع التحليلات الخاصة بمعامل الارتباط لوزن الاعضاء الداخلية مع وزن الجسم الحى موجبة ومعنوية ، اما بالنسبة لصفات الذبيحة عند عمر ١٦ و ٢٠ اسبوع فكانت الاختلافات غير معنوية لكل من صفات نسبة التشافى و الاعضاء الداخلية الماكولة و العظام و القلب و الرقبة و الارجل ووزن الذبيحة غير المجوفة منسوبا الى وزن الجسم الحى كما لوحظ ان وزن الذبيحة بالنسبة لوزن الجسم الحى تزيد بزيادة العمر .

ونستخلص من هذه الدراسة انه يمكن تحسين نسبة التصافى والتشافى فى الدجاج الغينى عن طريق الانتخاب لسرعة النمو .