

## **GROWTH PERFORMANCE OF EMU CHICKS REARED UNDER INTENSIVE FARMING CONDITIONS**

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**Abstract:** A study was undertaken to evaluate the growth performance of emu chicks reared under intensive system of farming management. The data pertaining to the growth performance of emu chicks were collected from the perusal of the available records at emu research unit of Regional Research Centre, Pudukottai. Thirty numbers of chicks were selected for the study and the data regarding the body weight of chicks were collected for a period of 6 months. The average daily weight gain in chicks was then calculated. The experimental data were statistically analyzed and expressed as mean  $\pm$  S.E. body weight of emu chicks recorded in the present study showed the maximum growth between 90 to 120 days of age. The mean of average daily weight gain of emu chicks observed in the present study increased steadily up to 90 days of age and then decreased gradually when the chicks reached 150 days of age, after which it remained constant till 180 days of age.

**Keywords:** Emu chicks, body weight gain, growth performance, 6 months.

### **Introduction**

Emu breeding has recently gained popularity in India for its 98 percent fat free red meat and oil which has an anti aging and wound healing property. In India emu farming was first started in the state of Andhra Pradesh in 1996 with the import of live birds from USA. Several factors affect the normal growth rate of emu chicks which includes the quality of feed, social grouping, diseases, management practices and environmental temperature. Hence, an attempt was undertaken to study the growth performance of emu chicks reared under intensive farming method.

### **Materials and Methods**

The data pertaining to the growth performance of emu chicks were collected from the perusal of the available records at emu research unit of Regional Research Centre, Pudukottai. Thirty numbers of chicks were selected for the study and the data regarding the body weight of

chicks were collected for a period of 6 months. The average daily weight gain in chicks was then calculated.

### Average daily weight gain

The average daily weight gain in grams achieved during 0 to 6 months was calculated by subtracting the initial weight from the final weight of any particular period. The average daily weight gain was calculated using the formula,

$$R = \frac{w_2 - w_1}{t_2 - t_1}$$

R = Average daily weight gain (in grams)

$w_2 - w_1$  = Weight gain during a period

$t_2 - t_1$  = Period in days

### Statistical Analysis

The experimental data were statistically analyzed and expressed as mean  $\pm$  S.E.

### Results and Discussion

#### Body weight

The Mean  $\pm$  SE of body weight (g) of emu chicks are presented in Table 1. The mean  $\pm$  SE of body weight (g) of emu chicks at birth, 30<sup>th</sup>, 60<sup>th</sup>, 90<sup>th</sup>, 120<sup>th</sup>, 150<sup>th</sup> and 180<sup>th</sup> day were 420.11  $\pm$  11.01, 1470.23  $\pm$  55.50, 3025.93  $\pm$  226.10, 7700.63  $\pm$  316.13, 11667.78  $\pm$  271.41, 14388.89  $\pm$  501.10 and 17068.89  $\pm$  496.62, respectively.

The body weight of emu chicks recorded in the present study was in accordance with the findings of O'Malley (1996a), Menezes *et al.* (2001), Lurthureetha and Jagatheesan (2012) and Mallik *et al.* (2012) in the emu chicks. The maximum growth of emu chicks was between 90 to 120 days of age. Similar observation was noticed by Goonewardene *et al.* (2003) who reported that the velocity of growth was maximum at 105 days of age when the emu body weight was 9.8 kg and inflection in emus occurred when the birds reached 19.8 per cent of their mature body size. The body weight was influenced by protein content in the diet, endocrine regulation, higher hatch weight, climatic factors and proper management practices as reported by Boopathi (2009).

Lurthureetha and Jagatheesan (2012) reported that the mean hatch weight in emu was 70.98 per cent of egg weight and the mean body weight of emu chicks during the first week was 21.45 per cent less than the hatch weight. Ratite chicks lose up to 20 per cent of their mass within 5 to 7 days of hatching. The poor or negative weight gain in young chick during the first few days of life recorded may be due to loss of body fluids and the utilization of yolk

material up to one week post hatch (Guittin, 1987; Degen *et al.*, 1991 and Deeming *et al.*, 1993).

### **Average daily weight gain**

The Mean  $\pm$  SE of average daily body weight gain of emu chicks (g) are presented in Table 2. The mean  $\pm$  SE of average daily body weight gain of emu chicks (g) at first month, second month, third month, fourth month, fifth month and sixth month were  $35.00 \pm 2.66$ ,  $51.85 \pm 3.98$ ,  $155.82 \pm 10.45$ ,  $132.23 \pm 9.78$ ,  $90.70 \pm 7.67$  and  $89.93 \pm 6.36$ , respectively.

The mean of average daily weight gain of emu chicks observed in the present study increased steadily up to 90 days of age and then decreased gradually when the chicks reached 150 days of age, after which it remained constant till 180 days of age. Similar findings were reported by O'Malley (1996b) and Rajasekhar Reddy (2007) in the emu chicks. Goonewardene *et al.* (2003) reported that the average growth rate was 68.4 g/day and the birds would reach the mature body weight at 722 days. Mannion *et al.* (1995) reported growth rates of 111 g/day to 20 week and 88 g/day to 64 week of age for emus. The higher body weight gain in the emu chicks was influenced by the protein in the diet. Blake and Hess (2004) reported that the body weight gain was the lowest for the emu birds fed on 14 per cent protein diet (25.09 kg) when compared to 16 and 18 per cent protein diet (26.59 and 26.05 kg, respectively).

### **Conclusion**

As there are no scientific studies reported in an organized farm, the present study helps in documentation of growth performance of emu chicks reared under intensive farming conditions of India.

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**Table 1. Mean  $\pm$  SE value of monthly body weight of emu chicks**

<b>Age in days</b>	<b>Body weight (g)</b>
0	420.11 $\pm$ 11.01
30	1470.23 $\pm$ 55.50
60	3025.93 $\pm$ 226.10
90	7700.63 $\pm$ 316.13
120	11667.78 $\pm$ 271.41
150	14388.89 $\pm$ 501.10
180	17068.89 $\pm$ 496.62

**Table 2. Mean  $\pm$  SE value of average daily body weight gain of emu chicks**

<b>Age in days</b>	<b>Average daily weight gain (g)</b>
0-30	35.00 $\pm$ 2.66
31-60	51.85 $\pm$ 3.98
61-90	155.82 $\pm$ 10.45
91-120	132.23 $\pm$ 9.78
121-150	90.70 $\pm$ 7.67
151-180	89.93 $\pm$ 6.36