

every day before the birds are let out from the night shelter. The males can be sold at any time after attaining the minimum body weight. Females of *Vanaraja* on an average lay up to 110 eggs per year under free-range conditions.

Feeding: *Vanaraja* under free range can easily pick up its food from the backyards once it learns and adopts to scavenge in the fields. The need for additional feed supplementation depends on the food base availability in the backyards. Generally, the birds under free-range conditions can meet their protein requirement through scavenging. Therefore, feedings the birds with cereals (bajara, ragi, jowar, korra and broken rice, rice polish, rice bran, etc.) available is always beneficial to sustain the production. These grains can be offered (10-20g/bird) every day in the evening. The nature of supplemental feed depends on the purpose of rearing. For meat purpose, the feeding the birds with commercial broiler/layer chick feed is suggested. If the purpose of rearing is for egg production, the birds should be largely depend on food available in free-range conditions. Care should be taken to restrict the weight of pullets (female) between 2.2 to 2.5 kg at 6.0-6.5 months of age. Excess body weight may reduce egg production. The broken/shell-less eggs can be minimized by supplementing the calcium sources (lime powder, shell grit, stone grit, etc.) @ 3-4g/bird/day.

Health Care : The most important disease that affects birds under free-range farming is the Newcastle disease. Night shelter should have good ventilation, required light and Protection from the predators. The material used for night shelter such as wood and bamboo offers a good hiding place for external parasites. Therefore periodic cleaning of the night shelter is essential. Since the chicks move in free range, there is a possibility of parasitic infestation. The deworming at 2-3 months interval is required. Under free-range conditions adult *Vanaraja* birds should be vaccinated against Newcastle disease at 6 months interval, preferably one should be before the onset of summer. Vaccination of native birds along with *Vanaraja* is recommended for effective control of the disease.

Table 3. Performance of *Vanaraja* birds under field conditions

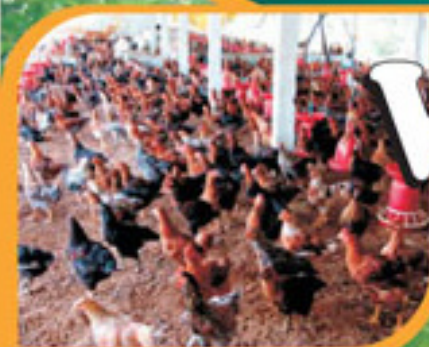
Economic trait	Performance
Body weight, g	
6 weeks	650-750
At sexual maturity (restricted feeding)	2,000-2,200
Egg weight, g	
28 weeks	48-50
40 weeks	52-58
Age at first egg, d	175-180
Egg production, no. up to 1.5 years	110
Survivability, % (up to 6 weeks)	98

Supply:

Fertile eggs: Fertile eggs of *Vanaraja* are available at this Directorate on all working days on payment basis. Eggs should be stored in cool place till they are set for hatching. About 10-12 eggs can be set under *Desi* broody hen for better hatchability.

Day old chicks: Chicks are available on advance payment. Payment can be made through Demand Draft (DD) drawn in favour of "Directorate of Poultry Research" and should be sent to "The Director, Directorate of Poultry Research, Rajendranagar, Hyderabad – 500 030". Provide your contact address and telephone number for correspondence. After receiving the DD, the Directorate will intimate the supply date. The customers are required to receive the birds from the Directorate.

Vanaraja chicks and fertile eggs are also available from our Poultry Seed Project Centres located in several states. For further details please visit our website www.pdonpoultry.org



Vanaraja

Meat & Egg type coloured bird for rural poultry



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ISO 9001-2008

Rajendranagar, Hyderabad - 500 030, INDIA

Ph: +91 (40) 24017000/24015651/24018687

Fax: +91 (40) 2401 7002

Email : pdpoultry.nic.in

Website: www.pdonpoultry.org



ICAR-DIRECTORATE OF POULTRY RESEARCH

Sardar Patel ICAR Outstanding Institution



The per capita consumption of egg and chicken meat in urban areas is ranged between 100-120 eggs and 3-5 kg meat respectively against 5-20 eggs and 750 g meat in rural areas. Further these poultry products are expensive in rural/tribal areas due to their non-availability. Rural families in our country consume rice or wheat as staple food, which is rich in energy and low in protein which leads to protein deficiency in rural people. Protein malnutrition leads to poor growth and reduced disease resistance, particularly among pregnant women, nursing mothers and growing children. The backyards in rural/tribal areas are rich source of "Natural Food Base" (fallen grains, insects, earthworms, kitchen waste, green grass, etc). These waste food materials can be recycled back into the human food chain by converting them in to nutritionally balanced and delicious egg and chicken meat. Rearing improved chicken varieties in rural backyards will increase the availability of eggs and meat and alleviate the protein hunger besides providing subsidiary income.

