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THE
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JOURNAL

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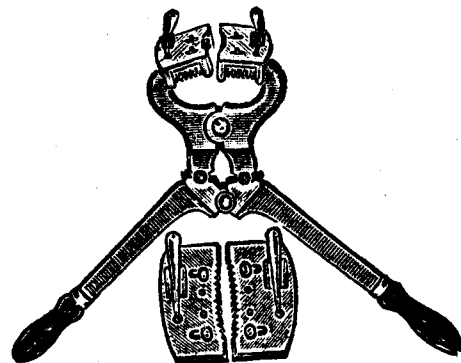
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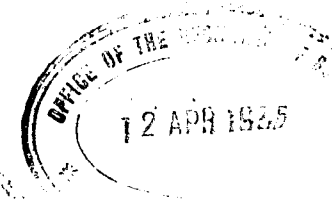
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(The Journal of The All-India Veterinary Association)



Editor :

P. SRINIVASA RAO, G.M.V.C.,

Veterinary Surgeon, Madras.

Office : 26, WALLAJAH ROAD, MOUNT ROAD, MADRAS (S. INDIA)

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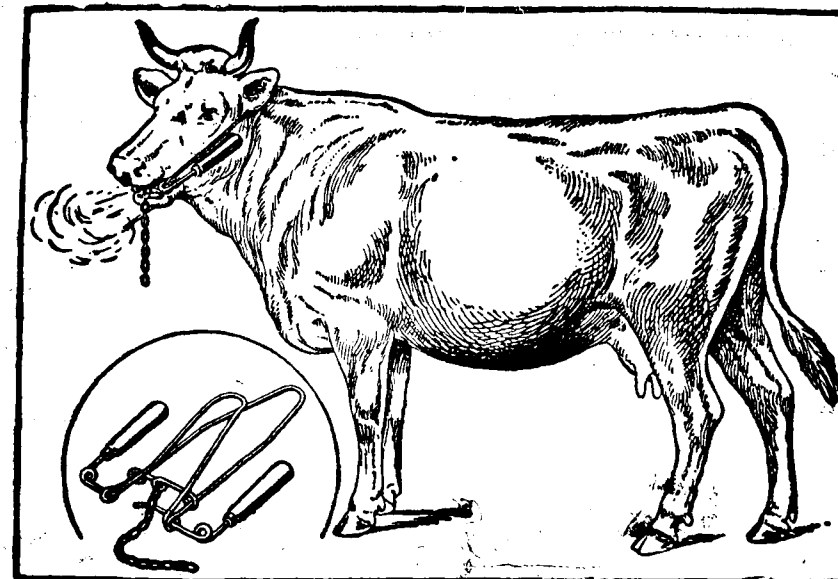
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(The Journal of the All-India Veterinary Association)

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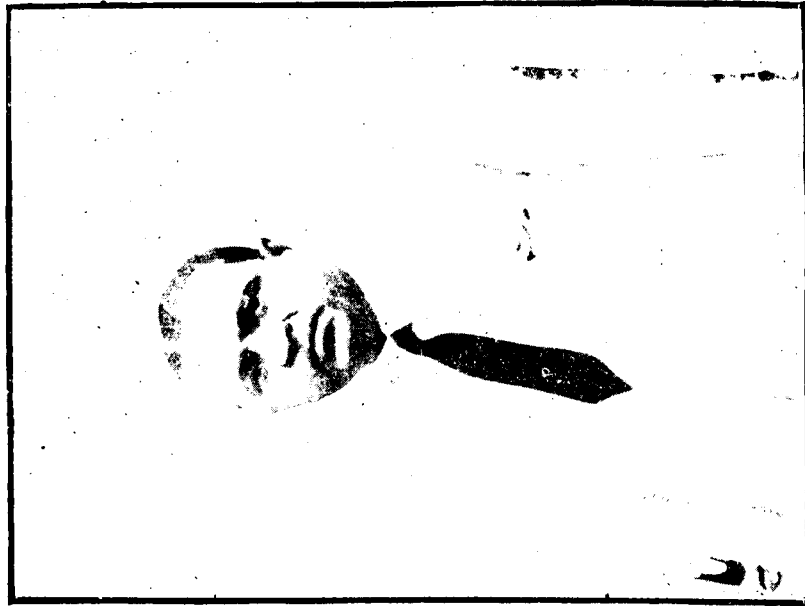
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DR. D. S. LAUD, G.B.V.C., F.R.H.S., F.Z.S. (Lond.)
Chairman, Reception Committee,
The Eighth All-India Veterinary Conference, Bombay, 1934.



Khan Saheb N. D. DHAKMARVALA, G.B.V.C.,
B.V.S. (Retd), *President.*
The Eighth All-India Veterinary Conference, Bombay, 1934.

THE Indian Veterinary Journal

Vol. XI]

JANUARY, 1935.

[No. 3

Editorials.

THE BOMBAY CONFERENCE.

The Eighth All-India Veterinary Conference met at Bombay on the 29th and 30th December 1934 and to say that it was a great success, is not doing full justice to our Bombay Collegues. It was indeed a tremendous success. Like Madras, Bombay has qualified herself for double honour in inviting this year's conference to that historic city for a second time within the first decade of the history of the All-India Veterinary Conference in our country.

It was only seven years ago, the Veterinary profession in that Presidency was all active to outbeat the record of all previous conferences, under the mature guidance of Mr. K. Hewlett. Khan Saheb N. D. Dhakmarvala who was then the Chariman of the Reception Committee is the President of this year's conference. We publish in this issue both the welcome and the presidential addresses. Mr. D. S. Laud, G.B.V.C., F.R.H.S., F.Z.S. (London), as Chairman of the Reception Committee said "I trust that Bombay 'Urbs Prima in India' will do its utmost to make your stay a very pleasant and profitable one and when you return to your own provinces you will carry with you the happy memories of Bombay and this Conference, of which we are so proud." After dealing with a few of the pressing problems of the hour he strikes at the root cause when he says, "It will therefore be found that numerically the present cadre of Veterinary Service in this Presidency is totally inadequate to cope successfully with the problems in any one branch of the work, either in research, teaching, or executive."

The President deals with very vital subjects, on which very little thought is bestowed in this country. Starting with the statement

"India has in her animals vast undeveloped sources of wealth," Mr. Dhakmarvalla points out in what all directions, this great wealth of the land can be tapped. He lays particular stress on horse breeding. "There can be no two opinions about the importance of horse breeding in India," says the President, "particularly when we bear in mind that the country is losing seventy lakhs every year by having to import horses from abroad. A prosperous horse breeding industry would lead to the greater contentment and welfare of the rural population." He hints that the incentive for horse breeding in India still leaves much to be desired. He lays his finger on a sore point when he says "at present there is only 10% demand for Indian horses in racing because the average of the racing stakes in India per Indian horse is only Rs. 1,000, compared with Rs. 3,000 per imported horse. Besides this, there is only one racing class for Indian horses, compared with 7 classes for other horses. In other words, the door of the best market namely the race course, is not fully open to Indian horses in their own country."

Next in importance, he deals with the milk industry in detail and points out the advance made in Western countries and the deploring state of affairs in India, he says "it is estimated that in British India alone, there are roughly 300 millions domesticated animals and that the cash value of India's animal product of which cattle labour and dairy produce are the two most important, cannot be less than Rs. 1,500 crores annually. These are staggering figures and cannot be approached by any other country in the world for which statistics are available. It must be therefore obvious to every one that even a small improvement in live stock and their products is bound to be of inestimable benefit to the millions of agriculturists in whose economic life, they play so great a part." True words indeed! If only the sons of the soil could marshal their forces in these directions how soon India could be a factor to reckon with amongst the nations of the world!

The learned President then speaks about animal welfare centres; legislation regarding prevention of cattle diseases; cow testing societies etc., which all indicate how much the Khan Saheb keeps himself in touch with recent developments even in his days of retirement, a lesson which we commend to the younger generation of the profession. We have been quite candid with what has been said by the President, and we cannot hide our feelings over what has not been said.

We should have liked that the Government of Bombay was thanked profusely for its wise decision not to lay its retrenchment axe on the Bombay Veterinary College. The Khan Saheb having

been a professor in that institution for very nearly four decades, could have spoken with authority the mighty role that hoary institution has played and is playing in the development of veterinary science in this country. The veterinary profession in India stood aghast at the audacious proposal of "The Thomas Committee," to close down that institution! Day after day telegrams were read with great anxiety as to what fateful decision the Government of Bombay was going to come to. At last the tension was relieved when the Government said that they would not 'axe' the institution but will allow it to say "still going strong though born in 1886" (with apologies to Johnny Walker). How grateful the profession is to the Bombay Government!

Again the Khan Saheb's sage counsel on matters like expansion of the Civil Veterinary Department in India; transfer of animal husbandry work to the veterinary profession; interprovincial co-operation and uniformity of preventive methods in the control of contagious diseases; pay and prospects etc., would have been an invaluable asset. He confined himself to more vital subjects, evidently with the idea, that other things should follow as a matter of course, if vital things are attended to.

We congratulate Bombay on the splendid show put up at such short notice. In the meanwhile let Lahore, Lucknow or Secunderabad get ready for 1935.

MYSORE'S MISFORTUNE.

The enlightened State of Mysore which was leading even in matters Veterinary, as in all other fields of human activity has now started its downward march at a terrific speed. The C. V. D. Mysore which was organised and run with such efficiency and was easily leading the rest of India, due to the untiring efforts and breadth of vision of two of the Western Administrators that ever came out to India, is now undergoing the process of annihilation, under the guise of Retrenchment and Reorganisation. Dr. Coleman and Major Simpson will ever continue to remain green in the memory of the veterinary profession in India, for their progressive policy in Mysore. With their departure, the C. V. D. Mysore seems to have fallen on evil days. We do not want to be harsh on those responsible for the present state of affairs, for we hope that better counsel may yet prevail and that the veterinary profession will at least be allowed to continue to draw her old scale of pay, if it cannot be bettered. We expect Mysore to be free from that patent vice so common amongst

administrators in British India, the so-called 'prestige.' The moment Mysore starts imitating the pitfalls of administration of British India her fair name is bound to suffer.

