

Emu

This bird means business

Flightless emu is leaving its footprint across the plains of India

About Emu

Far from its native habitat in Australia, the flightless emu is leaving its footprint across the plains of India, with an increasing number of farmers commercially rearing the ostrich-size bird.

From a single farm in 1996, there are today 900 emu farms in 14 states, with a majority of them in Andhra Pradesh, Maharashtra and other progressive states of India. The reason for the growth of emu farms today is the increasing demand for the bird's meat and oil, which is believed to have medicinal properties, especially for treating joint pains.



Move over chicken curry and mutton *bhuna*. The emu may soon hit our dining tables in a big way. This large bird of Australian origin, which offers the fat-free, healthful qualities of white meat and the flavoursome taste of red meat, is proliferating in emu breeding centres in Tamil Nadu, Andhra Pradesh, Goa, Maharashtra, even Orissa and Madhya Pradesh.

- The genus and species names of the emu are *Dromaius novaehollandiae*. Emu-birds are members of the ratite family along with ostrich, kiwi etc.
- Emus are raised throughout the world and have adapted to a variety of conditions ranging from the cold winters to the extreme heat
- Normally Emu's lives up to 40 years.
- The emu-bird lives in the grassy plains and dry open farms.
- Emu grow to be between 5 and 6 feet tall and weighing between 45 to 60 kgs. This makes the emu the size of most humans as adults.

The emu is a bird that survives all climates — whether it is farmed in Australia, the US, China or India. With feed costing Rs 12 a kg, the emu costs Rs 3,000 per year. But unlike China, where breeding is well-organised and the emu is ubiquitous - as meat on the table, as oil with curative properties, as shoes/handbags in hi-fashion stores-India's emu industry is still in its infancy. With NABARD giving loans, emu farmers should have it better.

A year old emu is around five and half to six feet in height, its weight is 30-40 kg. Fully grown emu weighs 50-60 kg. When it grows it changes its colour thrice. In the beginning as it comes out of the egg up to 3 months there are stripes on its body. After 4 months it looks chocolate brown, After 1 year it again starts changing its colour. The feathers on the neck fall off. Then its neck looks bluish green and feathers exhibit a variety of colours.

There is no distinction between a male and a female. Generally 18-month-old female is capable of reproduction, however in some emus this period can extend up to 2 years. As per available national data on an average during breeding period, female emu lays up to 32 eggs. The breeding period is 6 months, from October to March. Emu's eggs are dark green in colour. Compared to egg of a hen they are 10-12 times bigger. Female emu may lay eggs after every 3 days. But sometimes it lays eggs after 3 or 5 days.

Emu has a long life and lives at least for 40 years. If we look after them properly emus are capable of reproduction for at least 25 years. We can take it for granted that they produce 32 young ones per year. So in simple terms a farmer keeps these birds, looks after them well and produces marketable goods.

Emu Farming in India

Business such as poultry, dairy, sheep or goat rearing or animal husbandry often suffer due to various factors such as eruption and spread of infectious and contagious diseases, resulting in sudden fall in production, climatic changes, excessive heat and scarcity of water. Emu is naturally immune to all these



adversities; hence emu farming is preferred all over the world today.

Emu farming as a complementary to agriculture is going to be the most profitable business in the near future. Emu is a sober bird, living on grains, cereals, pulses and grass, its immune system is so strong that it hardly suffers from any disease. It survives in any type of climate. Each and every part of emu's body is commercially valuable. Hence in India too, emu- farming is taking its roots. The Government as per 1972 forest animal husbandry act for protection and rearing of forest animals, has permitted emu farming which offers great opportunity for foreign investments and export.

Emu farming is a big venture with a huge growth potential. Emus are hardy birds and are even immune to bird flu, but have to be protected from other specific diseases including encephalitis. With a little faith, emu farmers can sit back and count their money, if they get together to promote emu meat in households as well as hotel menus. With growing awareness of eating healthy, emu meat is sure to be in demand. Also, with the increasing acceptability of alternate medicine, emu oil (removed from the fat deposited below the surface of the skin) containing the pain-relieving oleic acid, and believed to be good for arthritis, has huge commercial potential. Leather products from emu skin, made on a pilot basis by the Central Leather Research Institute, were showcased at Delhi's Pragati Maidan some years ago to great acclaim.

