



Backyard Poultry Farming: A Traditional Practice in Rural India

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Abstract

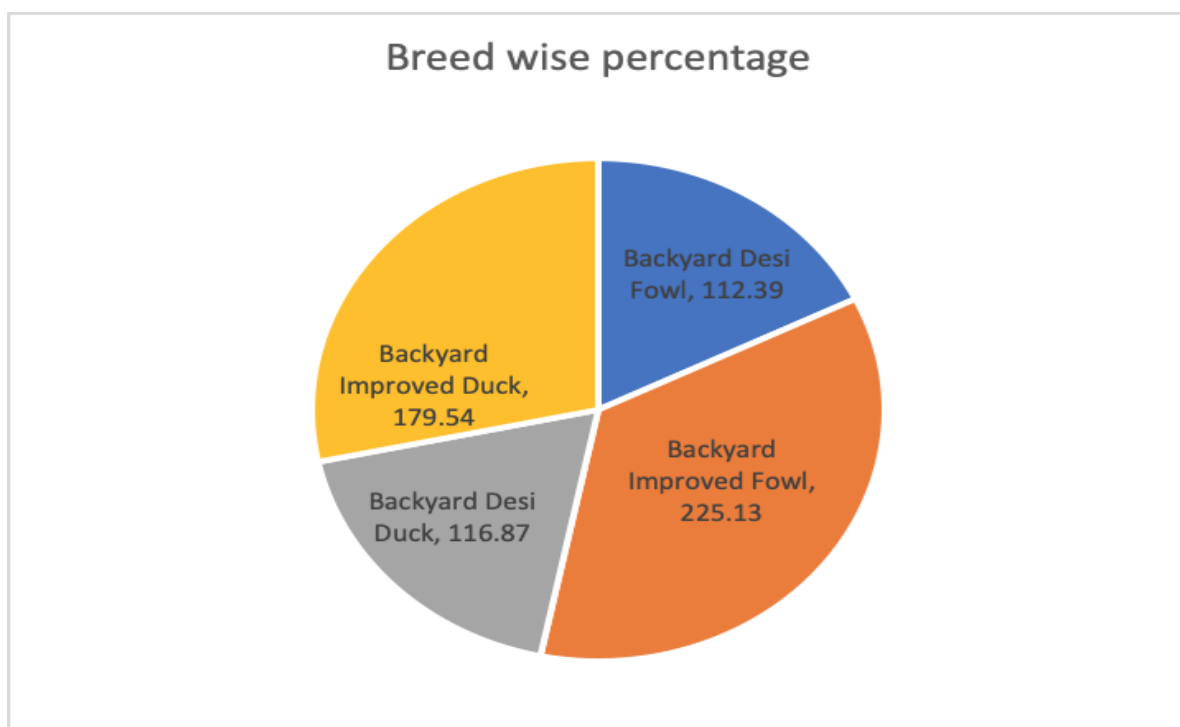
Poultry can supplement traditional farming, provide additional income to farmers if managed effectively. It does not require additional skilled laborers, household family members can manage it following brooding, feeding, housing, breeding and healthcare. There are benefits as well as constraints farmers face while cultivating backyard poultry, such as health issues, theft, predators, high feed cost, weather condition, flock size. Management strategies could assist farmers to prepare for drawbacks and achieve profitable eggs and meat sell. Brooding management consists of providing birds at different temperature at different stages of their lifecycle. Feeding management helps farmers to supply adequate nutrition value and keep constant supply of feed, their storage. Housing management helps to maintain ventilation, sunlight and humidity level at poultry accommodation. Healthcare using vaccination, medicines and breeding practices such as pen, flock and stud mating practices increases production.

