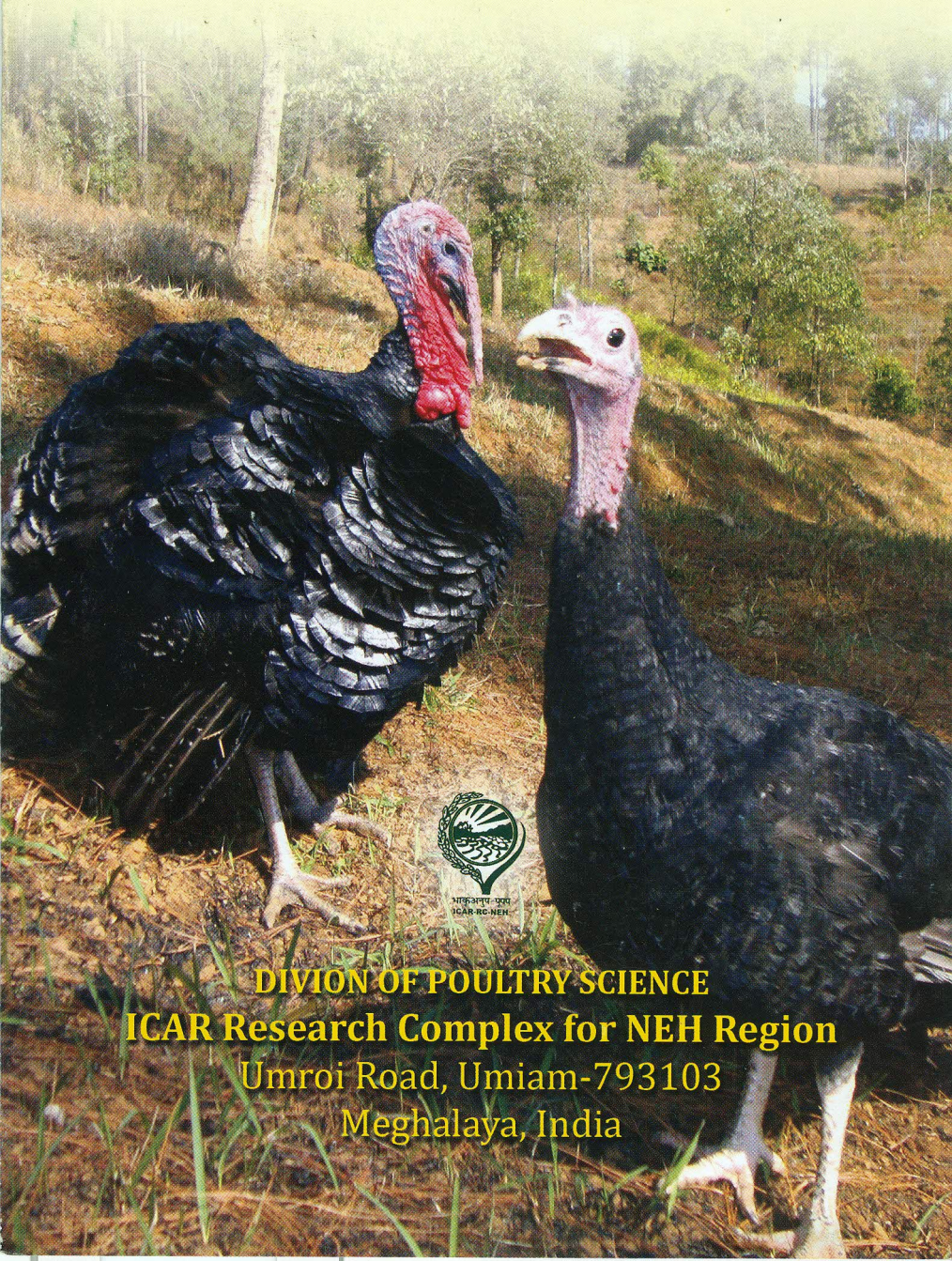
TURKEY FARMING

An Alternate Poultry Species for Rural Poultry Production



DIVION OF POULTRY SCIENCE

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Turkey (***Meleagris Gallopavo***) is a large gallinaceous bird of the family ***Meleagridae*** that is native of North America, domesticated in Europe and are now important source of food in many parts of the world. Indigenous and non-descriptive turkeys are found in good numbers in Kerala, Tamil Nadu, eastern districts of Uttar Pradesh and some other parts of India. However, serious efforts are being made at Central Poultry Development Organization (Southern Region), Hessarghatta, Bangalore to promote turkey farming. Turkey farming is getting popular fast in southern regions of India.

Turkeys are not classified into breeds, however seven standard varieties viz. Bronze, White Holland, Bourbon red, Narragansett, Black, Slate, Beltsville small white are available. Out of these seven varieties, Board breasted bronze, Broad breasted white and Beltsville small white are available in India. In Broad breasted bronze, the basic plumage color is black. The Broad breasted white bird is a cross between Board breasted bronze and White Holland with white feathers. Beltsville small white variety was developed at Agricultural University Research Station, Beltsville, USA. It closely resembles the Board breasted white in color and shape but smaller in size.