We are afraid we have been a little dialatory in unfolding the misfortune of Mysore to our Readers. Our fear is that its sudden disclosure might bring about the collapse of many a heart! It is so shocking, so ruthless, so un-imaginative, so deplorable and may we say, so unlike Mysore! The initial salary of the profession has been cut down from Rs. 60 to Rs. 40. So enlightened Mysore wants a Veterinary Surgeon for Rs. 40—What a fall Oh! Mysore. We wonder if Mysore is following the questionable method of "Thy necessity is my opportunity" in these days of un-employment. On occasions like this, we are lead to think of a Veterinary Council for India. Fancy a Veterinary Surgeon 'passing rich' on Rs. 40 a month! They are paid better as Sanitary Inspectors, S. P. C. A. agents, Cattle Depot Superintendents, Inspectors of abattoirs etc. Is the advancement of Veterinary Science *really* aimed at? or is it the green-eyed monster between services that has been at work? The present step will benefit neither the State nor the Surgeon, nor the Science.

Patronage of men of science and learning was the time honoured heritage of Indian States. Yes, it used to be till Royalties were left to themselves unhampered by false business considerations. But we have fallen on evil days; and Science is sought to be bought for a mess of pottage!

The following factors evidently weighed with the then head of the department in fixing the scale of pay in Mysore.

1. The paucity of higher appointments in a State like Mysore and the consequent less chances of promotion for even the best of men in service, when compared with what is obtaining in British India.

2. An ardent desire to have a contented staff to serve as sinews of war against the ravages of epidemic amongst cattle and thus serve the Mysore ryot in reality and not merely on paper.

3. To draw the right sort of men for a contemplated programme of a definite policy, which was put into operation with such success and left the rest of India to copy Mysore!

4. The general and professional equipment and scientific study of a high order of an average Veterinary Surgeon and the risk involved in the nature of his work.

That the then Administrators did the right thing is evident from the results so far achieved by Mysore. But now what has been built with such fore-thought and strenuous care, is sought to be

pulled down! We will not be surprised if poor Mysore, disheartened and desolate, relinquishes her proud position in the Veterinary world before long. Nothing proves so fatal as non-appreciation of good work on the part of an enthusiastic band of workers. We learn from the news-papers, a deputation of the Mysore Veterinary Association has waited on the Director of Agriculture under whose charge the C. V. D. Mysore occupies an anomalous position. We hope some good will come out of it.

We are grieved beyond measure to go through the statement of old and new scales that is before us. We publish it as an enclosure to this article. We appeal to Mysore Statesmen to stop this rot before it assumes dangerous proportions. Let them leave the veterinary profession at least where she was in the days of Coleman-Simpson, if they cannot augment and add to the efforts of those two great souls!

ENCLOSURE.

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As we went to the press, we are reliably informed that the retro-grade revision will not be given effect to but a more favourable scale will be fixed up by the State as a result of the deputation and the keen interest evinced in the welfare of the Veterinary Department by Dewan Sahib and Members of the Legislative Council. We feel it a pleasure to announce this.—(Ed. I. V. J.).

THE TRIVELLORE SCHEME.

It was only just over an year ago, we published in these pages a Rural Development Scheme started at Trivellore, near Madras, under the promised patronage of the famous Rockefeller charities. Much was expected of it and we ourselves were very jubilant over it, because of the opportunity provided to prove the beneficial nature of our profession to Rural India. We expected that discerning public will soon appreciate our worth and then set up an even more insistant demand for veterinary aid in rural areas, than it is to-day. We are glad that so far as the veterinary part of the scheme was concerned it was a thorough success. The local ryots in their addresses to the Committee of Experts who came down from America to study the

scheme and report on it, said in unambiguous terms that the one department which made them feel grateful to the Government and the scheme is the Veterinary Department. The Committee on their part after a careful survey of the scheme felt impelled to remark on the good work done by the Veterinary Department. Lt.-Col. Webb who was the inspirig genius of the entire scheme in his usual unbiassed manner left it recorded before he bade goodbye to the shores of India on retirement. With his departure the scheme was a forlorn cause. With none to foster it and with many to bury it, it did not take long to close down the scheme. It is a pity that the scheme should have been dropped so light-heartedly. That is again another instance of how little the miserable ryot is cared for in the present scheme of things.

LIVESTOCKS PROBLEMS.

Veterinary work in this country has hitherto suffered a great deal due to its scope being unusually restricted to the sphere of what may be called animal plagues. If the existing veterinary organisation had been put upon a satisfactory basis with the possibilities of natural expansion and advancement, the condition of the pastoral industries would have now been, not only a matter of profit, but also something for India and her three hundred million men and women to be proud of. Contrarily in actual practice, poverty and want of food are the fundamental problems in the socio-economic state of this ancient land. Thanks to the great achievements of veterinary authorities in the Union of South Africa, the United States of America, and nearer home in the Punjab, the economic benefits of animal industry being intensively pursued are now well established.

The importance of animal plagues has hitherto transcended all other aspects of livestock work, and whole time attention had to be devoted. But with all the advances in the immunology of the epizootics that have been achieved, time has arrived for taking stock of the larger and more comprehensive problems of constructive farm-stock improvement. That stock raising for profit, with a view to the amelioration of the economic backwardness of the Indian farmer is possible, and that it will surely bring in its turn all-sided improvement in the country by providing raw animal products for subsidiary industries etc., are wellknown to the initiated, but it is unfortunate that this is not generally recognised. If permanent improvement in the farmstock of this country is to be achieved, plans and schemes will have to be drawn up, and precise details of the problems that are likely to arise in the evolution of a successful

animal industry have to be collected. The Veterinarian of to-day has therefore large responsibilities, and has to advise and assist the farmer in all the ramifications of livestock work. The efficiency and well-being of the working capital of the ryot, represented by his farmstock, have to be maintained, and the services of livestock men are increasingly being requisitioned by the villagers as their guide, counsellor and friend. In our experience one of the most serious obstacles to successful stock raising seems to be the subject of reproductive diseases, including all grades of loss of fertility, abortion, types of congenital affections, naval ills, blindness, premature or diseased offspring etc. Of no small anxiety and discomfiture to the farmer are these breeding problems, but excepting in the case of Government-owned farms and a few other similar institutions, exact data regarding them are sadly lacking. However, there is little doubt, that considerable economic losses from breeding difficulties in farm-stock are caused to the Dairy farmer in India. In order that more serious attention may be paid to the subject of *sterility*, *abortion* and *impotence*, we publish elsewhere in this issue of the Journal an article on the subject summarising the position. Since the absence of published records is often interpreted to signify a non-occurrence, it is to be hoped that our readers will give particular attention to the subject and will record from time to time in these columns their experiences upon these reproductive diseases. Other obstacles to a successful livestock raising industry are factors of environment, nutritional and other deficiencies, specific infections and other pathological conditions. Definite evidence of the role of deficiencies or imbalance in producing low fertility, retained placenta or general degeneration has been collected in progressive countries; and South Africa has already devoted a good deal of attention to the pathology of bovine sterility. In our last issue we endorsed the scheme for research staff upon Contagious Abortion in cattle, sheep and goats at the Muktesar Institute, recently approved by the Advisory Board of the Imperial Council of Agricultural Research. The problem of reproductive diseases and degeneration of stock provides such a vast field for investigation that it will have to be tackled from several aspects before any tangible progress towards successful stock raising in India can be expected. We earnestly hope, therefore, that Directors of Veterinary Services in the provinces will come forward with definite schemes of research into such aspects of irregularities of breeding farmstock, as are not likely to be covered by the Staff on Contagious Abortion.

General Articles

EFFECTS OF STERILITY AND IMPOTENCE ON BREEDING OPERATIONS IN INDIA AND METHODS FOR THEIR DIAGNOSIS AND CONTROL.*

BY

CAPT. S. C. A. DATTA, B. SC., M.R.C.V.S.,

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It is well-known that Dairy Farmers in India suffer considerable economic loss from pathological and functional disorders of the reproductive organs of their breeding stock. To start with, cattle in India are often slow in coming into oestrus and the intervals between successive gestations are relatively long. There is a little doubt that a certain amount of sterility has always existed among the native breeds of cattle, but their relatively low economic value has prevented this problem from being recognised in its proper perspective. Information is available that a cessation of reproduction or reduced fertility has been the cause of much anxiety in several dairy establishments in recent years but it must be confessed that much scientific attention has not been devoted to it in the past. It seems that losses from sterility or reduced fertility will become increasingly heavy in this country unless proper arrangements are now made for an intensive investigation into the incidence and nature of the reproductive diseases of our animals. Intensive methods of dairying are now being adopted with the result that the animals are housed under conditions simulating those of Europe and America, are stall-fed with concentrates with the object of high milk yields and abnormal prolongation of the lactation period, and many of these animals receive insufficient exercise. The evils of intensive dairying cannot be avoided and when the normal physiological processes of the dairy cow are interfered with, it is to be expected that the problem of sterility will become very serious. In South Africa, a very intensive investigation into the pathology of sterility in the dairy cow, with particular reference to the histological lesions, symptoms, cause and treatment, has been recently completed by Quinlan (1929) and it is to be hoped that this excellent object lesson will be followed in this country before long.

* Read before the Meeting of the Animal Husbandry Wing of the Board of Agriculture, held at New Delhi, February, 1933.

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Exact statistics regarding the incidence of sterility amongst breeding stock in India are not available and an estimate of the exact monetary effects, which all kinds of irregularities of reproduction produce year after year, is difficult to arrive at, but the losses that a dairy farmer may sustain, through the disorganisation of his arrangements for producing economically a uniform quantity of milk throughout the year, must obviously be very heavy.

A certain amount of work has been done at Muktesar upon abortion in its relation to sterility and this subject is being treated in a separate note. [*Vide*. Haddow, J. R. (1933), *Agriculture and Livestock in India*, Vol. III, pp. 325-329]. During the last two years or so several enquiries for scientific advice upon sterility in both sexes has been received at Muktesar and work has been initiated in the treatment of bulls showing a disinclination to serve and heifers failing to come into season. This is a very hopeful sign and should augur well for the future, and it may be noted that the recent developments in endocrinology have considerably broadened the scope of therapeutic measures for this condition and have rendered further researches on sterility pregnant with great possibilities.

If a reference is made to the literature, it will be seen that the majority of the workers in this line have occupied themselves almost exclusively with aspects of sterility in the female animal, including early diagnosis of pregnancy, and facts about the role played by the male are, therefore, less familiar. Unless the optimum conditions of fecundation are fulfilled, it is obvious that sterility will result and the optimum condition is that a normal spermatozoon should meet a normal ovum in a normal way. Since any deviation from the optimum condition leads to either temporary or permanent impairment of the reproductive health and fertility, the responsibility of both parents must be equally important. The breeding record of the sire and dam affords much assistance in determining the cause of sterility but a careful clinical or laboratory examination is indispensable. Since the ultimate value of any stock must depend upon its breeding performance, an accurate record of the various events in the sexual life of each animal is of great value.