Introduction

Backyard Poultry farming is a common and age-old practice in rural India which is most popularly raised for egg and meat production. It is most often adopted by poor and marginal farmers which act as a source of subsidiary income with low input for marginalized farmers. Backyard poultry production is a business with a minimal start-up cost but high potential for profit and it is readily managed by women, children, and older adults in the household. Backyard poultry farming plays an important role in upliftment of socio-economic status of the marginal farmer by providing food and income with great value. Poultry production stands 5th position of India in the world. According to



20th livestock census the total poultry population is 851.81 million which includes backyard poultry population is 317.07 million and as per economic survey of India, 2022 backyard desi and improved fowl produces 112.39 and 225.13 eggs per year. Small holdings were shown to produce eggs more effectively in backyard farming than those with large number of birds. Backyard poultry farming is characterized by the groups of 5-10 birds reared under extensive system which is mostly non-descript desi birds. Moreover, breeds like Red Island Rhode, New Hampshire, Plymouth Rock, White Leghorn, Aseel, Naked Neck are also reared under backyard system. Therefore, backyard poultry production is an important aspect of farming on small scale in rural areas.



Importance of Backyard Poultry Farming

In order to rear the birds in backyard system the farmers do not require large acre of land and backyard poultry farming provides a source of livelihood to the landless farmers. The birds raised in a backyard system can be easily sold to satisfy any urgent financial demands and also, they offer an extra source of income to the rural people by selling eggs and meat. Due to the consumption of the products produced by the birds reared under extensive system reduces the protein deficiency in a particular group of individuals like children, old age adults and pregnant women. The birds reared under backyard condition helps in control of ecto-parasites in domestic animals.



Few Constraints in Backyard Poultry Farming

Backyard poultry farming leads to low output as a result of health issues, predators, theft, an adverse weather, poor nutritional value, high feed prices and flock size. Lack of understanding and knowledge about the diseases in poultry among the farmers leads to major loss in terms of production cost and time. Farmers rearing birds in such systems get limited access to institutional assistance like veterinary and extension services. Backyard rearing of birds is a challenge to the traditional farmer due to the difficulties in implementing numerous management strategies.

Management of Backyard Poultry Farming

Brooding Management

The term brooding is referred as the provision of artificial heat to the chicks up to 4 or 6 weeks of age in order to maintain constant body temperature. Successful brooding will result in healthy pullets and there will be increase in meat and egg production which will act as a source of income to the poor farmers. In backyard farming the preferred brooders are Bukhari and small lamp brooders but the problem with Bukhari is it involves burning of saw dust which produces lot of smokes in the house which may lead to several health issues. A uniform 2-4 inches spread of hygienic litter, such as sawdust, paddy husks, rice husks, ground maize cob, dried crushed sugarcane pulp, groundnut shell etc. should be used as litter in brooding house. The suitable temperature during the first week is between 32.5 and 35 degrees Celsius. At the end of each week, the brooding temperature should be lowered by 2.5 degrees until it reaches room temperature. Depending on the temperature, a 15 cm high brooder guard should be utilized at a distance of 30 to 40 cm from the brooder, and it should be taken off by the end of the week. The chicks should be vaccinated against Marek's and New Castle disease before they are introduced into brooder house. The feeders and waterers should always be kept clean and filled in the brooder house. Brooder house should be well ventilated to avoid ammonia odor and complete record of the brooding chicks should be maintained. During the brooding period debeaking of the chicks should be done. Most commonly debeaking is done at the end of 4th week to avoid any type of stress in young birds.

Feeding Management

Since the farmers are marginal and landless they mostly follow traditional method of feeding and the birds are more commonly fed upon kitchen and vegetable waste. For optimum performance, the chicks may require an additional concentrate ration of 30-60 grams per day. The birds during



brooding period are provided with extra care and they are supplemented with starter ration up to 6 weeks of age. After 6 weeks they are provided with mulberry leaves, azolla, drumstick leaves, subabul leaves etc. Worms and insects will be abundant throughout the rainy season for the birds reared under backyard system. A good egg production can be attained by supplementing calcium sources such as limestone powder, stone and shell grit at 4-5 grams per chick daily particularly throughout the laying phase. Provide ad lib water to the birds to avoid heat stress and for optimum performance.