Turkeys are mainly reared for meat and its meat is the leanest among other poultry species with lower fat and cholesterol content compared to red meat and is therefore a good choice for consumers. Moreover, turkey meat is rich in unsaturated fatty acids, essential fatty acids, essential amino acids especially tryptophan & vitamins like niacin, vitamin B_6 & B_{12}. There is very good demand for turkey meat in northeastern hill region, especially during Christmas and New Year seasons. Moreover, turkey can be reared under free range with low input system suited to the rural farmers. Therefore, turkey farming has ample scope in the northeastern region.

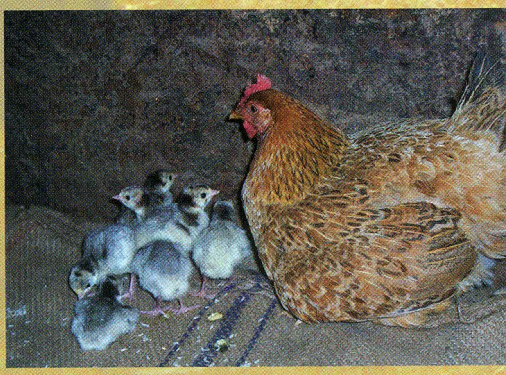
A. Management Practices

1. Incubation

The incubation period is 28 days in turkey. There are two methods of incubation.

(a) Natural incubation with broody hens

Although naturally turkeys are good brooders, but modern commercially available turkey varieties lack broodiness character and hence do not sit for hatching of poults (young one). Therefore, there has to be some mechanism to hatch turkey eggs for further multiplication in small



Newly hatched poults by local broody hen

numbers at farmer's field. Indigenous chickens (hens) available with farmers are excellent sitter and they can be utilized to hatch out poults through natural hatching. Our experiments on utilizing local indigenous broody hens showed that a local indigenous broody hen could successfully hatched out 8-12 numbers of fertile turkey eggs in 28 days depending on their body size. Only clean eggs with good eggshell and shape should be placed for hatching to get 80-90% hatchability and healthy poults. However, special care must be taken to prevent the mortality of young poults during first four weeks of age due to starve outs and infections. So, immediately after hatching, poults must be removed from the hen and placed in clean brooding area.

(b) Artificial Incubation

In artificial incubation, eggs are hatched with the help of incubators. The temperature and relative humidity in setter and hatcher are 99.5^{0}F and 60-65 % in setter and 99.5^{0}F and 80-85% in hatcher respectively.

2. Brooding

In turkey 0-8 week's period is called as brooding period. A turkey poult needs double brooder space as compared to chicken. Brooding day old poults can be done using traditional brooding systems. The floor space requirement for 0-8 weeks is 1.5 sq.ft. per bird. The brooder house should be made ready at least two days before the arrival of poults. The litter materials like saw dust, paddy hausk etc. should be spread in a circular manner with a diameter of 2 mtrs. Poult guard of at least 1 feet height must be provided to prevent the poults from wandering away from source of heat. Starting temperature is 100^{0}F followed by weekly reduction of 5^{0}F per week up to 4 weeks of age to reach 80^{0}F and thereafter at 75^{0}F should be adjusted.

3. Feeding

Young poults by nature are reluctant to eat and drink in the first few days of life, primarily because of bad eyesight and nervousness resulting starve out problem which is one of the major factors for early mortality in poults. Therefore, special care should be taken for force feeding and watering during first few days. Poults can be attracted to the feed by gentle tapping of the container with the fingers. Colored marbles or pebbles placed in feeders and waterers will also attract poults towards them and also colored egg fillers can be used for the first few days as feeders.

The energy, protein, vitamin and mineral requirements for turkeys are high when compared to chicken and accordingly feed formulation should be made and fed accordingly in intensive rearing system.? But to economize the cost of feeding in free range system of rearing, they can be fed broiler starter or chick mash supplemented with kitchen waste up to one month of age. Later they can be let out for grazing in the backyard, kitchen waste, insects, seeds, greens, grains, etc. During scarcity or dry season some grains may be fed. If possible waste vegetables may be collected from the

local vegetable markets and fed to reduce the feed cost. Farm waste and agro-industrial by products may also be fed, as in the case of indigenous chicken.

Turkeys are very good scavengers and they consume earthworms, small insects, snails, kitchen waste and termites, which are rich in protein and that will reduce the feed cost by fifty percent. Turkeys are also fond of green leaves which can be chopped and added to the feed to improve the feed intake. Leguminous fodder like Lucerne, Stylo etc., can be fed. To avoid leg weakness and lameness in free ranging birds, calcium should be supplemented at the rate of 250gm per week per bird in the form of shell grit. Ten percent of feed can be substituted with vegetable waste to reduce the cost of feed.