Sterility in the female may be due to anatomical deformities of any constituent part of the generative system to pathological lesions like tumours, cystic ovaries, and retained corpus luteum, but inflammatory conditions whether due to systemic or local causes, to specific or non-specific factors, produce in all probability the largest number of sterility cases. In addition to the specific infections, like dourine, granular vaginitis or balanitis, bovine and equine abortion, venereal granuloma of dogs, which unfortunately all exist in this country,

several other organisms have been recovered from the swabs or washings from the genitalia of sterility cases, in particular streptococci. As Williams (1923) has pointed out: "The failure of 60% of the copulations to produce living young is referable to prenatal death resulting from infections. If the infection kills or mortally injures the spermatozoa in the seminal tubules or elsewhere in the male genitalia, if the infection is added to the semen when ejaculated or later kills the spermatozoa or fertilised ovum, or if the infection exists in the ovary, oviduct or uterus in the female the principle remains the same. It is death from genital infection."

Environment, diet, endocrine secretions, heredity, and excessive sexual use, all play a role singly or in a combined manner, in producing sterility. Predisposition to sterility is a feature in certain families and according to Crew (1924), grades of fertility are definite racial and breed characters and are transmitted in inheritance. Environment is a minor factor, associated with deficiencies in the soil and fodder, and seasonal and climatic changes present certain stimuli to sexual instinct. It is stated that advancing the covering season in England for getting foals earlier in the year has resulted in less fertility in stallions and that difficulties are experienced by most English breeders in getting mares in foals until grass is available. Since defective nutrition is commonly met with in India, it may be of interest to know that mineral deficiencies of calcium and phosphorous have been known to be connected with sterility, low fertility, and retention of placenta. Absence of vitamin B and E produce a degeneration of the germ cells and the seminal epithelium. Evidence is available from a herd in another country, in which cattle were frequently sterile, oestrus was exhibited but conception did not take place, to show that a regular ration of bone-meal produced a marvellous result, in that, all bred to time. So called *Waihi disease*, which is characterised by the absence of oestrus, has been proved to be a deficiency disease, being now amenable to bone-meal feeding. In Mason's (1925) experience an increase in breeding capacity was observed by turning out stalled cattle on to green grass. As a result of experimental work in Germany and elsewhere, it is known that sperm production in stallions is greatly influenced by the feed and that by the addition of certain supplements to the basal ration, the sperm production could be enhanced many times the normal count per ejaculation. In Australia, potassium iodide is added in small quantities regularly to the ration, since deficiency of iodine has been proved to act detrimentally on sexual life and fertility. Wheat germ oil has proved of considerable value in female animals in certain countries. Although sterile animals may be apparently normal in condition, it will be seen from the above

remarks that a careful examination of the fodder of sterile animals is warranted.

Again, seminal pathology plays an important part in producing sterility. The spermatogenetic function of the testes is very sensitive to outside influences. The influence of the frequency of coitus and sexual stimulation on sperm production has received considerable attention in Germany. Studies on the quantity and quality of spermatozoa produced by stallions in varying interval during successive services indicate that a rest period of 48 hours is necessary for the normal sperm production and that any greater interval does not result in the increase of viable sperms. Thanks to the work of Williams and Savage, methods for the collection, and preparation of seminal fluid for diagnostic examination are now available and with experience and skill it is possible to detect changes in the spermatozoa, referable to disease of the genitalia, long before a clinical examination would reveal pathological changes. Hydrogen-ion concentration of semen is another important factor, the average for normal horses being *pH* 7.3 and the corresponding average for sterile horses being 7.58. The local or general cause of sterility having been determined, treatment is prescribed accordingly. Massaging the ovaries and expression of the retained corpus luteum can be carried through the rectum and vagina. Of the endocrine products now in use, the principal sources are the anterior lobe of the pituitary, and the urine of pregnant women. Since Zondek and Aschheim demonstrated the stimulating effects upon the generative system of the sexually immature female mouse produced by the use of the urine of pregnant cows, the work has been extended by Crew (1931) to include other animals of economic importance, but in recent work at Muktesar the urine of mares has proved disappointing. Baker (1931) has found that Brucine hydrochloride, which is half as poisonous as strychnine, has the same stimulating effect on sperms and has expressed the hope that this discovery may find practical application in medicine and agriculture wherever sterility is due to inactivity of sperms. Implantation of gonads into various domesticated animals of both sexes has been carried out by various workers and it is claimed that recrudescence of fertility, sexual potency and an enhancement of bodily functions generally takes place. Frei (1930) recommends the organotherapeutic preparation "Ovotestis" in female cases of sterility and nymphomania, while the sex glands of the male are said to be stimulated by such preparations as "Viriligen," "Semidrol," and "Prosek."

SANITATION AND POULTRY DISEASES.

BY

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Disease may be defined as any departure from the normal state of health. Therefore, an infestation of worms, lice or mites, a bacterial invasion of the body of the fowl, or a faulty diet may produce disease. The results of disease in poultry are even more noticeable than in the case of most other animals, because of the conditions under which poultry are raised. The poultry disease question is not an individual problem. It is a flock problem, and it is in saving the flock from being destroyed that you are interested. The average fowl is not worth the price of treatment, if dealt with alone. In fact it may be a menace to the healthy birds if treated and cured. Therefore, it is more advisable to enlist your efforts towards prevention of disease rather than treatment. Medication and vaccination in preventing poultry diseases are of little avail under the best of conditions. They amount to nothing if an intelligent and consistent effort is not made by the owner to keep his flock in a healthy condition by the natural resources that he has at hand. Never was the axiom "an ounce of prevention is worth a pound of cure" more applicable than when applied to control the diseases in the farm flock.

Sanitation may be defined as the establishment of conditions favorable to health. Therefore, anything, that is conducive to the promotion of the health of the fowl, can be considered under this subject. Since keeping the bird healthy is the primary step in preventing disease, sanitation and prevention of disease go hand in hand. You probably consider sanitation as including only cleaning and disinfection. These are primary factors, but since numerous others which might be considered as belonging to another field, are conducive to good health and prevention of diseases in the farm flock, they should also be considered. Chief among these are: (1) correct construction of houses, utensils, and runs; (2) health feeding; (3) continuous culling; (4) keeping the flock free from worm, lice and mites; (5) intelligent care of the birds.

I shall consider correct construction of houses, utensils and runs in conjunction with cleaning and disinfection and then take up the other factors in the order named.

Houses.—There are many types of poultry houses that are correct, but regardless of the style, one should always keep in mind

the health of the bird when building or remodelling. The south exposure; the arrangement of windows to permit ventilation, without drafts; and, the location in relation to good air and water drainage are all disease prevention measures. Sunlight is our cheapest and best disinfectant. Make the utmost use of it. This can be done by constructing the windows so that the sunlight can get to the furthest corner of the house.

Construct the interior of the house so that it is rat, louse and mite proof. Avoid large cracks in the walls, an overhead loft of straw, and all unnecessary immovable fixtures. The use of dropping boards under the roosts are necessary fixture if sanitation is to be practiced.

Utensils.—All utensils such as feed hoppers and water fountains should be so constructed that they can be easily cleaned and yet be of such a nature that the birds cannot get their feet into them. At times, when medicated water is indicated, it is often necessary to use only crockery and wooden vessels, due to the chemical action between some drugs and iron. Do not depend entirely on medicated water to prevent disease. Scrub out the utensils with hot water and soap and disinfect them once a week even when disease is not prevalent. This will do more than drugging your birds continually with patent medicines. Birds, as well as persons, can become drugged to death, so avoid patent medicines as much as possible.

Runs.—It is better to fence the garden so that the birds cannot get into it, than it is to fence them in close quarters to prevent them from eating the crops. What is true with the garden is true with all crops that might be injured by the birds. Fence such crops in, and let the chickens have free range whenever possible. Birds need green feed and exercise if they are to stay healthy, foraging for their food gives them both.

Rotation of runs is the best substitute for free range. If you cannot let the fowls have the run of the farm try to have two, or better still, three separate runs. Grow cover crops on the ones which are not in use, and transfer the birds from one to another so that each run can remain free from use for at least a year. Such practice will aid greatly in preventing infestations of worms, and coccidiosis. If colony houses are available, this scheme will fit very well into the crop rotation and plan that is practiced on most farms. By this plan, Colony houses can be moved to fields that are used for pasture, or cover crops, and the birds permitted to forage on new runs as the crops are rotated.

Continual use of a single run for chickens causes the ground to become "fowl-sick" and heavily infested with parasite eggs. Of

course it is often impossible to have the ideal, and if a one run system must be practiced, such runs should be ploughed under and seeded to a cover crop at least once each year. Another precaution that will help, is to avoid feeding the birds in the same portion of the run continually. This method gets them in the habit of loitering in that spot and it is very apt to become contaminated and a source of danger to the fowls.

All runs should be preferably of a sandy loam soil and well drained. They should not slope towards the hen house. Pools of water should not be allowed to collect and become stagnant.

Cleaning and Disinfection.—Cleaning and disinfection are inseparable terms. There is no need wasting time spraying your hen-house with best disinfectant in the world, unless you thoroughly clean, scrape and scrub that house first. A disinfectant may be defined as a substance which will kill disease germs. Sunlight is our cheapest and most efficient germ destroyer, but even sunlight cannot penetrate clumps of dirt that may adhere to the floor of the hen-house. Try to picture to yourself a million disease germs in a piece of refuse no larger than a millet-seed. Such a condition is possible, and now suppose that you leave one such piece of dirt in a crack in the floor and not touch it with the disinfectant. What may result? Just this. That tiny speck of germ laden filth may be the cause of your entire flock of chickens succumbing to some fatal disease such as fowl cholera, or fowl typhoid.

Thorough cleaning and disinfecting of the houses should be done at least once a month when no disease is prevalent. During an outbreak clean and disinfect thoroughly each day. Remove all fixtures, scrub with hot water to which has been added a liberal amount of lye, rinse well and place in the sun for half a day.

Sweep the interior of the house, and scrape all refuse and filth from the floors. Burn this, or remove it to a remote part of the farm that is not frequented by chickens. Do not throw it into the yard to be scratched over by the hens. If you do that, you have only wasted your time in cleaning it from the house. The birds can scratch it around and pick up the germs as well out in the yards as within the house.

