

## EMU FARMING IN INDIA

Emu the second largest flightless bird under the group ratites. Emu is scientifically classified as **Dromius Noveahollandiae** along with other members of the group ostrich, kiwi and rhea, other flightless birds. Emu is native to Australia. Aborigines in Australia utilized these birds for their basic needs like food, clothing and for treatment .

Presently, Emu Framing is spread all over the world with significant population in U.S.A, China, Australia including Asian countries. Emu is becoming popular for having 98% fat free red meat and other utilities obtained by products namely; Emu oil, skin, feathers and ornamental eggs and toes.

Emu farming in India is in developing stage. An NRI of West Godavari district in Andhra Pradesh started Emu farming for the first time during 1998. Later breeding flocks spread over entire country for commercial purpose . Presently, emu farming is being carried out in large scale in States of Andhra Pradesh, Tamil Nadu, Maharashtra, Karnataka and parts of Kerala.

Since 2000, Department of Poultry Science, Veterinary College, Venkateshwara University, Andhra Pradesh is doing pioneer work in the areas of research on Emu. Central Poultry Development organization & Training Institute, Govt. of India, established an organized Emu unit during 2007, with a foundation stock of 30 pair breeding stock for expansion and to act as National Centre for Emu. ( presently about 12 months of age).

### Physical features of Emu:

Emu chicks when hatch out have body stripes similar to squirrel later as they grow after three months they lose the stripes to turn into brownish black feathers. Adult emu will be a large bird up to 6 ft ht. with long neck and small naked head. Adult usually weighs 45 to 60 kgs. Legs are long and covered by scaly skin and it is tri ductile ( three toes in the leg ) , entire body covered by long feathers except part of the neck.

### Sex differentiation:

Phenotypically emus look similar in both sexes. However, sexing is done on day old based on feather sexing, vent sexing by identify male organ & sound differentiation on maturity . Identification of emus is done usually by painting different colours on the legs, leg strips and micro chipping. Male emu after maturity makes grunting sound and female makes drumming sound.

### Breeding of Emus:

Emus attain sexual maturity by 18 to 24 months. Breeding occurs during winter season of the geographical areas (October to February in India). They are monogamous indicating one male for one female. In nature, the female mates with the male during breeding season and gives a clutch of eggs. Later, male sits for brooding on these eggs for a period of 52 days without food and water. However, the female continues to breed with new partners during the whole breeding season. The chicks hatched out follow the male emu rather than the female.

In commercial farming emus are paired in separate enclosures after maturity depending on the compatibility of the pair. Emu generally gives eggs during evening between 5.30 to 7.00 p.m. Each adult emu after three years can give an average egg production of 30 eggs during breeding season between October to February.

### Hatching of Emu eggs:

Emu eggs are emerald green in colour weighing about 600 to 800 grams. The incubation period in emu is about 52 days. Eggs are collected on regular basis and are stored in a cooler temperature of 60°F maximum up to one week. Later they are set in incubator machines which are specially designed to hold emu eggs with a dry bulb temperature of about 96° to 97°F and wet bulb temperature of about 78° to 80°F (about 43% relative humidity) up to 48<sup>th</sup> day with regular turning mechanism every one hour.

From 49<sup>th</sup> day the eggs are shifted to hatcher, wherein till 52<sup>nd</sup> day they are kept. Emu chicks hatch out on 52<sup>nd</sup> day naturally, some times assisted hatch is also carried out manually by helping the chick to come out by opening the shell at the head and toe positions. The normal hatchability is about 80%.

### Chick Management:

Emu chicks weigh about 370 to 450 grams ( about 67% of the egg weight). For the first 48 to 72 hours, emu chicks are restricted to Hatcher itself for absorption of egg yolk and proper drying . The brooding shed would be prepared well in advance with thorough cleaning and disinfection and flooring should be covered with gunny bags to prevent slipping of legs of young chicks. Emu chicks have long legs and are very active, slippery flooring will make emu chicks to have hip dislocation resulting in irreparable damage.