Emu farming can be in the business of raising, emu birds for two main purposes.

- i. The first purpose is Breeding Birds - to increase the emu population, because of the high profits that can be made by selling adult emus as breeding birds.

- **Emu eats Fruits, flowers, insects, seeds and green vegetation; love caterpillars. Emus requires 6-10 litres good water daily.**
- **Emus require 3 times food per day.**
- **Female Emu or hen begins laying eggs, male Emu are attending incubation.**
- **The emu egg varies in size and color. It is usually dark green, averaging 5 inches long and weighing approximately 600 grams**
- **The male waits until the female lays at least 9 eggs and then he starts incubating them by sitting on the nest.**
- **He incubates them for 52-56 days and doesn't eat or drink during this time.**
- **Emu can be productive for as long as 20 years, laying between 20 to 50 eggs in a season.**

- ii. The second purpose is slaughter birds - to get the bi-products like emu meat, emu oil, emu bone, emu feathers, emu skin, emu nail. The emu ranch's secondary market will be the slaughter market, whose main products consist of prime cuts of emu meat, ready for sale to restaurants, residential orders, worldwide markets and in the future, shipment to supermarkets. High quality leather from the emu's skin, and five to six liters of emu oil, which is currently being used in the cosmetic industry, will also, is distributed. Additionally, the medical industry uses the oil for therapeutic rubbing oil, skin and facial moisturizing lotions and medical applications used for treating the skin of burn victims.

Considering the ever growing population in India we must think about the future requirement of proteins. Verily emu will be our food for future! The obvious reason for this is emu flesh is pulpy and has 98% fatty portion

with least cholesterol and high percentage of iron in it. The oil extracted from emu-fat has medicinal value. Emu skin is very soft it can take up any colour and hence can be decorated with a variety of colours. Emu skin can fetch handsome money in international market. So the importance of this business lies in the availability of rich proteins for our people and the export potential for the oil and the skin obtained from the bird.

There are many reasons as to why we should expand emu farming. In the first place this is a very



fast growing business in north America and now in India with a very high percentage of profit on investment. Emu is capable of surviving any type of climate and adversities. This is a non aggressive bird so it is easy to look after it. The birds do not need special structures for their stay neither do they need large chunk of land. A small piece of land is fine. In one acre of land 100 to 150 birds can be easily accommodated. Emu farming is eco friendly, highly effective, excellent business. This can be complementary to conventional agriculture.

As far as Indian environment is concerned, there is highly congenial atmosphere in the country for this business. The main work of a labourer in emu farm is to give the birds food and water and to collect their excreta. Hence the labour charges should be very less. A man can easily look after an emu farm with 100 birds in it. The sons of this soil can seriously take up emu farming. In the beginning the eggs are used for hatching and reproduction of fleshy young-ones. A sustainable market has been established for Emu flesh, skin, fat, oil, and eggs.

(1) How to make Emu farm

Emu birds live on barren or bushy land and always flock together. So far emu farm are a non-agricultural or barren land from which water may run off easily is fine. A single bird needs minimum of 400 to 500 sq. ft. area. These birds like open land. An emu farm must have minimum 20 birds (male female pairs). A grilled fence 50 feet wide & 100 ft long gives excellent protection. A structure of 20 x 40 feet may be erected to give the birds shelter from sun, wind and rain.

Emu lives in a natural environment hence it eats grains, cereals, pulses seeds of fruits, leafy vegetables and grass. However, to increase the egg-production foodstuff like crable-pallet, grower pallet, holding-pallet and layer-pallet is recommended.

Biosecurity measures to be taken in Emu Farming / breeding.

- a) The farm should be ideally placed and away from the population.
- b) The housing should be proper with adequate breeding facilities.
- c) Proper disinfection procedures/foot dips etc., should be maintained.
- d) The quarantine sheds should be separate and away from other sheds.
- e). Routine disease monitoring procedures like postmortem examination of dead birds and periodic sera antibody assay is recommended.
- f) Water source should be tested for mineral, bacterial, chemical, contamination and pathogen load.
- g) The other birds (parent, commercial or pure line etc.) and pets should not be reared/allowed to enter the same farm.
- h) The brooding space should be optimum.
- i) There should be provision of showers, change over and dips.
- j) Proper storage of feed to prevent contamination should be made. The water quality should be checked periodically and if contamination is seen it should be treated with any sanitizer.
- k) There should be scientific facility for disposing off/destroying the bedding / dead birds etc.
- l) The equipment should be proper, properly disinfected and separated.
- m) The farm should have a water sanitation system.



