



Poultry sector - Research & Development

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Poultry in rural India have been an inseparable entity with the households. In post independent India, consequent to the implementation of five-year plans, poultry development programmes gained momentum.

The Research Organizations / Institutions have played a significant role in accelerating the growth of Poultry sector. Prior to 1960, Poultry farming were in a primitive stage and was largely confined to the backyard with non-descript desi fowls. The process of transformation of rearing poultry from this state to that of an organised and modern industry began in 1960's. Though hardy, the desi chickens are poor producers as compared to modern strains. Early efforts to improve productivity of the local birds had although been successful, large-scale import of elite poultry grand parents by the private sector and pure lines by Government Institutions, was called for to hasten up the poultry development process in the country. In order to achieve self-sufficiency in layer and broiler chicken production, several research programmes had been undertaken involving Indian Council of Agri-

cultural Research (ICAR), State Agricultural Universities (SAU's) and Central Poultry Breeding Farms (CPBF), of the Govt. of India.

Scientific efforts during the past three decades changed the 'Poultry production scenario altogether. As the high-yielding stocks are highly vulnerable to several dreaded diseases, commercial poultry enterprises could not venture in the past until effective preventive measures against diseases like Ranikhet, Marek's, Gumboro, etc., were available. Besides, proper nutritional management, comfortable environment and bio-security measures had to be evolved to optimize the productivity. These developments called for more technical manpower.

Teaching

The Division of Poultry Science in the Kerala Agricultural University has played a pivotal role in the development process of poultry in Kerala from its inception. The Poultry Farm located in the Veterinary College campus was made an integral part of the college in order to facilitate practical training for under-graduate students and for taking up research by faculty staff and post graduate students.

In order to improve the academic capabilities of faculty staff involved in teaching and research in the discipline of Poultry Science and to generate staff with higher academic capabilities, the department was recognized to offer Masters degree in 1973-74 and to offer doctoral programme since 1981. With the view to train personnel to head the poultry farms and to head the poultry development projects of the State Department, training programmes of nine- months and three-months duration were also offered from the Department.

Earn while You Learn Poultry Projects were a routine feature of departmental activity where selected students were involved in Commercial Poultry Production and the profit generated were divided among them.

47 Masters and 7 doctorate students have completed their programmes in different aspects of Poultry Science, thus substantially contributing human resource

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for poultry developmental activities of the State Department of Animal Husbandry as well as manpower for faculty positions.

Research

The establishment of the Department of Poultry Science and initiating postgraduate programmes in the department gave a flip to Poultry Science research in the University. The integration of the activities of the Poultry Farm gave further push to the research trends of the Department. The introduction of scientific breeding with flocks of chicken maintained at the University Poultry Farm helped to refine the flock of White Leghorn 'F' strain which was adjudged as one of the top egg producers of the country in the Random Sample Laying Tests conducted by Government of India in 1977 and 1987. The Indian Council of Agricultural Research (ICAR) sanctioned a research centre under the All India Co-ordinated Research Project on poultry breeding in 1976 considering the infrastructure, man power and research capabilities of the Department of Poultry Science. This Centre was entrusted with breeding of layer chicken with an objective of developing a high yielding layer strain of chicken for commercial exploitation. After 15 years of concerted research at this centre, Poultry Scientists of Kerala Agricultural University succeeded in evolving a commercial hybrid egg layer in the year of 1990. Considering its superior performance in various Random Sample Laying Tests, the National Varietal Release Committee of the ICAR recommended this bird for release. The Indian Council of Agricultural Research released this bird patenting it as 'Indian Layer Mannuthy 1990' (ILM 90). The Kerala Agricultural University assigned this bird a popular name 'Athulya'. This hybrid layer is suited for commercial egg production in both the systems, viz., Deep litter and Cages. Kerala Poultry Production scenario especially that of egg is unique in that the production is by masses rather than mass production. Therefore any technology that is intended for application to this system has to be different from the general trend. Keeping this in mind a crossbred chicken popularly known as 'Gramalakshmi' had been evolved which is capable of mid level production with low input requirements. This bird has been received well by the farmers especially housewives who manage birds in the homestead.

As a further recognition to the research acumen of

the scientists of the Department two more Co-ordinated projects viz; All India Co-ordinated Research Project on Poultry Nutrition and All India Co-ordinated Research Project on Poultry Housing and Management were sanctioned during 1987 and 1988 respectively. The department also undertook research on Nutrient Requirement of Caged Layers and Evaluation of Ducks, both with the ICAR assistance under Ad-hoc research programmes. In recognition of the research capabilities and capacity to attract funds for research from external sources, the Kerala Agricultural University established a Centre for Advanced Studies in Poultry Science in November 1985 with major objectives of giving additional thrust for research and to integrate teaching, research, and extension education in the area of Poultry Science.