After you have so thoroughly dry-cleaned the house that it would seem that no germs could possibly remain it should be scrubbed with hot water to which has been added plenty of lye. As soon as the surfaces have dried, the walls, ceiling and floor should be soaked with a 2 or 3% solution of a good stock dip. A force sprayer is the ideal instrument for applying the disinfectant, since every crack and

crevice can be reached in this manner. The best plan in disinfecting any building, is to spray it until you are sure you have reached every grain of filth, and then go over everything once more.

White-washing after disinfecting will aid in giving the building a clean appearance, and in filling up cracks that might harbor mites. However, do not place too much faith in white-wash as a disinfectant. If mites are present, a kerosene emulsion or crude oil thinned with kerosene, should be added to the usual disinfectant. It must be remembered, however, that kerosene is of little value in destroying bacteria, and should not be used alone, if both mites and bacteria are to be killed. The same care should be taken with brooder houses as with the larger houses.

Health Feeding.—Health feeding is a factor in prevention of poultry disease. By this I mean, not only should you feed a ration that contains the proper amount of fat, carbohydrates and proteins, but the essential vitamins as well. Vitamins are best supplied by green feed, and this should be given to the birds daily. If it is impossible to let them run on green pastures, supply them with green feed. A disease known as nutritional disease results from lack of the proper vitamins, but more important than this is the danger of lowering the resistance of the fowls and thus making them susceptible to more serious diseases. Just keep in mind that the fowl is not essentially different from man as far as vital organs are concerned. The vigorous robust man is less apt to get disease and the same is true with the fowl.

Young chicks are especially susceptible to the deficiency disease caused by lack of vitamin D. Weak legs result from the lack of this vitamin and this can be corrected by giving small quantities of cod-liver oil (2% of the total ration). Direct sunlight has the same effect as cod-liver oil in correcting this condition so that sunlight may be considered a factor in health feeding. When direct sunlight is available nutritional rickets or weak legs can be prevented if the chicks are allowed to get plenty of it.

Continuous Culling.—All of you are good poultry husbandrymen, and practice culling for increased egg production. But, how many of you cull for health or prevention of disease? May be it has never occurred to you that daily culling will do wonders to insure a healthy flock. By daily culling, I mean that in your daily trips to the yards, a careful watch would be made for birds that tend to stray away from the flock or in any way appear to be unthrifty. Such a bird becomes a "boarder" and should be discarded from the flock. Not

only does it become a boarder, but it may be a source of infection as a carrier of disease germs. If such a fowl is noticed, the reason for its unthriftiness should be determined, and, if it is due to an infestation of worms, or to an infection, steps should be taken to prevent the condition from spreading through the flock.

Worms, Mites and Lice:—How much damage do worms, mites and lice cause in a flock? This question is probably asked more than any one question in regard to poultry diseases. Actual losses due to these infestations are not so great. They are known as secondary invaders but should rightfully be called primary invaders since they lower the resistance of birds and have the way for more fatal diseases to creep in. Roup, chicken-pox, colds, and many other diseases cause much greater losses in infested flocks than in non-infested flocks. Strict observance of cleaning and disinfection methods will do much to prevent lice and mites from infesting the premises. Rotation of runs is our best protection against infestation by worms.

To protect the fowl from the ravages of the tape worm, "swat the fly." The fly and other insects are necessary hosts in the life history of this worm, so if you can keep down the fly you will do much in keeping your flock free of tape worms. A good preventive measure is to give your flock a treatment for worms after the first killing frost in the fall. This will help to insure freedom from parasites during the winter months, since few flies are about after the first killing frost.

Care of the flock During an Outbreak:—If you are so unfortunate as to have disease break out in your flock, in spite of your careful attention to preventive measures, consult your local veterinarian. He is a trained sanitarian and will be able to give valuable advice even though he may not be able to make a diagnosis and advise treatment immediately. Treatment depends on making a correct diagnosis, but this is often impossible without a bacteriological examination. The veterinarian can direct first hand preventive measures until a sick bird can be sent to our laboratory for a bacteriological examination. If a veterinarian is not available, and a diagnosis cannot be made, a live sick bird should be shipped by express to the Department of Bacteriology, Kansas State Agricultural College, Manhattan, Kansas. Until a diagnosis can be made by us and treatment suggested, strict sanitary measures, such as killing and burning of all sick birds, and thorough disinfection of all houses and utensils should be practiced. Whenever possible, the healthy birds should be removed to new quarters that have been thoroughly cleaned and disinfected, until the contaminated quarters can be freed from the infection.

CONCLUSION.

In conclusion I wish to summarise the factors considered in this discussion. I have shown you that sanitation and prevention of poultry diseases go hand in hand and that factors applying to one apply to the other.

Construction of houses, utensils, and runs so as to promote health; thorough cleaning and disinfecting; health feeding; continuous culling for promotion of health; the necessity of keeping a worm, mite and louse free flock; and the steps necessary when disease creeps in, have been briefly discussed.

Finally, let me repeat, be thorough in the practice of all sanitary methods, and remember that an ounce of prevention is worth a pound of cure.

PLANT THERAPY VERSUS GLAND AND VACCINE THERAPY.

BY

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Those who read my article published in the *Indian Veterinary Journal*, October 1929, know where I stand as to the value of botanical drugs in the treatment of diseases in our dumb animals.

Some four or five years ago, I read an article in the *Indian Veterinary Journal*, describing two systems of medical thought, the Allopathic and Homeopathic, but omitted the Eclectic School which has been in existence in the United States for over a hundred years and have 10,000 Graduates practising in the United States and foreign centres and have a recognised College in Cincinnati which is still running and turning out a bright lot of physicians each year. My readers practically all know the belief and teachings of the Allopath and Homeopath Schools. The Eclectics first believe in using more plant remedies than the dominant School or the Homeopathic School, however this is not the only difference, they are liberal and believe in using any drug that has been known to be beneficial in curing disease, whether it is used by Allopaths or Homeopaths and choosing the best from all systems. However, the greatest difference is they don't believe in treating disease by diseased names, such as pneumonia, typhoid fever or cerebritis, but treat pathological conditions as they arise, and have no specific or cure for any disease, but believe in treating the patient, as there are no two cases of pneumonia,

typhoid that are exactly alike or need the same treatment. The United States Government has ruled "in the pure food and drug act" that there is no cure for such diseases as distemper, black tongue and fits in dogs, and rightly so, for this is Eclecticism.

The reason I mention this is, the dominant School for the past twenty years have become drug nihilist, relying mainly on ductless gland extracts, vaccines and a few synthetic drugs of the coal tar and dye house preparations, and have practically abandoned nature's remedies that our old time family physicians in former days were so successful with. I don't mean by this that we should go back to the old lynch pin waggon or wooden plough shear, but I do believe we should in our wild career stop and take stock, and go back and study some of our old plant remedies with the same intent and eagerness that we do to our chemotherapy, vaccines, serums and bacterins.

The rule at present in case of Asthma and allied diseases is to give hypodermically Adrenalin to raise blood pressure, etc.; why not, instead, give some drug that will stimulate the adrenal glands to perform their function, which we have in subculayd lobelia. Diabetes is not only due to faulty function of the pancreas, the liver also is a factor. Why not use a botanical drug that will correct these two organs and assist them to perform their natural functions, instead of giving liver extract for black tongue in dogs. I give such vitamin foods as spinach and honey, not neglecting the proper liver stimulating drugs; in case of goitre, don't give thyroid extract but give iodine in organic form from (Fucuo Vesiculosis) or bladder wack. This is assimilable and not irritating as is potassium iodide, or the resublimed or tincture of iodine. To those wishing to procure those drugs used by Eclectic physicians I will refer them to Lloyd Bros., Pharmacists, Inc. 300, West Court Street, Cincinnati, Ohio. In regard to these preparations, I will say to the best of information when the pure food and drug act went into effect in 1906, every one of the drugs advertised by Lloyd Bros., passed muster and not one of their labels had to be changed or have a narcotic blank.

I graduated 42 years ago at the Old New York College of Veterinary Surgeons, which is allopathic College, and while I like my Alma mater, after a few years of practice it convinced me especially in canine practice that most of their teachings as to drugs used were too heroic. I began to study other systems of medical thought and for small animals adhere to the eclectic, however, I am panpathic in my views and believe there is some good in all systems.

CHINESE METHOD OF SPAYING PIGS.

BY

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Penang.

Pork is the principal article of diet of the Chinese who form the majority of population of Penang. Pig-rearing is therefore one of the chief occupations and means of livelihood among the Chinese labouring classes in this Island. It is not as properly developed here as in Western countries, which may be ascribed to the poverty and illiteracy of the people. Hence the poor Chinese breeders follow a crude, cheap way of breeding, rearing and feeding these animals. A pig breeder, besides his pigs, is a vegetable gardener and poultry keeper as well. Each breeder will have at least ten to fifty pigs which are kept in open enclosures made of jungle wood and with no proper flooring. They are generally fed on rice, bran, refuse from the hotels, cocoanut cake and banana stems, etc. It is a pity that the income of this valuable industry has not been adequately appreciated by the educated middle class Chinese, as a result of which unemployment among them is very acute and the industry is thoroughly undeveloped. These poor class of people are very hard-working, industrious and work day and night in looking after their animals.

It is a common practice among the breeders to spay the females when they are 3 months old, with the object of fattening them so that they may find a ready sale in the market. For this purpose there are some professional operators among the breeders themselves who go about and perform this operation of ovariectomy for 50 cents a pig.

On one occasion, when I was on my morning inspection duty in one of the breeding centres, I happened to see this operation being performed by an expert Chinese on 8 pigs. A description of this operation is given below.

A long wooden pole measuring 20 feet in length is kept on the floor to which the 8 pigs were firmly secured by their necks, in a row, with the right flank towards the floor and the left towards the operator. The instruments consist of a knife 5 inches long, about $\frac{1}{2}$ inch broad with a hook at one end, and ordinary sewing needle and thread. By his side he had a bucketful of water and a black powder in addition. On the left side of the flank, he makes a bold incision, just sufficient to introduce one finger, searches for the ovary with his left hand index finger, and brings it out. He then applies a ligature with a piece of thread and cuts the ovary out. In the same manner he removes the other ovary also. Having removed these, he finishes the operation by a suture on the skin, and lets the animal go

after applying some of his black powder to the wound. The time taken by him to finish the whole lot was not more than half an hour. The pigs did not show sign of any pain during the operation, though no anaesthetic was employed. As soon as the operated pigs were let loose, they rushed into their pens and had a nice feed and a good mud bath. On questioning the operator about the after-effects of his operations, he said that he never had any bad results ever since he took up this profession, which is really surprising.

