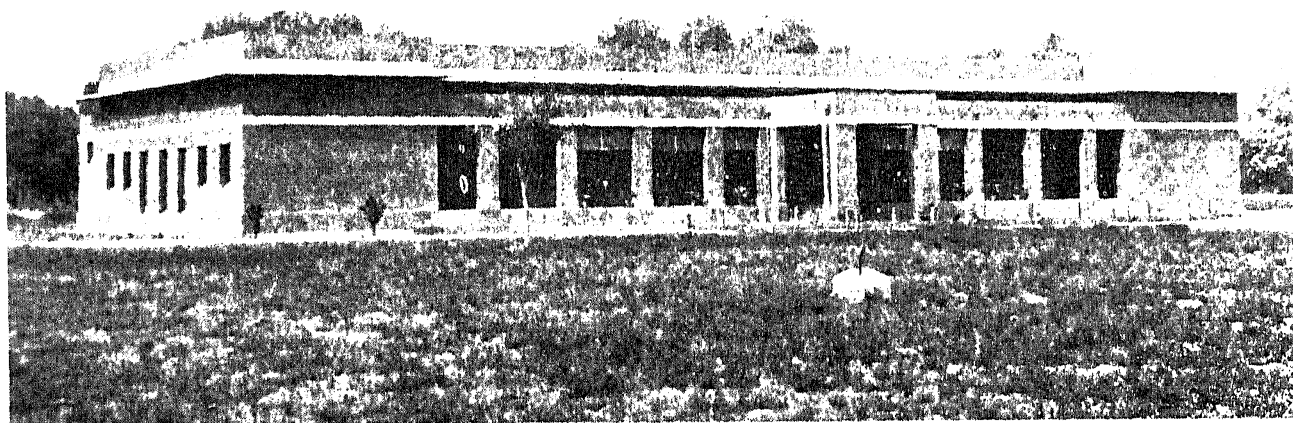


## IMPERIAL VETERINARY RESEARCH INSTITUTE

### Animal Nutrition and Poultry Research Sections

TWO important additions to the Imperial Veterinary Research Institute have recently been officially opened by His Excellency the Viceroy. These are the Animal Nutrition and Poultry Research Laboratories, erected last year at Izatnagar. The original laboratories of the Imperial Institute are situated at Mukteswar in the Kumaon hills, where, the climatic conditions being considered more suitable than those of the

diseases that had previously proved so great a scourge to animal husbandry, the wider aspects of veterinary work in India became more apparent. Particularly was this the case in regard to the recognition of the necessity for the study of animal nutritional problems. As early as 1923, a Physiological Chemist's Section was opened at the Imperial Institute of Animal Husbandry and Dairying, but, as it was later on felt that



Poultry Research Section

plains for the carrying-out of the finer operations of biological research, the Institute was founded in 1893. Its purpose was then defined as the investigation of the diseases of domesticated animals in India and the preparation of agents for their control. In 1901, land was purchased at Izatnagar near Bareilly to provide for the carrying-out of certain experiments in the winter months. Successful researches at Mukteswar led to the manufacturing for sale of various biological products for the prevention and cure of animal diseases. As the demand for these rapidly increased, it was decided in 1913 to open a section for the production of antisera on the Izatnagar site, where more space was available for development than at Mukteswar.

With the gradual establishment of some measure of control over the contagious

more space was necessary for this work and that Bangalore was somewhat isolated from cognate research, it was decided, in 1938, to transfer this section to the Imperial Veterinary Research Institute and to build new laboratories for its accommodation at Izatnagar. At about the same time the Imperial Council of Agricultural Research agreed to give a grant to the Imperial Veterinary Research Institute for the establishment of laboratories to be devoted to research into questions concerning poultry.

The buildings, constructed at a cost of about Rs. 8 lakhs as a result of these decisions, comprise the Animal Nutrition and Poultry Research Sections. The main Animal Nutrition building contains several Physiological laboratories, where various techniques are employed in the study of the physiological effects induced by different

diets; Analytical laboratories; a Pathology laboratory; a Biochemistry laboratory; a Spectroscopic room; a Students' laboratory; a Special Work room; a Small Animals' room for small animal deficiency experiments; offices and an excellent library of works on nutritional science. The laboratories are well equipped with mills, gas and electric ovens, incubators, refrigerators, sterilizers and all other necessary apparatus. Near the Animal Nutrition building are Animal Nutrition stalls, a weigh-bridge, a post-mortem room and also a farm plot for experimental work on fodders. The Poultry Research building comprises a Poultry Marketing laboratory; an Egg Grading and Candling room; an Industrial Chemical laboratory; Pathological laboratories; a Biochemical laboratory, as well as a Library and a series of cold chambers with temperatures ranging from 0°-60° F. In connection with this aspect of veterinary research, a Poultry Farm on modern lines has also been developed for breeding, incubation and feeding experiments, the brooder house alone having accommodation for 1,500 chicks under electric hovers, while there are runs for 2,000 adult laying birds and the necessary replacement of young stock.