Directorate of Poultry Research has developed a dual-purpose chicken variety i.e. *Vanaraja* which gives eggs and meat based on rearing and feeding practices. Important features of this bird include..

- Attractive – multi-coloured plumage
- High general immune competence
- Low cost of production
- Perform on low plane of nutrition
- Grow faster and produce more eggs than Desi chicken
- Produce brown eggs like Desi hen



In areas where plenty of natural feed resources are available, a small number of birds (10-20) can be reared for egg purpose under free-range conditions. If the local demands is for meat, birds can be reared in large numbers under intensive/semi intensive conditions by providing balanced feed similar to the commercial broilers. Essentially, *Vanaraja* day old chicks needs to be reared under nursery management upto 4-6 weeks and let them loose in open free range conditions.

1. Nursery Management

Brooding is essential for these birds immediately after hatch to provide required temperature, balanced feed and protection from predators. Before housing the chicks, good quality rice husk/saw dust/clean sand of 2-3 inch thickness should be spread on the floor. Spread old newspaper on the litter. Arrange the feeders and drinkers alternatively the shed.

Brooders: Spread the clean litter material (*groundnut husk/paddy husk/saw dust*) of 2-3 inches thickness uniformly in the house. Spread the newspaper on the litter. Arrange the feeders and drinkers alternatively. Generally electrical bulbs are used as source of heat. Heat source of 2 watts/chick is required. The movement of chicks can be restricted nearer the heat source with the help of chick guard. At higher brooder temperature the birds move away, while at lower temperature birds huddle under the brooder. Uniform spread of birds in the shed indicate optimum brooding temperature.

Feed: while rearing the birds under nursery management, **complete balanced feed** containing all nutrients; minerals and vitamins should be given. It is important to ensure easy access of feed to all the birds. Feed should be offered everyday. In nursery rearing, *Vanaraja* Chicks need 2400 kcal ME, 16% protein, 0.77 lysine, 0.36% methionine, 0.35% available phosphorus and 0.7% calcium. The diet can be formulated using the locally available feed ingredients to meet the above nutrients specifications. Layer grower feed or broiler feed available commercially can be fed during initial 6 weeks of age. Farmer can make the feed by mixing the coarsely ground (not fine powder) from the locally available feed ingredients as given in Table 1:

Table 1. Making of feed with locally available feed ingredients

Maize/Bajra/Jowar/Ragi/Broken Rice etc.	50 parts
Rice bran/Wheat bran/De-oiled rice bran etc.	20 parts
Soybean meal/Groundnet meal/Sunflower meal/Till cake/Linseed cake	28 parts
Vitamin and Mineral mixture	2 parts

Health care: Though *Vanaraja* has better immune competence, they need protection against Newcastle disease and fowl pox. Vaccination schedule is as follows (Table 2).

Table 2. Vaccination Program for *Vanaraja* chicken

Age	Name of the Vaccine	Strain	Dose	Route
In the Hatchery				
1st day	Marek's Disease	HVT	0.20 ml	SC Injection
In the Nursery				
5 th day	Newcastle Disease	Lasota	One drop	Eye
14 th day	Infectious Bursal Disease	Georgia	One drop	Oral
21 st day	Pox	Fowl pox	0.20 ml	IM/SC Injection
28 th day	Newcastle Disease	Lasota	One drop	Eye
In the Field				
9 th Week	Newcastle Disease*	R2B	0.50 ml	SC injection
12 th week	Pox*	Fowl pox	0.20 ml	SC injection

* Repeat these two vaccines at every 6 months interval

2. Free range Management

At 6 weeks of age, birds will attain 650-750 g body weight (Table 3). These birds can be let out under backyard free-range conditions @ 10-20 birds/house hold depending on the area and natural feed base available. The birds are let out for foraging during the day time while at night they are kept in night shelter. Provide clean drinking water