Not being satisfied with the version of the operator, I went to that place again after a week, examined the pigs and found no signs of peritonitis. I then made enquiries from the meat inspectors of our Abattoirs, whether they have detected any cases of peritonitis as a result of ovariectomy during their inspection, and they informed me that such cases were not uncommon among small pigs brought for slaughter.

A NOTE ON FOWL-CHOLERA AND THE ANTIGENIC VALUE OF VACCINE*

BY

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Fowl cholera is known to veterinarians from the 18th century (Hutyra and Marek, 1926). The disease is of the nature of human plague and not cholera (Turkud 1931). The bacterium is met with in the peripheral blood as well as in the internal organs and belongs to the group of Pasteurellae. It has a resemblance to *B. Pestis*. The disease usually occurs as an acute infection but a chronic condition is also known among fowls, geese, ducks, turkeys, pigeons, sparrows, and many other domestic and wild birds.

The period of incubation is short and ranges from a few hours up to 72 hours. The death rate is very high and may vary between 90 to 100 per cent. (Vide table 1).

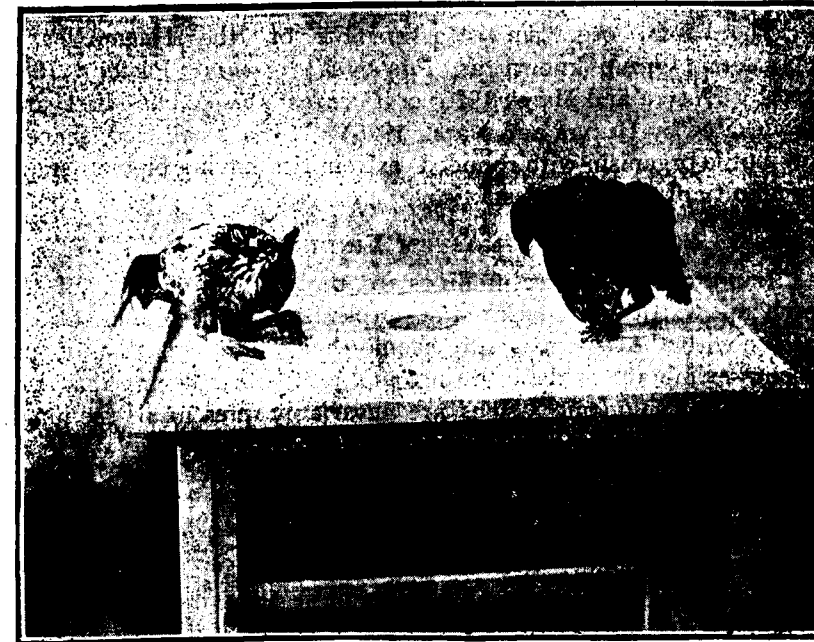
SYMPTOMS.

In hyper-acute cases, no symptoms are noticed and the birds are found dead. In less acute cases loss of appetite, great depression and thirst are noticed. The bird stands with head lowered, assumes a crouching position and sits trembling in a secluded place. Convulsive movements of the neck and discolouration of the

* Paper presented before the Sixth Annual Sessions of the Mysore Veterinary Medical Association, 1934.

comb and wattles into brownish red are also noticed. At the height of the disease profuse diarrhoea develops, first greyish in colour, later becoming fluid with a greenish or reddish tinge or sometimes yellow and having offensive odour; faeces may sometimes be found mixed with albumen-like flakes. The temperature rises up to 108.0°F, or 110°F. (vide chart 1).

The chronic form of the disease develops towards the termination of an outbreak from which birds may recover and become carriers (Dobson 1934). Seddon (1914) in Australia and Warrack and Dalling (1932) in England described a condition of oedema of wattles of the affected fowls, from which were recovered organisms resembling *P. ovium*. Sometimes one or more joints of the wings and the feet may swell (note the bird to the right in the illustration). Later, the swelling bursts and a caseous purulent mass containing the bacilli is discharged (Hutyra and Marek 1926).



TRANSMISSION. (Vide chart No. 3).

Natural infection is usually by ingestion of food or water contaminated with droppings, saliva, viscera, etc. (Turkud 1931) puts forth a suggestion, because of the morphological and biochemical resemblance of *B. avisepticus* with that of *B. Pestis* and of the presence of organisms in the circulating blood, that the organism of fowl cholera may be transmitted through the

bites of some biting insects probably the fowl-flea and fowl-louse as *B. Pestis* is conveyed to human being through the bites of the rat flea. Hertel cited by Hutyra and Marek (1926) demonstrated virulent bacilli in dermanyssus mites which he collected from the body of the chickens affected with cholera, which proves that there is a probability of the disease being transmitted by invertebrate vectors. The entrance of the bacilli takes place through injuries of the skin or mucous membrane; the bacilli penetrating through cases of the uninjured mucous membrane are also mentioned. The organism may gain access into the blood stream directly or through lymphatic system. In the former case death occurs earlier. The bacteria are capable of gaining access into eggs from the blood stream (Celli and Marchiafava, Barthelemy, cited by Hutyra and Marek 1926). This explains the transmission of the disease to the progeny and according to Kitt, such birds resist a virulent infection.

ETIOLOGY.

The causal organism is a member of the Haemorrhagic Septicaemia group known as, *Pasteurella avium* (Pasteur 1880 cited by Hutyra and Marek 1926) or *Bacillus avisepticus* (Kitt and Mayer cited by Hutyra and Marek 1926). It is a small rod shaped, non-motile organism with rounded extremities having bipolar staining affinity of the protoplasm.

POST-MORTEM FINDINGS.

Important anatomical findings are, the change of colour of the comb and wattles into dark red or purple, soiled appearance of the carcass with the faeces, acute haemorrhagic inflammation of the mucous membrane of the intestines and punctiform haemorrhages of the heart. Pneumonic lesions are invariably present in the lungs. Liver presents small necrotic areas.

DIAGNOSIS.

The presence of bipolar staining organisms in the blood and other organs. Confirmation is possible by culturing the organisms and inoculating into susceptible birds which usually die within 17 to 36 hours.

PATHOGENICITY OF STRAINS.

Pathogenicity of two strains (Muktesar and Madras Veterinary College) were tried on fowls. Varying doses of 0.01 c. c. to 2 c. c. of 48 hour old broth cultures were used and it was found that 0.01 takes a long time to kill the birds (from 120 to 264 hours) whereas 2 c. c. killed in 14½ hours. Uniform results were not obtained with other dosages, which perhaps can be attributed to the varying individual susceptibilities; however, 0.1 c. c. of the culture was found to

FOWL No 13. CHART No. 1.

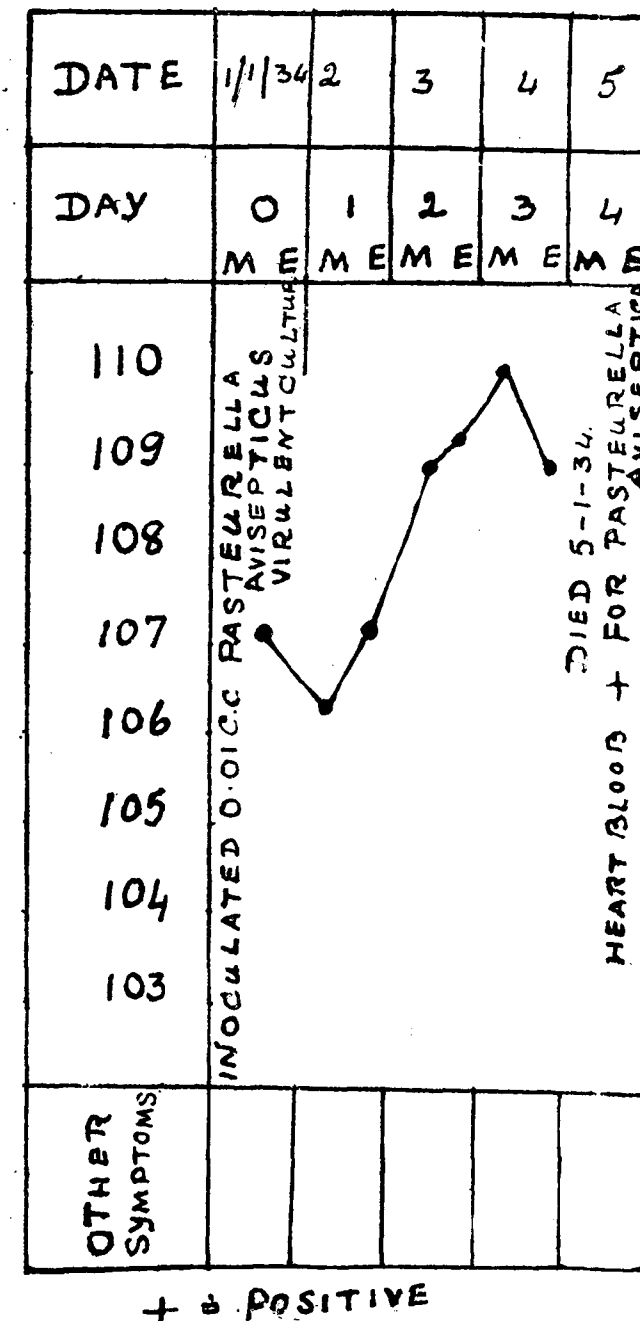
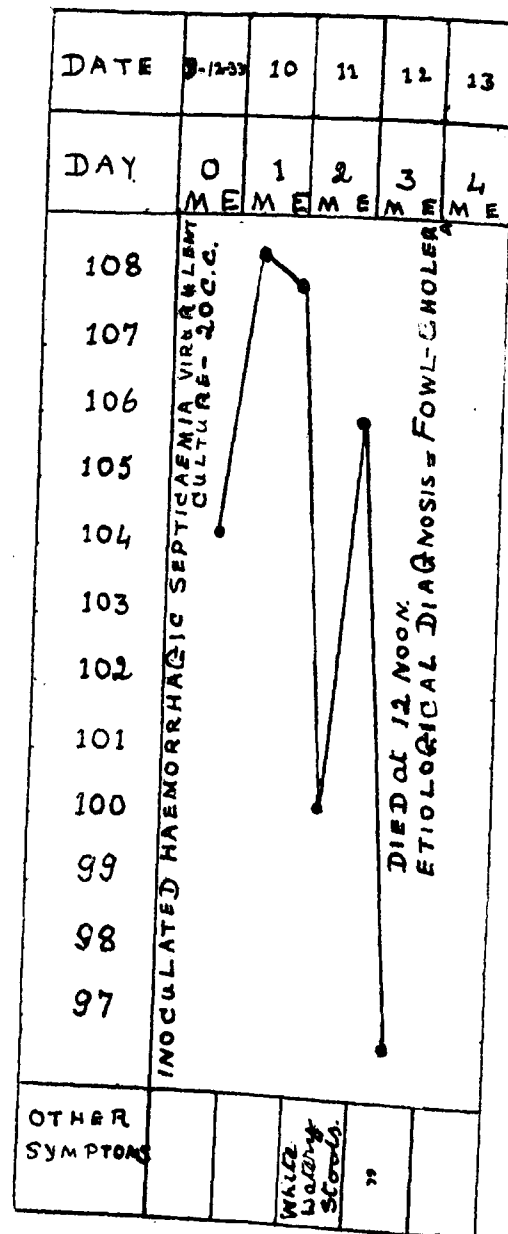
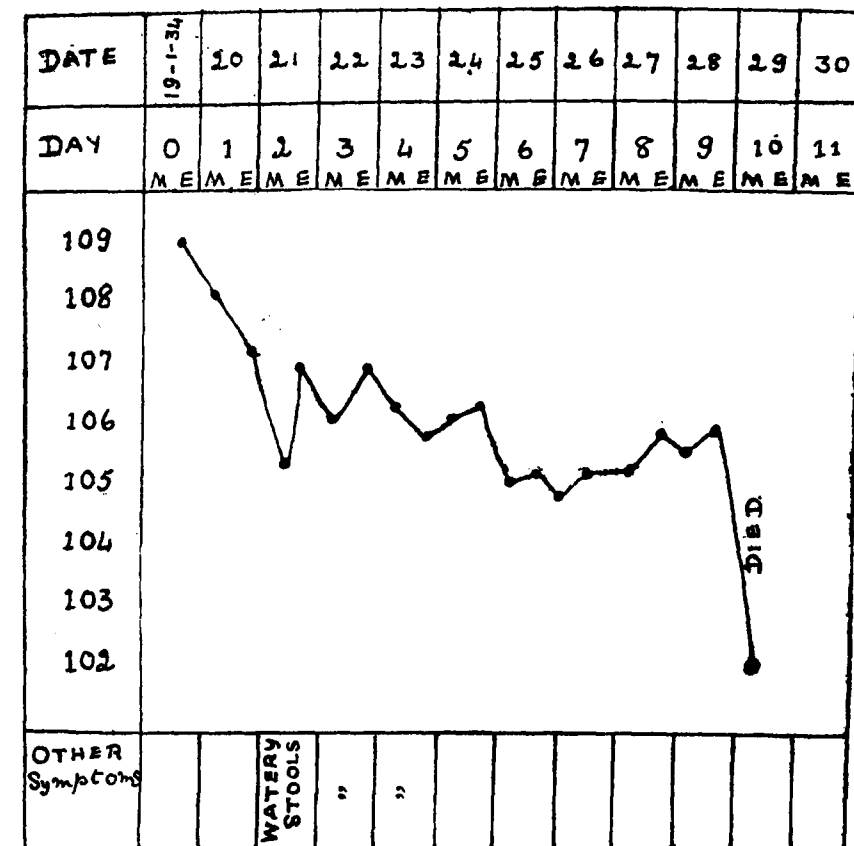