Housing Management

The key factors that must be taken into account during the backyard housing of birds are temperature, ventilation, humidity, light, and orientation of house. Generally the backyard housing involves providing shelter for the birds at night and allows them to scavenge freely during the day. The ideal temperature in poultry housing is 10-20° C which should be maintained to avoid mortality and productivity loss of birds. In summer and winter the facilitation of ventilation to the birds should be maximum and minimum respectively. It is essential for poultry houses to be well ventilated so that the birds receive adequate oxygen to remain healthy and productivity level increases at the highest possible rate. In order to get rid of ammonia, carbon dioxide, methane, and other harmful gases, poultry houses need to be ventilated appropriately. Within the range of 40-60%, the relative humidity in a chicken shed is ideal. Low humidity produces dusty litter, which causes respiratory problems, whereas high humidity promotes the growth of harmful microorganisms. The house with less no. of window and ventilation should be provided with 23 hours of light since day old age and it should gradually reduce at consistent rate until the birds are 20 weeks old and from 20 weeks of age the laying pattern of lightning should be followed which should be at least 15 hours natural day length. The orientation of house should be in east-west direction to receive maximum sunrays in winter and minimum during summer days.

Table 1: Space Requirements for Birds

Age (weeks)	Floor space (sq. ft)	Feeding space (cm)	Watering space (cm)
0-4	0.5	2.5	1.5
4-8	1.0	5.0	2.0
8-12	2.0	6.5	2.5



Breeding Management

Six to eight hens can be serviced by a rooster to produce viable eggs and collect fertile eggs at regular time interval and keep them at adequately ventilated area. Within two weeks of egg collection, keep 10–12 eggs under a brooding hen for better hatchability and also government should promote assistance to upgrade the backyard poultry farming by supplying superior quality chicks and urging them to multiply birds at their own level in order to increase the stock. The various methods of breeding are pen mating, flock mating and stud mating. Among them flock mating is most commonly employed since the fertility rate is highest. In pen mating, a single hen is mated with number of hens but the fertility rate is low. Flock mating allows the entire flock of hens to run with a number of males. In stud mating, the male is housed in a pen whereas the females are brought to the male one at a time for mating and the main advantage of stud mating is the birds produce large number of chicks by use of superior males.

Health Care Management

Deworming should be done at regular interval since the birds in backyard farming are allowed to forage in free range. The birds should be vaccinated against the most commonly occurring disease like Marek's, New Castle, Gumboro and Fowl Pox and note the manufacturer, type, and batch number of the administered vaccine. Proper care should be taken in regards to feed and water since it leads to occurrence of mycotoxicosis hence, clean and uncontaminated feed and water should be provided to the birds. It is generally advisable to prevent flocks from using medicines indiscriminately. Only after an appropriate diagnosis by veterinarians' drugs should be administered. Birds should be housed with respect to their age, species and breeds since overcrowding may leads to cannibalism and transmission of disease. Sanitation and fumigation should be done in the poultry house and equipment's at regular interval to destroy the harmful microorganism. The common disinfectants are phenols, hypochlorite, quaternaries, Iodophors and coal tar based. It is recommended to periodically cull the birds to stop the transmission of disease.

Table 2: Vaccination Schedule

Name of disease	Age of birds	Route of vaccination
Marek's disease	Day old chicks	S/C or I/M
New Castle Disease (Lasota)	7 th days	Eye or Nostril
Gumboro Disease	12-14 th days	Drinking water



New Castle Disease (Lasota)	28 th days	Eye or Nostril
New Castle Disease(R2B)	70 th days	I/M
Fowl Pox	6-10 weeks	Wing Web

Conclusion

Apart from commercial and large-scale poultry farming, ancient practice of backyard poultry farming for household eggs and meat supply is common in Indian subcontinent as well parts of Europe, South American countries. This helps domestic need of proteins and provide additional income to farmer's family. Farmers face difficulties in managing operations, which can be streamlined. Chicken need different temperature at various stages of growth and breeding, together can be termed as brooding management. Brooding management along with feeding and housing management improves production and efficiency of backyard poultry. Breeding and health care of birds is an important aspect of poultry farming, various mating practices like pen, flock and stud mating improves number of chicks in short span of time. Vaccination of birds, hygienic feed and water supply, prescribed drugs should be supplied regularly to prevent birds from diseases and growth stagnation.

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