Emu based commercial products

Meat, skin and oil are the major products from emus; carved emu eggs and small quantities of emu feathers are also sold. Emu meat is a low-fat, low-cholesterol (less than 0.05%) Emu fat is rendered to produce an oil which is used in cosmetics and therapeutic products. Emu oil for acne, hair, arthritis, hair loss, skin, eczema, psoriasis. Current research is going on to develop various products in the emu industry.

(A) Emu eggs

This is the most important among various products in an emu farm.

In the initial period the eggs should be used for the purpose of reproduction. In the later period the eggs will be used for growing



fleshy young ones. In emu farming the egg production and hatching remains a very important everlasting process. In future emu-eggs production will definitely fetch large amount of profits. These birds live for forty years and remain sexually active for at least twenty five years. Hence with a single investment one can obtain long term production and profit. A single bird gives minimum twenty and maximum forty eggs every year. These eggs have dark-green colour. Each egg weighs 400 to 600 gms.

(B) Emu Chick

- Emu chick weighs approximately 70% of emu egg weight
- Emu chick breeds naturally or by using incubator
- Artificial incubation is often conducted at a temperature of approximately 97.5 degrees fahrenheit
- A relative humidity that varies according to the climate.
- Average incubation time ranges from 48 to 52 days.
- Born chick colours are coffee brown with white line marks.
- Colour will change after 3 months
- Nutrition food and purified water is must up to 3 months

(C) Emu Oil

A number of studies have been conducted and are currently being conducted throughout the world on facts of the Emu oil, including its composition, benefits, applications in different industries and the resulting properties of compounds formulated with the oil.

Traditionally Emu oil has been used for treatment of muscle and joint pains. Clinical experience with Emu oil has shown that its two major benefits are its anti-inflammatory properties and its ability to penetrate the skin. It also appears to provide some solar protection. The penetrating effect appears to be related to its non-phosphorous composition.

"Our skin is phospho-lipid deficient. In other words, there is no phosphorous in our skin. If you put anything on your skin that has phosphorous in it, your skin is 'programmed' to keep it from penetrating. Anytime you put anything on your skin that is phospholipids' deficient, or has no phosphorous, it penetrates right through ". Researchers who have analyzed the oil found that there is a compound in oil that they believe is the key to its effectiveness. This compound molecule is believed to be collagen. Collagen is found in chickens and turkeys in a much diluted form. However, the test result on the Emu shows this molecule to be present in an extremely concentrated form.

Research and development of Emu oil using in cosmetics and pharmaceuticals is rapidly expanding. Emu oil has been documented to exhibit the following properties and/or has been used for the following purposes.

- Anti-inflammatory activity
- Moisturising
- Cholesterol reducer
- Bacteriostatic
- Penetration enhancer
- Significant epidermal proliferative activity
- No –comedogenic
- Significant wound healing agent
- Significantly reduces recent keloid scarring
- Appears to promote faster healing of burns with less pain and scarring
- Anti-arthritis activity
- Excellent emulsifier



This is an important product in emu-farming. From the fat oil can be extracted. This oil gets absorbed in human skin within 4-5 seconds and reaches the bones. Hence this oil is mainly used in skin ointments and also for various cosmetic products. Recent research shows that this oil serves as excellent medicine for arthritis. It is also used as a pain killer.

The fatty acids present in this oil decrease the blood-cholesterol level as per the modern research. Because of the medicinal value of this oil, western countries are capturing international markets by producing new cosmetics creams and lotions from this oil. India too has a great opportunity to enter in to international market.

(D) Emu Meat

Low on cholesterol, high on protein," in what sounds like a well-rehearsed line designed to sell the benefits of consuming emu meat. There are estimated 1,000 EMU farms-there are about 300 in Maharashtra-up and running in the country today. While 1,000 may seem like a big number, it's a drop in the ocean in comparison with the poultry farms that dot the country. Likewise in production, there are estimates of about 33,000 tonnes of emu meat being produced in India now, which is a fraction of the 1.9 million tonnes of chicken meat produced in the country every year.