Research work on animal nutritional problems is of undoubted importance to India. The majority of Indian cattle are unthrifty and emaciated, among them mortality is high, sterility common and the milk yield of cows is low, all of which conditions point to malnutrition as probably the greatest single factor in their causation. Any improvement in the economic position of India and in the feeding of her people must largely depend upon raising the quality of her cattle and animal population, since India is predominantly an agricultural country and since food-stuffs of animal origin are now-a-days recognised as essential to human health. This improvement in animal husbandry must be mainly dependent upon the better feeding of livestock. It is, however, no easy task to provide fodder adequate both in quantity and quality. The husbandman is often hard pressed to find sufficient food for himself and it naturally follows that his animals must often be on very short commons, if not actually verging on starvation. It must, however, be realized that any expenditure on fodder for his animals will be more than repaid in larger supplies of milk, butter, meat and eggs. The first

effort of the research worker must, therefore be directed to ascertaining the best possible use to which the food resources, which are or could be economically produced from the available land, can be put.

With regard to this problem, the Animal Nutrition Section aims at conducting experiments upon the different kinds of fodder available in India, their areas of cultivation, their food value and the methods of preserving the excess fodder available during certain seasons of the year for use in times of shortage. Farm experiments will also be undertaken on indigenous and imported fodders with a view to improving the yield and quality of existing pastures and to discover the nutritive value of grasses at different stages of their maturity.

Another nutritional problem which will be dealt with is that of deficiency diets. It is already known that a shortage of certain minerals or vitamins in rations may lead to various disorders, such as bone diseases or blindness. It has also been shown that in many localities the necessary minerals are lacking in the soil and, therefore, also from the crops grown upon them. An analysis of the mineral contents of fodders, is consequently, to be undertaken and a map of India to be prepared, indicating the localities where pastures are deficient in minerals with the intention of demonstrating their relationship to the prevalence of certain diseases in those areas. Experiments will also be conducted to find how best these deficient diets may be supplemented to remedy their defects.

Digestibility and utilization experiment will be carried out with food-stuffs of all India importance to determine the maintenance requirements of different types of animals; to discover the relationship between diet and milk, wool, hide or skin production, growth and reproduction; and to study the physiological significance of the interrelation of food-stuffs. Further research will be directed to ascertaining the part played in disease by underfeeding and by improperly balanced or deficient diets; and, in the realm of toxicology, it is hoped to conduct a systematic study of plants known or suspected to be poisonous to live-stock and the effects of the ingestion of these upon animals.

The Poultry Research Section represent a direct attempt to develop a curious

neglected side of Indian agriculture. Poultry keeping could and should be an important addition to agricultural activity in a country, where the uneven distribution of crops enforces long periods of comparative idleness upon the farmer. Moreover, it has been clearly demonstrated that, intelligently developed, the industry could prove not only of great pecuniary benefit to the husbandman but of considerable economic advantage to the country as a whole. The indigenous fowl at present lays too small an egg for it to command anything better than local markets but the production of larger eggs would open up lucrative world markets to Indian produce.

The immediate policy of this Section is to build up a sound poultry stock which will provide material for research in various spheres, such as disease, genetics and marketing. Losses from disease among poultry are exceptionally high in this country and have, until now, not received the attention their importance merits. In view of the highly technical nature of disease research in poultry, an officer has been sent to England for a two years' special study course and it is hoped, on his return, that it will be possible to get to grips with these problems as they affect India and eventually to evolve adequate measures for the control of those devastating epidemics that periodically exterminate practically the entire fowl populations of different districts.

With a view to improving the type of fowl bred, experiments will be undertaken to determine optimum methods of incubating, brooding, rearing and feeding. Studies will also be conducted on the growth rate and rearability of imported hens, such as White Leghorns and Rhode Island Reds and a comparison of the data thus acquired made with known conditions regarding Deshi fowls. It should, thereafter, be possible to determine the type of bird best suited to Indian con-

ditions. As the village producer is, and must remain, the backbone of the industry, particular attention will be paid to evolving methods of production that are suited to village conditions.

With a view to giving an impetus to the poultry industry as a whole, investigations will be carried out upon such matters as the grading of eggs for Indian and foreign markets; the preservation of eggs by pickling, cold storage, "guaranizing" and other processes; the preparation of table poultry; the best methods of packing eggs and poultry; and the possibility of introducing such articles as egg powder and egg pulp to the Indian market.

In addition to its research activities, the Poultry Department will act as a central information bureau in regard to poultry development and to all technical matters. A Library containing a representative range of scientific text-books, periodicals and bulletins is being built up, which should in time form a valuable collection on the various aspects of poultry rearing and marketing.

As His Excellency the Viceroy remarked in his opening speech:—"It is a matter of common observation that in the medical profession the progress of attention has been from cure of disease to prevention of disease and then to the establishment of health. . . . The trend of veterinary activity presents a good example of this progress . . . . The third stage in the sequence . . . (is) the establishment of health, which means, for veterinary purposes, the establishment of animal well-being and of the general conditions, which will strengthen the animal's resistance and improve its quality. The Animal Nutrition building represents, as it were, the realisation in brick and mortar of the full recognition of this important branch of veterinary science."

F. C. MINETT.