

BREEDING STRATEGIES FOR IMPROVED BIRDS IN BACKYARD POULTRY

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Poultry industry in India has registered a phenomenal growth during the last four decades making it one among the world leaders in poultry production. The development of organized poultry has infact masked the contribution of backyard poultry or house hold poultry in rural sector. As per the latest livestock census, rural poultry constitute about 52% and 31.23% of the total poultry population at national and state level (Andhra Pradesh) respectively. Though statistics are not available, backyard poultry is significantly contributing to the nutritional and livelihood security amongst rural poor.

Backyard poultry in India is characterized by small flock size consisting of 5-10 predominantly non descript birds maintained in extensive system under zero input conditions. But fetch the owners much needed animal protein and supplementary income. The importance of backyard poultry is well recognized by Government of India and special programmes are formulated for its promotion.

About Non- descript fowls:

Maintaining small flock of local non descript fowls under free range condition by landless poor, small and marginal farmers is a common sight in rural areas. These birds are very popular due to their adaptability to local agro climatic conditions and management practices with prominent brooding behaviour and mothering ability. But these birds are small in size, poor in egg production (40-50 eggs/anum), with small clutch size and prominent brooding behaviour. Thus making them not suitable for commercial exploitation in backyard production system.

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About Native breeds:

Though India processes 20 well defined native chicken breeds, their proportion in the backyard chicken is very small. Most of the indigenous chicken breeds like Kadaknath and Nicobari fowls are common in tribal areas of their origin.

Among native breeds, Aseel has special place in Indian culture. These birds are specially bred for cock fighting. It is known for heavy body size, long shanks, endurance and aggressive behaviour. It has also contributed in evolution of major broiler breeds.

It is important to note that the native chicken breeds were never selected for higher production and are limited to certain pockets only. Thus native breeds not contributing much in backyard poultry production.

About Improved Backyard poultry varieties:

The need for development of varieties suitable for backyard production in India was visualized by poultry breeders during eighties and the research in this field since then is discussed in the present paper.

Release of Giriraja variety can be viewed as the first initiative by poultry breeders to develop varieties suitable for backyard rearing. Giriraja can be viewed as a byproduct of broiler breeding programme. The breeds viz White plymoth rock, Red Cornish and New Hampshire available at broiler breeding project were utilized to bring out a bird with colour plumage, high egg production and body weight compared to local non-descript fowls and instantly became popular.

Taking cue from the success of Giriraja birds, Project Directorate of Poultry has evolved Vanaraja variety utilizing the Red Cornish as male line and random bred meat control population as dam line. Vanaraja was released in the year 1998 at 46th Livestock and poultry show.

Subsequently, Gramapriya variety was also developed by PDP on the specific request of Kerala farmers using Random bred meat control population as male line and a White Leghorn selected population as female line. These birds have more white plumage, medium

in size and good egg laying capacity. Cockerels are better suited for tandoori chicken preparation.

During the same period CARI, Izatnagar produced CARI-gold using RIR as male line and White Leghorn as female line which is comparable to Gramapriya in its performance.

The above mentioned varieties are evolved by crossing exotic broiler or dual purpose breeds. Though they became popular among farming community, many have opined that most of these improved varieties are prone for predation, require supplementary feeding to perform at optimum level and the farmers are dependant on breeders for replacements.

In subsequent years poultry breeders tried to overcome the above factors by manipulating the breeds used which can be viewed as second phase in backyard poultry breeding initiatives. JNKVV Jabalpur evolved Krishna –J variety using dwarf gene population. Central Avian Research Institute, Izatnagar released CARI – Nirbeek, CARI – Syhma, UPCARI, HITCARI by crossing Aseel, Kadaknath, Frizzle and Naked neck chicken with Delham Red breed, with an aim to incorporate all desirable traits of native chicken breeds in new genotypes. Several other institutes and private agencies also developed their own varieties.

However, they are also straight crosses of indigenous and exotic breeds and can not breed true in farmer's field. There are no reports regarding selection initiatives to reduce brooding instinct and the reports on field level evaluation are not available.

After reviewing the above poultry breeding initiatives in backyard production system, a need was felt to develop designer birds having the attributes such as medium body size, long shanks, better flight, egg production ranging between 125-150 eggs, ability to resist common diseases and able to withstand adverse climatic conditions.

AICRP on Poultry Breeding, Sri Venkateswara Veterinary University, Rajendranagar, and Hyderabad took the initiative by developing a cocktail genotype with three exotic breeds and also incorporating local fowls' inheritance at 25% level. The genotype so developed was stabilised by inter-se mating and evolved a variety by name "RAJASRI".

Future Needs:

Most of the work in backyard poultry breeding was carried out at ICAR /SAU research institutes and the genetic material is available only in limited quantity . In future when scaling up is planned, research institutes may not be able to meet the demand. Hence a PPP initiatives need to be planned for future.

Improved varieties so far available also need supplementary diet, health care and prophylactic measures for optimum performance. Hence developing location specific package of practices for each of the variety is need of the hour.

As the requirement of individual farmer is very small and are scattered in an operating area, promotion of chick rearing units as separate enterprise for rural youth may yield desirable results in up scaling the backyard poultry production.