CHART NO 2
FOWL NO1



CROSS INFECTION

FOWL- CHART NO 3



NATURAL INFECTION OF FOWL-CHOLERA
(CHRONIC)

kill the birds in from 20 to 28 hours. This dose was for our purposes adopted as the M. L. D. for fowls (vide Table I).

PATHOGENICITY OF PASTEURELLA AVISEPTICUS ON FOWLS.

Table I.

S. No.	Fowl No.	Date of injection.	Cultures.	Dose of cultures	Death in hours.	Diagnosis.	Remarks.
1	4	30-12-33	M.V.C. 610 P 2	0.5 c. c.	14.5	+	Incubation period 12 hours.
2	5	"	"	1.0 c. c.	37	+	
3	6	"	"	2.0 c. c.	240	+	Chronic.
4	7	"	Muktesar P 1	0.5 c. c.	20	+	Incubation period 8 hours.
5	8	"	"	1.0 c. c.	20	+	
6	9	"	"	2.0 c. c.	14.5	+	Chronic.
7	10	1-1-34	Muktesar P 2	0.25 c. c.	168	+	
8	11	"	"	0.1 c. c.	20	+	Chronic.
9	12	"	"	0.01 c. c.	120	+	
10	13	"	M. V. C. P 3	0.1 c. c.	28	+	
11	14	"	"	0.01 c. c.	268	+	

* M. V. C. = Madras Veterinary College. + = Positive for fowl cholera.

Cross Infection.—Attempts were made to study the pathogenicity of *Bacillus bovissepticus* on fowls. Three fowls were injected with 48 hour old virulent broth culture of *B. bovissepticus* with sufficiently heavy doses of 20,30 and 40 c.c. respectively. All the three birds died within 48 to 96 hours showing the typical symptoms of fowl cholera (vide Table II—chart No. 2). The heart blood revealed the bipolar organism, on microscopic and as well as cultural examination, which fact proves that cross infection is possible. (vide chart No. 2).

PATHOGENICITY OF PASTEURELLA BOVISEPTICUS TO FOWLS
(CROSS INFECTION)

Table II.

S. No.	Fowl Number	Date of inoculation.	Culture.	Dose of culture.	Result.	Diagnosis.	Remarks.
1	1	9-12-1933	451 p 2	20 c.c.	Died (72 hours)	+	
2	2	"	"	30 c.c.	Died (48 hours)	+	
3	3	"	"	40 c.c.	Died (96 hours)	+	

+ = Positive for Pasteurella.

Virulence of the *Bacillus Avisepticus*:—0·0000001 mg. of fowl cholera culture furnishing from 2 to 4 organisms was found to be the M.L.D. for white mice. Bujuvid (1918) recorded that 0·0001 mg. of Anthrax culture containing 4 to 10 organisms is the M.L.D. for white mice. *B. Avisepticus* seems therefore more fatal to white mice than even *B. Anthraxis*.

Treatment:—Anti-fowl-cholera serum is recommended in addition to therapeutic measures of treatment with disinfectants in drinking water. Small doses of Iodine and stimulants are of very high value (Turkhud 1931.) Kalikin (1932 a) found salicylic acid to be an efficient disinfectant against *P. avisepticus* *in Vitro*. His experiments by inoculating Salicylic acid as a prophylactic was a failure; however he succeeded in establishing, by feeding experiments, that the material is valuable both as a prophylactic and a curative in fowl-cholera.

Immunology:—Pasteur (1880) proved the possibility of immunising the fowl against fowl-cholera.

Passive Immunisation:—Anti-fowl-cholera serum was first produced by Kitt and Mayer in 1892 (Vide Hytera and Mareck 1926) by immunising horses with virulent bouillon cultures of fowl cholera bacteria. The serum is said to confer immunity lasting only up to 2 or 3 weeks.

Active Immunisation:—The only method known is by the use of a vaccine.

A. Szasz (1919) employed a virulent strain of fowl cholera grown in bouillon for 4 or 5 days which he employed in doses of 3 to 5 c. c. with fairly good results. Kalikin (1932) prepared a salicylated vaccine by growing *P. avisepticus* in broth for 5 days, which was considered to confer immunity against fowl cholera with a 5 c. c. dose.

With a view to prepare a potent vaccine for field use in Mysore, experiments were undertaken in the Institute. The vaccine was prepared according to the method recommended by Szasz with certain minor modifications.

The first product that was prepared in the Institute during the year 1933-34, was tested on a batch of fowls in the month of January 1934. 2 c. c. of the vaccine was employed as a dose. They showed only a mild thermal reaction.

On the 7th day after inoculation with vaccine, these birds were subjected to immunity test by injecting them with 0·1 c.c. of a 24-hour-old virulent broth culture of *Pasteurella avisepticus* with three fowls as controls. All the three controls including one inoculated bird died of fowl cholera, whereas the other two vaccinated birds withstood the infection.

The fact that all the controls died and two vaccinated birds withstood the infection is an encouraging testimony for the antigenic value of the vaccine and for further work for improving it. As the experiments and the preparation of vaccine have been taken up very recently in the institute, the duration of immunity produced cannot be cited at this stage.

However, the experience by Grimm and Pfeiler (1919) proves that by the sero-vaccine method of inoculation, the immunity produced should last for a year and half.

Sero-vaccine Method of Inoculation:—When inoculations have to be taken up during an outbreak it is advisable to practice the sero-vaccine simultaneous method of safety. It is believed that by inoculation with vaccine alone the resistance does not become fully established for 10 to 14 days after the process. It is also wise to protect the birds in contact, with Anti-serum alone and after a week to give the vaccine.

Serum and vaccine simultaneous method of inoculation was tried by Grimm and Pfeiler (1919) on 37 birds with only 1·3% mortality among the vaccinated, there being 100% death among the controls. Pfeiler (1920) succeeded in conferring a solid immunity on 158 fowls by protecting them by sero-vaccine simultaneous inoculations.

Cross Immunity:—Recently, Narayan (1934) from Federated Malay States claims to have succeeded in controlling an outbreak of fowl cholera by using bovine Haemorrhagic Septicaemia serum of Muktesar in the absence of Anti-fowl-cholera serum by using 1 c.c. of serum for immunising purposes and 3 c.c. for curative purposes. This strengthens the belief that as cross infection is possible, cross immunity also may be obtained.

Acknowledgments:—I am indebted to Mr. S. D. Achar, Superintendent for permitting me to publish this paper, and to Mr. R. M. Purushotham for his assistance in preparing this article.

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FOWL PEST IN PROVINCE WELLESLEY.

BY

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Several research workers have given different names to what appears to be one and the same disease. Some of the names given to this disease are:— (1) Ranikhet Disease of India, (2) Pseudo-Fowl Pest, (3) Fowl-Pest, (4) Avian Pest in Philippine Islands, (5) New Castle Disease of England and (6) Pseudo-Avian Pest of Java etc.

Ranikhet Disease of India and Avian Pest of Philippine Islands have been found by Cooper (1930) to be identical. He claims that fowls which recover from Ranikhet Disease are immune to New Castle Disease as well as Avian Pest.

Recently the writer had the opportunity of making certain observations on this condition during two rather severe outbreaks which occurred in Province Wellesley. Post-Mortem examinations were conducted on every bird that died. The Post-Mortem lesions were seen all along the alimentary tract and were more or less alike in both the outbreaks. With a view towards positively diagnosing the condition, the writer attempted to transmit the disease to two adult pigeons, the following method being adopted. Adult pigeons were selected because research workers on poultry diseases have found that pigeons are least susceptible to fowl-plague and some of the workers have transmitted fowl-plague to young pigeons by intra-venous injection of large doses of virulent blood, from plague stricken fowls. They maintain that adult pigeons are refractory to fowl-plague. They also found that pigeons of all ages are highly susceptible to Fowl-Pest.