Investigations on the etiological factors responsible for low productivity in small percentage of pure line White Leghorn stocks were undertaken with financial assistance from the Department of Science and Technology, Govt. of India.

The project, "Introduction of cage system of egg production in the homesteads" funded by Department of Science and Technology (DST) popularised the homestead cages for rearing commercial hybrid layer chicken in the urban and peri-urban areas during the year 1996-97. The "Technology Transfer cum Demonstration of Chicken Broilers" funded by the Department of Biotechnology from 1996 to 1999 motivated the farmers in the scientific processing of broiler chicken.

With financial support from ICAR an ad-hoc scheme was undertaken to identify and characterize two distinct indigenous varieties of Kuttanadu ducks viz, Chara and Chemballi and to evaluate their production potential. From the results obtained in this study it appears that the genetic distance between Chara and Chemballi is very short indicating thereby that there has been interbreeding between these two types among farmers flocks. Nonetheless, there appears to be distinct phenotypic variation in respect of plumage pattern. Like wise, there is also distinct advantage for Chemballi in so far as production traits are concerned.

In order to meet the demand for crossbred chicks, the ICAR sanctioned Rs. 25 Lakhs for establishing a





Revolving Fund Hatchery (RFH) and it became operational in the year 1998. So far 5.71 Lakh numbers of chicks were supplied from this hatchery. It is a novel venture in the area of Poultry Development in the country.

Considering the competence of the Scientists in the centre, the ICAR has sanctioned a research project on "Productivity Enhancement of Ducks" under the Production System Research Mode of the National Agricultural Technology Project with a financial outlay of Rs. 33.5 Lakhs for a period of 3 years in the year 1999-00. The Centre for Advanced Studies in Poultry Science, Mannuthy is the Lead Centre of the project with two co-operating centres, one at TNVASU, Kattupakkam and the other at CARI, Port Blair.

In addition, research efforts directed towards identifying alternate poultry feed ingredients and agents for improving feed utilisation such as enzymes, as well as research on poultry products are also undertaken from time to time. The capabilities of Japanese Quail as an additional /alternate to chicken are also being investigated upon at the Centre for Advanced Studies in Poultry Science.

Three topical bibliography series on Ducks, Quails and Poultry Housing and Management in hot and humid Environment were documented by the Centre for Advanced Studies in Poultry Science as a base reference for scientists in the poultry Sector.

The requirements of protein, energy, calcium and phosphorous as well as some management aspects that will help to achieve maximum genetic potential from Athulya have been established for incorporation in the package of practices for the above commercial cross.

Extension activities :

In order to provide consolidated information, Farm School on AIR on Poultry Production was conceived and implemented in collaboration with the Directorate of Extension of the University and Trichur station of All India Radio in 1980 and also in 2000. As a part of the distance education to farmers, 16 lessons covering different aspects of poultry production were prepared and conducted as postal lessons. A number of handouts, books on poultry production have also been published in collaboration with the Directorate

of Extension.

As a part of the continuing education, the officers of Animal Husbandry Department of Kerala and that of the U.T. of Lakshadweep are being given training in poultry production.

Expertise available in the Department was made available to the State Department of Animal Husbandry as well as to the Department of Animal Husbandry, Govt. of Lakshadweep.

An on farm research programme on the efficiency of maintaining small number of layer birds in urban areas, a modified backyard poultry keeping system, was experimented with the financial assistance from the Department of Science and Technology, Govt. of India with very encouraging results.

Similarly a technology transfer cum demonstration programme on chicken broilers was also carried out among broiler producing farmers groups in three places viz., Mala, Kaladi and pattanchery with financial assistance from Department of Bio-technology, Govt. of India.

Four video films viz Backyard Poultry Farming, Commercial Layer Farming, Broiler Chicken Farming and Duck Production in Kerala have been produced to offer useful exposure to the technology of scientific poultry management to farmers.

The Department involved in training farmers not only on Poultry keeping but also in the formulation of plans for poultry development under 'Peoples Plan'.

Farmers Counselling service at the Centre for Advanced Studies in Poultry Science provides the technical know how to farmers and techniques to overcome their problems in person or by post.



Every nation has the
Government
that it deserves

Joseph Marie De Maistre