4. Rearing

Turkeys can be reared under free range or intensive system.

a. Free range system of rearing

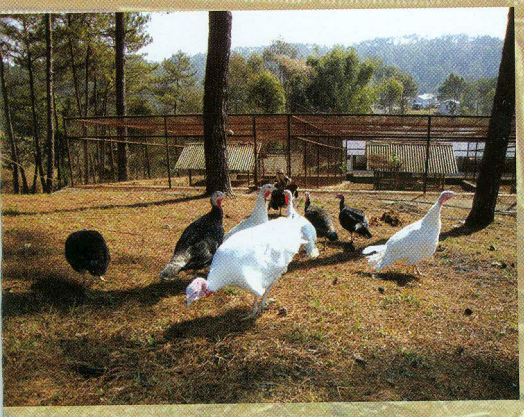


Fig. Turkeys under free range

In the free range system, 200-250 adult turkeys can be reared in one acre of fenced land. Shelter should be provided during night at the rate of 3-4 sq.ft. per bird. They should be protected from predators during scavenging.

b. Intensive system of rearing

When turkeys are reared under deep litter system, the general managemental conditions are similar to that of chicken but care should be taken to provide adequate floor, waterer and feeder space to accommodate the large bird. Turkeys do not require separate elaborate housing system and can be constructed with locally available materials like bamboo, wood and thatch or even plastic roofing to minimize the cost of construction. The distance between two houses should be at least 20 meters and the brooder house should be at least 50 to 100 meters away from the adult house. The width of the open house should not exceed 9 meters. The height of the house may vary from 2.6 to 3.3 meters from the floor to roof. An overhang of one meter should be provided to avoid the rainwater splash. The floor of the houses should be cheap,

Fig. Turkeys under deep litter system

durable and safe preferably concrete with moisture proof. The temperament of turkeys is usually nervous; hence they get panicky at all stages. Therefore, entry of visitors in to the turkey house should be restricted.

Table 1. Floor, feeder and waterer space requirement of turkeys

Age	Floor Space (Sq .ft)	Feeder Space (cms) (Linear feeder)	Waterer Space (cms) (Linear waterer)
0-4 wks.	1.25	2.5	1.5
5-16 wks.	2.5	5.0	2.5
16-29 wks.	4.0	6.5	2.5
Turkey breeder	5.0	7.5	2.5

5. Breeding

a. Sexing: Sexing can be done by physical appearance as –

Male turkey (Tom):

1. Toms are heavier. Matured toms have black bread attached to the skin of the upper breast region.
2. Dew bill or snood, a fleshy protuberance near the base of the beck, which is relatively large, plumb and elastic.
3. Pink or red fleshy protuberances on the head called as caruncles will appear in toms usually by about fifth week and is referred to as shooting the red.
4. Male poults strut even at day old and continue throughout the life.

Hen turkey:

1. The dew bill or snood is relatively small, thin and non-elastic.
2. The bread and caruncles are absent.

b. Mating

The mating behavior of tom is known as Strut, wherein it spreads the wings and makes a peculiar sound frequently. In natural mating the male to female ratio is 1:5 for medium type turkeys. On average 60-70 poults can be expected form each breeder hen annually.

6. Health Management

The following vaccination schedule should be followed. Turkeys in the free range system are highly susceptible for internal and external parasites. Hence regular de-worming schedule should be followed to improve the growth of the birds.

Table 2. Vaccination schedule for turkey

Diseases	Name of the vaccine	Age	Dose	Route
Ranikhet disease	F-1/Lasota/	4-7 days	1 drop	Eye and nostril
Ranikhet disease	F-1/Lasota/	35 days	1 drop	Eye and nostril
Fowl pox	Chicken embryo adapted	6-7 weeks	0.5 ml	Wing stab method
Ranikhet disease	R2B strain killed vaccine	8-10 weeks	0.5 ml	S/C or I/M

7. Marketing

Turkey should be ready for market on or before 24 weeks attaining average body weights of 4-5 kg in males and 3.-4 kg in females. The average dressing percentage of turkey is 78-80, which is highest of all farm species.

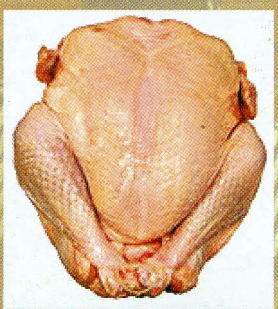


Fig. Dressed Turkey meat

There is ample scope for turkey rearing in northeastern hill region of India, as there is a good demand for turkey meat in the region. Moreover, turkey can be reared in free range or semi intensive systems especially in rural areas for economic enhancement of marginal and small farmers. Free-range turkey rearing method requires low investment in facilities and equipments and it is a viable and sustainable bird both for backyard and commercial venture in economic point of view.

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