



AGRICULTURE YEAR BOOK 2019

Y E A R B O O K 2 0 1 9

EDITORIAL NOTE



Dear Readers,

With immense pleasure and pride, we introduce our most recent edition of the Agriculture Year Book. This edition is the fruit of the hard work and untiring efforts of a spectacular team, whose inspiration has always been our dedicated readers.

Agriculture Year Book of 2019 features articles penned down by the some of the brightest minds in Indian agriculture. These articles have evolved from years of experience and are treasure trove of information for anyone who follows agriculture segment. Innovations, initiatives and plan of action to solve the trying challenges in agriculture are important takeaways from this repertoire of articles. The year book 2019, besides featuring some of the best articles written pertaining to agriculture, strikes a right balance with data, analysis and information.

I would like to thank all the eminent writers for their valuable contributions for the Year Book as their timely and valuable contributions were critical in making this year book a reality. I trust that the Year Book will serve as a useful guide and reference to all those related to the agriculture sector, including government officials, policy makers, scientists, agribusiness companies, NGOs, institutions, agri researchers, professionals, planners, students etc. Our best efforts have gone into the creation of the Year Book. At the same time, we also believe that there is always room for improvement. I request all our esteemed readers to impart their valuable support by sending in comments and suggestions.

I am thankful to Dr. MJ Khan for guiding us throughout the entire process of compilation and bringing out the best in us. My colleagues specifically Mr. Anil Kumar, Ms. Divya Sharma and Mr. Abdul Rehman deserve special mention whose untiring efforts in compiling the Agriculture Year Book 2019 were exemplary.

A handwritten signature in black ink that reads "Anjana".

Anjana Nair

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BLACK MEAT CHICKEN (BMC): THE KADAKNATH WAY

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Everyone who purchases food for their family does so for a different reason, with different needs, wants and goals in mind it may be taste, cost of birds, values or convenience.

No matter what kind of chicken you choose – be it organic, free-range, slow growing, or conventional chicken you will have a nutritious, delicious, simple and versatile meal that your whole family is sure to enjoy. Similarly, the protein diet you are providing to your young children or consumed by athletes or players, it should be free from antibiotics/pesticides or any unwanted medicine, whether it is in milk, meat or any veg. meals.

In India due to lack of welfare laws and rules, people depend on milk, meat or eggs which are not good, contaminated, having bacterial populations more than recommended dose or it may be some times adulterated.

Most of the broiler chicken available in the stores today come from flocks that grow to market weight in about 48 days on average, using fewer natural resources, therefore more sustainably from business point of view. But as far as welfare of birds are concerned, rearing birds like ‘factory farming’ compromise their meat quality and food safety as lots of antibiotics and vaccines have been used to raise them faster. Several scientific techniques have been used like DNA mapping and animal health diagnostic tools to detect underlying traits like leg muscles, heart health, susceptibility to disease, bone density and joint health to identify the best birds to breed, improving both the health and size of the next generation of chickens. Slower-growing” chickens or “Heritage breeds” like chickens can take almost twice as long to reach market weight – about 81 days typically because they do not convert



feed to muscle as quickly. As such, these products are typically three to four times more expensive than their conventional counterparts; their growth rate is less but natural.

KADAKNATH BIRDS

Among all the three types of meat - red meat, white meat and black meat, the black meat, which is predominantly obtained from chicken, is considered as very rare and precious across the world. Today more than twenty five breeds and breed groups with fibromelanosis (fm) expression are known in the world, and almost all of them originate from south eastern Asia. Most popular is silkie (China), Ayam Cemini (Indonesia), Oke (Vietnam) and Kadaknath (India). The Kadaknath chicken meat from Jhabua district of M.P has received geographical Indication (GI) tag from Chennai based GI Registry and Intellectual property India in 'Meat product, Poultry & Poultry meat' category.

Kadaknath, rare bird with slow growth rate, is a unique, medium sized indigenous breed of fowl found in Jhabua and Dhar district of Madhya Pradesh, locally known as Kala masi because the bird is black inside and outside including skin, feathers, legs, meat, blood, etc. The average weight of Kadaknath female is 1 to 1.2 kg and that of male is 1.5 kg. Kadaknath is very popular among the tribes mainly due to its special capabilities such as adaptability to local environment, colour, disease resistance, meat quality, texture & flavour. The tribal value the breed for its cultural as well as its health values and also consider it sacred. The bird is high in iron and amino acids and low in fat. It tolerates extreme heat and cold climatic conditions and requires minimal management inputs.