The bird's meat is considered a healthy substitute for other red-meat variants such as lamb or beef. It is supposed to be extremely nutritious, with fat and cholesterol



content being much lower than in any other red meat.

Each and every part of emu's body is commercially valuable. The most important is of course, its meat which is 97 to 98% fats free. Emu meat is rich in proteins; it contains plenty of iron, vitamin B-12, hence as the modern research shows 'emu meat is an excellent diet for people suffering from heart-ailments. Emu meat has less fat content, it is easily digestable, very tasty and hence it serves as a very good alternative for mutton and chicken. Therefore, there is a great demand for it in international market. Each bird can yield about 25 kg of meat.

(E) Emu Skin

Emu-skin is very soft and smooth, hence it has a great demand in international leather industry for producing new fashionable goods. A variety of goods can be produced from emu-skin. A fully grown up bird can yield 6 to 8 sq. ft. leather.

(F) Emu Feathers

The feathers of the Emu bird are double quilled, attractive and velvety to the touch. They are soft, light and non-allergic, which makes them the ideal material for a host of applications. They are in demand both in the fashion and in art and craft industries. They are used as feather duster, feather pad, fans, bows, masks, finishing metals prior to painting, weather-proof apparels, pillows, blazers, sweaters, jewellery, and craft items.

Opportunity of EMU Farming in India

In India, chicken is the most popular of the poultry species, followed by ducks and quails. Of late, we need to diversify to other species of poultry in order to reap more profits. Considering this let us discuss about Emu. Emu is a social bird with dark whitish complexion. The birds live in groups and can thrive under varying climatic conditions ranging 0° C to 52° C. These birds are omnivorous and eat leaves, vegetables, fruits, insects, worms. They can be fed modified poultry feed.

It is clarified by the Chief Conservator of forest, GOM, Pune that Emu is an exotic bird and it has not been included in any of the schedules of Wildlife (Protection) Act, 1972. The provisions of Wild Life Protection Act, 1972 and rules made there under are not applicable for these birds. As such no permission from forest Department is necessary for rearing, farming and selling of these birds.

At present there are four Emu Association in India. They are - at Hyderabad as "Indian Emu Association", Mumbai - "National Emu Association". These two associations are working at all India level. And in Maharashtra level at Baramati in the name of "Maha Emu Association" and another at Pune in the name "Emu Farmer Association". The experience of the Association in these states has been encouraging.

Business Plan for Emu Farming

(a) One can Start Emu farm with maximum 1 acre of agricultural land.

- (b) Purchase Minimum 30 to 50 number of genetic 3-month-old Emu chicks from good Emu farm organizers.
- (c) Emu Birds are grown by group concept only (16 birds group need 56 x 56 feet space with 6 feet height fence).
- (d) Farm maintenance should be very important with good organic feed, purified drinking water.
- (e) Emu bird 1st yields only in winter season and after completion of 21 months (in India November to December months)
- (f) Further yield period is every year in winter season from October to March.
- (g) Average of 10 to 15 eggs can be obtained from the 1st yield and subsequently average of 20 to 25 eggs can be obtained from next yields every year.
- (h) Chick sale is a best profitable compared to egg sale.

Financial assistance

Loan from banks with refinance facility from NABARD is available for establishing Emu farm. For obtaining bank loan, the farmer should apply to the nearest branch of a Commercial or Co-operative or Regional Rural Banks in their area in the prescribed forms which is available in the branches of financing banks. For Emu farming schemes with very large outlays, detailed reports will have to be prepared. The technical officers attached to or the Branch Manager of the bank can help/give guidance to the farmers in preparing the project report to obtain bank loan. A scheme can also be prepared by the beneficiary after consulting local technical experts or private commercial Emu hatcheries. Consultancy Services of NABARD would also be available for large commercial projects.

Beneficiary

A good practical training for a week and experience on an Emu farm will be highly desirable before starting a farm. If possible, they should visit the progressive Emu farms/ Hatcheries in the area and discuss the technical ability and profitability of farming.

Availability of Emu pairs

In India there are private Emu hatcheries supplying the Emu pairs of different age groups i.e. 3 months, 6 months, 12 months and 15 months old.

