SHORT COMMUNICATION
CHANGES IN ANATOMICAL POINTS OF GUINEA HENS IN LAY

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While in commercial egg production, certain head and body points are routinely inspected so as to separate or cull poor layers. Such a study has not been reported in the guinea fowl. The present work was therefore undertaken to document changes observed in the head and body points of guinea hens during the first year of production (March-march).

One hundred and twenty, six months old Pearl guinea fowl pullets in individual cages were used for this work. A conventional layers mash (16.5% Crude Protein, and 2680 ME Kcal/kg) and water were supplied *ad libitum* through out the experimental period. Twice weekly (Tuesday and Friday), the colour of the beak, helmet, wattle, eye, neck, vent and shank were noted. The shape and texture of the vent as well as the distances between the edges of the pelvic bones and the point of the keel (breast bone) were measured. Signs of broodiness and moulting were also observed. The number of eggs laid per week as well as the mean weekly egg weight per bird were also recorded. Correlations between weekly egg production, egg weight, distances between pelvic bones and pelvic bone – keel bone were determined.

The average number of eggs per bird was 82.20 (range 45 – 135) with mean egg weight of 39.85 ± 4.51g (Table 1). The bird came into laying in April and continued laying till early November. Egg number was negatively correlated ($r = -0.68$) with egg weight but positively correlated with distance between pelvic bones ($r = 0.69$) and between pelvic and breast bones ($r = 0.57$).

Regardless of whether the birds were in or out of lay, the beak was light brown with black patches close to the base. probably as a result of constant use The beak of the good layers was shorter and stronger.

The helment during laying was observed to be black at the base, slightly reddish at the top and soft to touch. During the non laying period (November-March) the helment was dry, hard and dull brown with tiny black spots.

During laying, guinea hens had large, full and straight wattles with whitish patches on the reddish background. The wattles were pale, thin and slightly curved during the non laying period. The colour of the neck was creamy with bluish/blackish base in all the birds irrespective of the production period. The eyes were bright and alert in all the birds and there were no differences in the eye rings of laying and non-laying hens. The shanks of guinea hens in or out of lay were black as from the middle portion to the hock joint while the lower part and the toes were light brown with no evidence of depigmentation or

Table 1.

VARIATIONS IN EGG PRODUCTION, EGG WEIGHT (G) AND DISTANCES BETWEEN PELVIC BONES AND PELVIC BONE TO BREAST BONE IN PEARL GUINEAFOWLS DURING FIRST YEAR OF PRODUCTION.

Age of birds (wk)	Distance (cm) between *Pelvic bones*	*Pelvic-breast bones*	*Average egg number/hen*	*Average egg weight (g)*
24	2.75+0.58	4.57±0.98	–	
28	3.13±0.59	5.80±1.15	–	
32	3.67±0.65	6.30±1.23	8.12	30.67±4.87
36	3.98±0.72	6.98±1.14	13.69q	36.19±3.99
40	4.15±0.89	7.50±1.42	15.92	38.42±4.21
44	4.54±0.94	7.51±1.59	17.75	41.72±5.62
48	4.67±0.73	7.53±1.66	11.59	43.61±4.87
52	4.69±0.67	7.52±1.59	9.35	43.84±5.94
56	4.71±0.78	7,51±1.72	5.78	44.50±6.65
60	4.69±0.89	7.48±1.69	–	–
64	3.83±0.94	6.55±1.63	–	–
68	2.92±1.11	5.96±1.42	–	–
72	2.81±0.79	4.99±1.32	–	–

– not applicable

bleaching.

Like in the domestic fowl, the vent of the guinea hens in lay were softer, moist, large and had yellowish underlying fatty deposit. The vent of the hens during the non-laying period were dry, hard, sunken narrow, blackish around the vent opening and had very little fatty deposit. The distance between the pelvic bones increased from 24 to 56 weeks of eggs and then decreased during the non laying period (Table1). A similar trend was observed in the values of the distance between the pelvic and keel bones. Positive correlations were obtained between egg production and the distances between the pelvic bones and the pelvic bone to the keel.

In the fifth and sixth months of lay, about 20 per cent of the hens were found to be producing the broody sound It is possible therefore to easily cull such broody hens as they were more aggressive.

Towards the end of the production season (September – November), about 30 per cent of the hens were found to be moulting lightly. While the moulting birds laid no eggs about 10 per cent of the non-moulting hens did not lay too.

In the domestic fowl, bleaching of the beak, ear lobe, eye ring, vent and shank occur during heavy laying (Card and Nesheim, 1976, Oluyemi and Roberts. 1979) and the birds have adequate distances between the pelvic bones and between the pelvic and keel bones. Thus, poor layers can be easily culled. It is apparent from observations in this study that unlike in the domestic fowl, where several points are used for culling, only the texture, size and shape of the vent and the distances between the pelvic bones and the pelvic-keel bones were found to be usefull indices for culling in guinea fowl.

(Key Words: Anatomical, Guinea hens, in lay).

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