The breed is disease resistant and hardy, and thrives well on kitchen/ agriculture waste.

Different strains of Kadaknath are known to exist such as Kadaknath



with black plumage, black with golden linings and black with white linings.

Flesh of Kadaknath is very tasty and contains 25% protein against 18% in broilers. The meat and eggs are reckoned to be a rich source of protein and iron. It is



reported to have some medicinal value. Kadaknath flesh has got an aphrodisiac property. In other words, kadaknath is a healthier alternative to broiler chicken.

SPECIAL FEATURES OF KADAKNATH:

Kadaknath is known for its dark black colour which is due to rich melanin pigment. Flesh is rich in protein (25-27%), with low fat (0.1-1%). Medically, the Kadaknath black chicken meat contains certain hormones; blue pigment and essential amino acids, which are required in human body to increase the blood cells, and haemoglobin. The bird is resistant to diseases in its natural habitat in free range conditions. Kadaknath chicken is said to contain many kinds of amino acids and vitamins. Kadaknath chicken contains Vitamins B1, B2, B6, B12, C and E, niacin, protein, fat, calcium, phosphorus, iron, nicotinic acid, etc.

Abundant clinical experience has indicated that Kadaknath chicken has a peculiar effectiveness in treating women's diseases like sterility, menoxenia (abnormal menstruation), habitual abortion, blood leucorrhoea and also aids in curing pulmonary problems – tuberculosis (TB), heart



KADAKNATH PERFORMANCE PROFILE

- 1- Body weight at 24 weeks (g)
Male – 1.2 kg
Female – 1.0 kg
- 2- Age at sexual maturity (days)- 180
- 3- Annual egg production (number)
per bird-82-85
- 4- Egg weight at 40 week (g)- 38-40
- 5- FCR - 4kg/1kg
- 6- Fertility (%) - 55
- 7- Hatchability FES (%) -62

diseases, neurasthenia (a condition of nervous debility supposed to be dependent upon impairment in the functions of the spinal cord), and children's osteomalacia (a condition marked by softening of the bones). source-CPDO Mumbai.

The eggs of Kadaknath chickens can be used effectively to treat severe headaches, faintness, asthma and nephritis (acute or chronic inflammation of the kidney). The eggs are also an ideal nutritive supplement, especially for old people and high blood pressure victims, since the cholesterol content is lower and free amino acids are higher than that of other kinds of birds.

SCOPE AND LIVELIHOOD SECURITY:

This high priced breed is reared at KVK Jhabua, the only center in which Kadaknath Birds have been

maintained scientifically in India since 1990. During survey by the scientists of KVK Jhabua, it was observed that the population of this bird is declining rapidly and it is under threat of extinction and genetic erosion. The Kadaknath birds reveal appreciable degree of resistance to diseases than any other exotic birds in its natural habitat in free ranging. Looking at the popularity of Kadaknath bird in other states, especially Maharashtra, and emerging demand in metro cities, it has been felt that the production of kadaknath chicks has to be multiplied manifold to cater to the increased demand. Under NAIP Project in 2015 hatchery was established, and breeding and conservation of this breeds started. It was also supplied to almost all states of India to maintain the population. Now kadaknath chicken is easily found in Maharashtra, M.P, Punjab, Haryana, Gujarat, UP, Rajasthan, Orissa, Karnataka, Telengana, NCR-Delhi etc., where on large scale kadaknath farming is carried out under the technical guidance of KVK Jhabua (M.P).

Now some of the entrepreneurs involved in kadaknath business, export kadaknath meat to different countries, and youth are adopting it as a start-up for their livelihood security. Some of the Kadaknath farms like 'Ashiskadaknath farm' Paradkar agro farms, established branches in different states to supply chicks to farmers and sell adult birds.

Considering the renewed interest of the Kadaknath farming, there is need to accept it as a business enterprise and need more extension, research and cooperation from government agency to explore the birds more. ■