Availability of Emu feed

Poultry feed (layer) can also be fed to Emu. In addition to poultry feed mineral mixture and shell/ stone grit can be given. Sprouted *desi Chana* and *Methi* can also be fed during layer season. During summer season chopped vegetables like cabbage, carrot, beetroot, etc. can also be fed.

Training & experience

Training on Emu farming is given on above farms for 3-5 days. During training these farms supply all technical information in the form of books/CDs/booklet etc.

Equipments for Emu farm

Water, feeders and egg trays are required. Low cost equipment locally available can also be used.

Sale of eggs

At present the hatcheries mentioned are purchasing eggs @ Rs.1000/-to 1200/- each or on the basis of chick borne @ Rs.1200/- per chick.

Sale of manure

Manure can be applied on own farm or can be locally sold to other farms. Like poultry manure, Emu manure is also good for fruits and vegetable gardens. Empty feed bags are sold in local market @ Rs. 4-5/- each.

Sale of Oil

About 4-6 a litter of oil is available from a bird which is devoid of any colour taste and odor. At present market prices, the price of one litter refined Emu oil is Rs. 3000/- to Rs. 4000/- The oil is penetrating and is having moisturizing. Analgesic, ant allergic and antiseptic properties. The oil is used in analgesic ointments, beauty creams and lotions, soaps, hair oils, shampoos, perfumes and massage oils. The raw fat/crude oil of Emu fetches Rs.1000 per Kg.



Project cost

Based on model Emu farm with 50 pairs of Emu the total project cost including fixed cost and recurring cost up to the income generating stage (21 months) has been worked out to Rs. 25 lakh (apx.).

Margin money & bank loan

Minimum 15 % of down payment has been considered to be collected from the beneficiaries and maximum 85 % of total

- **Emu provide red meat that is lower in cholesterol but higher in protein.**
- **About 18-22 kgs of meat can be obtained from a mature bird.**
- **Emu provides unique penetrating oil.**
- **Unhatched Emu eggs are used for craft works.**
- **Emu Bone, Feather, Skin, Nail are used for many purposes.**

financial outlay is considered as bank loan.

Security

a) Will be as per RBI guidelines issued from time to time.

b) **Insurance:** Bank may ensure that the borrower takes insurance of assets created out of a bank loan including insurance of Emu birds.

Repayment of loan

The repayment period depend upon the gross surplus generated in the project. The loan will be repaid within 7 years including first year as grace/moratorium/gestation period in suitable monthly installments (6/year) during October to March only.

Scope & potential

Emu farming offers great scope and potential because of its supplementary income additional employment and simplicity in operation. Efficient emu development can be achieved by promotion of small units in villages through a gamut of functions like dissemination of information and technology, making various inputs and organizing training sessions for farmers on this subject.

Emu farming, a lucrative option

Emu farming, which is growing worldwide, is gaining in popularity in India, and many are taking to it as an alternative to cash crops.

Emu, native to Australia, is stated to be the second-largest living member of the ratite family of flightless birds. The demand for emu is said to be growing as the bird has "100 per cent utility" in terms of market value.

"The money lies in the emu's oil, which has great worldwide demand. An adult emu can yield up to 15 kg oil. Emu oil has great worldwide demand for its therapeutic and cosmetic use. One kg of refined emu oil costs between Rs 5,000 and 6,000, which means an income between Rs75,000 and 90,000 per bird.

The emu's meat accounts for 45 per cent of the bird's weight, which means 25 kg per average sized bird. At Rs 300 per kg, this amounts to Rs 7,500. Emu's egg, which weighs between 500 and 750 g, comes for around Rs 2,000. Emu's feathers, nails, bones and skin of legs also go into commercial use. In short, 96 per cent of the bird is used after slaughter

Currently, emu farms in India have around 25,000 of the birds, including 10,000 grower and 15,000 breeder birds. The total number of emus is expected to grow up to 40,000 this year.

For training and further information contact:

1. Simran Emu Farm & Hatchery,

At Post Niwali, Tal. Chiplun,

Dist. Ratnagiri, Maharashtra.
Tel. : 02355-265675
Office Address:
403/C7, Saket Complex, Kisan Koli Marg,
Thane West - 4000601
Tel: 2533 7071

2. Sami's Rearing and Farming

Cabin no. 20/A, 3rd Floor, Vasta House
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