The writer was fortunate enough to observe the technique of the late Mr. Krishnamurthy Iyer, Professor of Pathology and Bacteriology, Madras Veterinary College, when carrying out his investigations into this disease.

The following was the method adopted and the observations noted by the writer.

Two sick fowls were brought from Tassek, Province Wellesley, on the 5th October, 1934. One of them was paralysed and was in a comatose condition, with the comb and wattles blue in colour. The cloaca was soiled with liquid faeces of greenish yellow colour. This fowl died during transport to Bukit Mertajam, where the Laboratory is situated. A post-mortem examination was performed on the same day when the following lesions were noted:—

Small dark red haemorrhagic spots were present at two places in the lower portion of the Oesophagus. The Mucous membrane of the

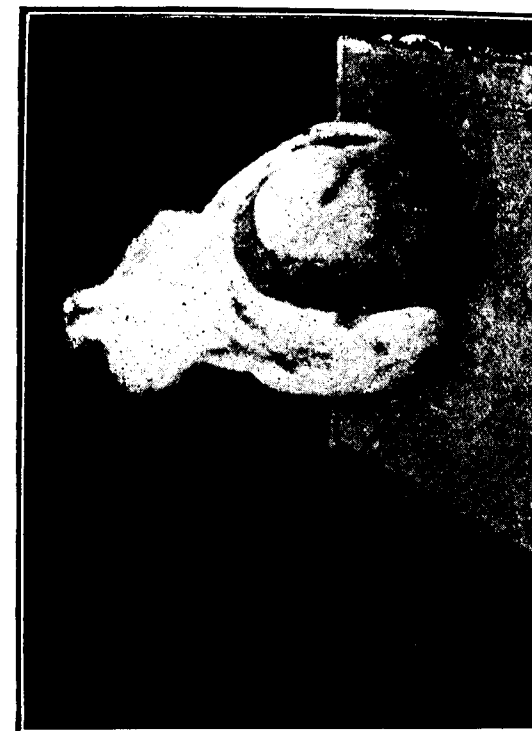


Fig. 2.

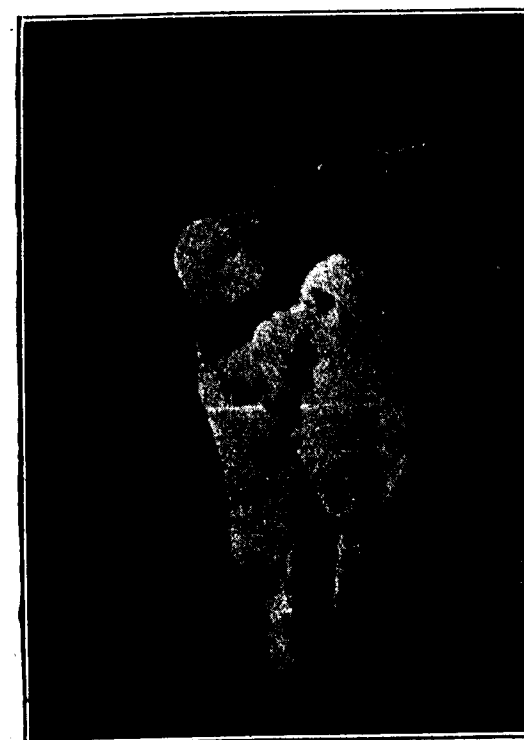


Fig. 1.

PIGEON NO. 1.

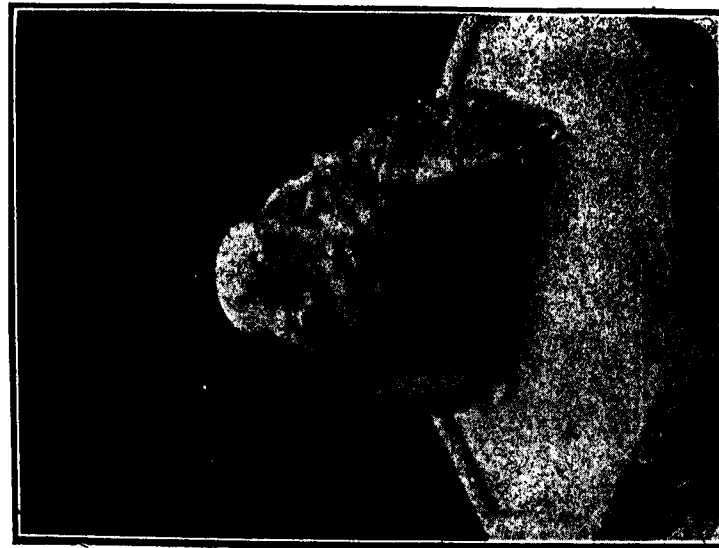


Fig. 4.

PIGEON NO. 2.



Fig. 3.

proventriculus was congested. There were raised elevations of diphtheritic deposits in the large intestines at four places, varying in size, the largest being about quarter of an inch in length. There were minute ulcers in the caecum. The cloaca was highly congested. Other organs appeared to be normal.

The brain of this fowl was emulsified with normal saline, in the proportion of 1 in 10, and one c.c. of this emulsion was injected subcutaneously into Pigeon No. 1 at 5 p.m. on the 5th October, 1934.

Fowl No. 2, with a history of three days' illness, was partially paralysed and was unable to stand. The mouth was gaping, respiration was difficult and accompanied by a gurgling noise, frothy mucus and soapy saliva dribbled from the beak. The fowl was off feed and had diarrhoea of greenish white colour. The cloaca was soiled with the liquid faeces as in the case of Fowl No. 1. This fowl died the next day *i.e.*, the 6th October, 1934. The Post-Mortem findings was more or less the same as in the previous case. The brain of this fowl was emulsified in normal saline as before and one c.c. was injected subcutaneously into Pigeon No. 2 at 11 a.m. on the 6th October, 1934.

SIGNS AND SYMPTOMS.

Pigeon No. 1. 11th October, 1934. Slight drooping of both the wings, more marked on the right side. There was sulphur coloured diarrhoea. The bird was feeding well but was helpless and unable to get up unaided when placed on its back.

Its gait was stiff and the bird moved with difficulty when frightened. Fig. No. 1.

12th October, 1934.—The pigeon was unable to stand and was constantly sitting as shown in Fig. No. 2. The bird was continually moving its head and tail feathers up and down in a spasmodic manner. The bird continued to feed well but had persistent diarrhoea.

13th October, 1934.—This pigeon was found dead in the morning *i.e.*, 8 days after inoculation and 3 days after the onset of symptoms. A post-mortem examination was performed at 8 a.m. The blood vessels of the intestines were found to be markedly congested. A few pin pointed dark red haemorrhagic patches were found in the intestines.

Pigeon No. 2. 12th October, 1934.—This pigeon exhibited drooping of the wings and had ruffled feathers, stiff gait and sulphur coloured diarrhoea. Fig. 3 and 4.

13th October, 1934.—The bird was unable to stand and lay on its breast and abdomen, with marked paralysis of both wings, as shown in Fig 5. Greenish yellow diarrhoea was present, it fed well but was unable to get up when placed on its back. (Fig 6).

14th October, 1934.—The legs were completely paralysed. The bird was only able to move its neck and the tail feathers. It fed well but had persistent diarrhoea.

15th, 16th & 17th October, 1934.—The general condition was the same as that on the 14th October, 1934. The right leg was stretched backwards and could not be flexed. The bird remained in this condition until its death on the 24th October, i.e., 18 days after inoculation and 12 days after the onset of the first symptoms. The bird at death was markedly emaciated.

Post-Mortem Lesions:—Punctiform haemorrhages in the proventriculus and three pin point dark coloured haemorrhagic patches in the large intestines were present. A portion of the large intestines was atrophied and the cloaca was congested. The intestines and the gizzard were very much reduced in calibre. Blood smears and examination of the faeces of both fowls and the two pigeons were negative for microorganisms and coccidiosis respectively and other worm infections.

Conclusion:—1. It appears that in fowls the lesions are more marked in the alimentary canal than anywhere else.

2. In pigeons which are experimentally infected the nervous symptoms are much more marked, than are the lesions found in the alimentary canal. The course of the disease is longer than in fowls.

Treatment:—Treatment of the sick birds with solution of Potassium Permanganate was tried but without effecting a cure, and incontact birds treated in the same way, contracted the condition.

Cooper (1930) tried the serum of recovered birds and also a serum prepared from donkeys, but the results were disappointing.

Prophylaxis:—Several research workers have tried vaccines prepared from the organs of birds which have died from this condition or from birds which have been killed during its course.

Cooper (1930) met with splendid results in immunising fowls, by utilising the serum of recovered birds which had been artificially infected with the disease, since only 10% of the affected birds survive, it may be difficult to obtain a sufficient supply of serum to cope with a large outbreak.

1. *General Measures recommended for the prevention and control of Poultry Diseases*:—In Province Wellesley, poultry diseases are mainly spread through the agency of poultry dealers who go into Kampongs (Villages) where they buy and sell birds. These birds are carried in baskets which allow dropping and discharges from infected birds to fall through and so spread disease over wide areas. The poultry dealers also throw away fowls which have died of this condition, while travelling about from one village to another and these

PIGEON NO. 3.



Fig. 5.



Fig. 6.

dead birds and the droppings of affected birds are certainly one of the ways by which the disease is disseminated.

For this reason, poultry dealers should not be allowed to enter kampongs, where the disease is known to exist.

2. New birds should not be included in the flock until they have undergone a period of segregation say about 21 days and at the end of that period they may be allowed to join the main flock, provided they do not show signs of any disease.

3. Birds taken to Poultry Shows should also be treated as new comers and should be isolated for a period of 21 days.

4. When it is necessary to buy fowls for table use from the market or from a kampong, it is advisable to have them slaughtered on the spot, having the head, feet and intestines etc. buried there.

5. No outsiders should be allowed to visit the poultry premises particularly when they come from an infected area.

6. If the fowls are not kept in properly constructed runs, it is absolutely necessary to do so, when one hears of the disease in the neighbourhood.

7. It has been found very difficult to convince the average Malay and Chinese poultry farmers, of the infectious nature of this disease; hence it is well nigh impossible to induce them to slaughter or isolate the affected birds. The affected birds and the healthy ones should be fed by different persons, failing which the healthy should be fed first and the sick ones later.