Arrange a set of brooder for about 25 to 40 chicks giving four sq.ft. per chick for first three weeks. Provide brooding temperature of 90° F for the first ten days and 85°F till three to four weeks. Provide feed and water with a brooder guard of 2.5ft height. Feed starter mash for first 8 weeks. Provide sufficient run space for the chicks to have healthy life. Hence, floor space of 40ft x 30 ft is required for about 40 chicks with outdoor space.

### **Grower Management (9 to 42 weeks of age):**

As emu chicks grow they require bigger size of waterers and feeders and increased floor space for run. Feed the birds grower mash till 42 weeks of age. 10% Greens ( carrot, papaya, cucumber ) can be offered, deworm the birds once with broad spectrum anthelmatic /ivermectin and vaccinate with R<sub>2</sub>b at 8<sup>th</sup> week and repeat at 40<sup>th</sup> week against Ranikhet disease. Provide 40ft x100 ft space for 40 birds.

### **Breeder Management:**

Emu birds are seasonal layers and monogamous, they require different nutritional requirements which are varied during breeding season. A pre breeder ration with high protein and micro nutrients is given to prepare for breeding. During breeding the feed consumption will be reduced to fifty percent. After breeding a maintenance ration is given with low protein and low energy diet.

### **Housing and Feeding of Adult Emus:**

Emus are reared in open paddocks which will have chain link fencing of 2x2 or 3x3 enclosure with 2 ft. concrete wall construction on this chain link mesh of 6 ft. ht. is erected. Night shelter is optional with usual asbestos sheet roofing of 6 to 8 ft. Feeding is given in feed troughs which are usually hung on the fence and water is given in specially designed water tank or troughs with good drainage. Feeding is done twice daily and water to be provided adlib.

### **Products of Emus:**

**1. Emu meat :** It is 98% fat free red meat, which is similar in look to other red meats Viz., beef, mutton, deer meat etc., Emu meat is rich in iron, Vit C. The tenderness and texture of Emu meat enables to be fit for preparations which are lightly grilled and pan fried, since emu meat is low in fat, it loses moisture quickly and is best under moist heat cooking.

### **2. Emu Oil:**

Emu oil is semi solid white mass, which is generally located all along back of bird, but when it is processed and refined it is a clear liquid. Emu oil fatty acid composition is almost similar to human skin, which makes it to have high permeability when applied on to human skin. This character of emu oil is utilized for treatment of various conditions namely arthritis, skin treatment, burn injuries, hair loss etc., This property of high permeability is made use for delivering specific drug molecules for treatment of skin conditions.

### **3. Emu Skin:**

Emu skin is of high quality with usual yield of about 6 to 8 sq.ft. per bird. Which is used in preparation of leather products including apparels. The leg skin is very unique and with scales similar to crocodile skin and is being used in protective things for knives, swords and shoe top etc.

### **4. Emu feathers:**

Emu feathers have double rafts with sub branching , the down feathers are soft and are being used in preparation of brushes specifically used in cleaning hard ware and circuits of electronic goods including computers.

### **5. Emu egg and toe nail:**

The unfertilized eggs which are emerald green are cleaned and used in crafting antique mementos for sale with different carving on the shell. Emu nails are also been used as key chains, pendants in necklaces.

Emu farming in India presently concentrated in Southern States with usual importance given for breeding. Farmer buys 10 to 15 pairs from a big breeder and has an option of becoming a self sustained breeder to produce chicks for sale or an integrated farmer to sell hatching eggs back to the integrator. The products sale in India is yet to take shape due to lack of awareness and non-availability of sufficient emu population. The future of this industry will be diversified into emu farming for fattening and breeding. Emus raised for fattening will be fed with different rations so that they will gain body weight at the earliest and yield all the products suitably. The preferred age for fattening is less than 24 months and ideal is 12 months.

Present estimate of Emu population in India is above two lakhs. The biggest Farm is in Andhra Pradesh with 6000 Emus at one place. Vijayawada, West Godavari, Hyderabad, Chittoor and Nellore, in AP, Coimbatore, Namakkal, Erode and Hosur in TamilNadu, Gokak, in Karnataka, Pune and Nasik in Maharashtra are production belts for Emus.