8. The fowl houses should be washed twice a day with disinfectants such as Izal. Strength 1 in 600.

9. Drinking water should be changed as frequently as possible and not less than twice a day. It would be well to add sufficient potassium permanganate crystals to the drinking water to colour it a light pink.

10. The remnants of a feed should not be left for any length of time, but should be removed and buried.

11. The attendants who look after fowls and visitors should always wash their hands and feet in a disinfectant solution before entering and after leaving the fowl-house. This is most essential when attending to sick fowls and also when there is an outbreak in the vicinity.

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AN INTERESTING OUTBREAK OF VARIOLA IN MILCH CATTLE AT LAHORE.

BY

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A large number of buffaloes and cattle suffering from unusually severe type of cowpox, attending the Punjab Veterinary College Clinic, attracted the attention of the writer, and what follows is a study of the disease which appeared as an outbreak.

Occurrence.—In connection with the study of the outbreak a large number of cattle were inspected in the different localities of Lahore, and the following table shows the number of animals, which were affected with generalised Variola in different localities of the town, during the week ending March 31st, 1934.

No.	Locality.	No. of Milch Buffalo Cows affected.	No. of dry Buffalo Cows affected.	Total.	No. of Milch Cows affected.	No. of dry Cows affected.	Total.
1	Lahore City (old)...	92	7	99	29	2	31
2	Santnagar ...	24	4	28	2	—	2
3	Krishan Nagar ...	26	2	28	1	—	1
4	Ram Nagar ...	10	—	10	—	—	—
5	Mohalla Gurdit Singh ...	2	—	2	—	—	—
6	Changar Mohalla ...	4	—	4	—	—	—
7	Nisbet Road ...	11	1	12	—	—	—
8	Gwalmandi ...	13	2	15	—	—	—
9	Hira Mandi ...	8	—	8	1	—	1
10	Ram Gali ...	9	—	9	—	—	—
Total.		199	16	215	33	2	35

From the table it appears to be clear that this outbreak affected mostly buffalo cows in milk, when compared with the number of cows affected. In this table animals suffering from the benign type of the disease, in which the lesions were confined to teats and udder, have not been included.



An Interesting Outbreak of Variola in Milch Cattle at Lahore 183

The following is a graph showing the number of animals affected during the months of March, April and May, and also of the atmospheric temperature recorded at the Meteorological Observatory, Lahore.

The above graphic record shows that the mean temperature ranged from 60° to 86° F. during the outbreak of the disease. The number of animals affected was the highest during the last week of March. When the temperature was ranging from 70° to 80° F. Perhaps it is premature to draw a definite conclusion of climatic influence upon the virulence of the outbreak from the observations made during a single outbreak.

Clinical Observations :—The affected animals had been brought to the hospital when vesicles developed, or, when there was difficulty in milking. The writer had the opportunity of examining several hundred cases of this disease in various stages.

The symptoms from the onset of the disease were rise of temperature to 103° or 104° F., with inappetence, suspension of rumination and decreased lactation; teats and vulva hot and sensitive, and slightly swollen; presence of papules on the teats, udder, medial aspect of thighs and vulva; (on some of the cases on the quarters, lips and around the nostrils). In 3 or 4 days these papules developed into vesicles, umbilicated in the centre when the temperature came down to normal. The vesicles by the ninth or tenth day increased in size and changed into pustules, and dried up having on them yellowish scabs, which later turned into dark brown crusts. The vesicles in some cases were noticed inside the vagina, giving rise to a mucopurulent discharge. These eruptions passed through typical stages of papules, vesicles, etc. The eruption on the teats seldom passed through regular stages as the vesicles were usually ruptured by the hands of the milkers, and became indolent ulcers. Milking was rendered painful, and the animal neither allowed the calf to suckle, nor the milker to milk completely. In some cases mastitis developed, due to retention of milk as a result of incomplete milking, or to infection reaching the mammary glands from the affected teats.

Sequelae :—Mastitis was seen in 15 to 20 per cent. of the animals; thickening of the teats and stenosis of the milk ducts in 50 to 60 per cent. The ulcers on the teats, especially in milking cattle, took a fairly long time to heal on account of repeated handling at the time of milking. Quite a fair number of milkers were seen to have received the infection, and the lesions were localised to the hands, wrists and forearms, (*vide* photograph).

Course and Prognosis :—The prognosis was favourable, and the cases recovered in about 24 days. However, from the economic



point of view the outbreak caused considerable loss of milk, and rendered some of the milch animals useless by the loss of one or more quarters of the udder.

Diagnosis:—The location of the lesions, and the typical stages through which the eruptions passed constituted the diagnostic symptoms of the disease.

One of the accompanying photographs shows a buffalo-cow, the property of Ram Lall's Dairy Farm, Lahore, showing the lesions of Variola. Note the eruptions on the teats, medial aspect of the thighs, vulva and quarters.

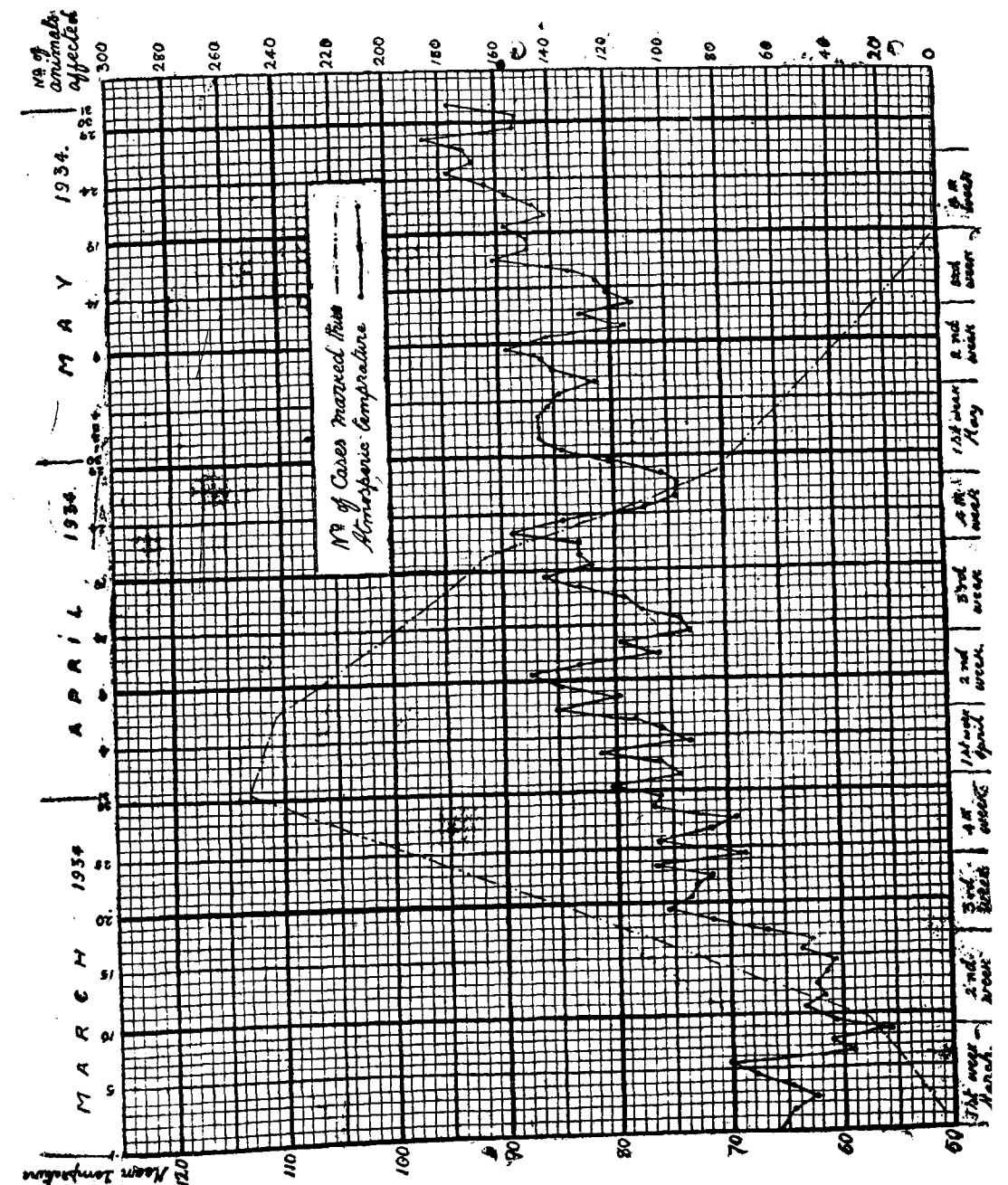
Another photograph is of the arm of Mohamed Hussain, milker of this buffalo-cow, who received infection during milking, and it shows localised lesions of small pox on the hand and wrist.

Epizootology:—The disease appeared in an enzootic form during the months of March and April (Spring season) this year, affecting a large number of cattle. Efforts were made to trace the origin of the infection, but nothing definite could be ascertained. The disease spread by actual contact, or, through the milkers. The "Gowalas," who keep a large number of cattle, were responsible for the spread of the disease among their herds by allowing the milkers of the affected animals to milk healthy animals as well.

The milkmen, who are, as a rule, engaged part-time to milk privately-owned cows, transmitted the disease from animal to animal, in different localities of the town through their contaminated hands. The usual practice of letting the animals out for grazing on the so-called common pasture lands, was another important factor in the spread of the disease in the city. It would appear that the disease after passage through many animals became less virulent, and towards the end of April the lesions remained confined to the teats and udder only, in the fresh cases.

Comparison with Recorded Cases:—The benign type of the disease is fairly common, but the generalised Variola among cattle appears to be of rare occurrence, (Wallis Hoare 1913). In rare cases the eruptions may spread to other parts of the body such as the head, inner surface of the thighs, the back, throat, chest, etc."

(Hutyra and Marek 1913) "A generalised pox eruption occurs only very rarely. In such cases the eruptions which may reach the size of hazelnuts appear, associated with febrile symptoms, on the udder, also on the inner surface of the thighs, on the croup, rump, chest, neck and in muzzle. "Dupuis, (quoted by Hutyra and Marek) observed it among two cases only. Strebel, (quoted by Hutyra and



Marek) observed the generalised form of the disease only in one instance.

According to G. H. Wooldridge (1922) "The lesions of Vaccinia are chiefly local, occurring most commonly on the udder and teats. Occasionally they are met with on other parts of the body, such as the mouth, the vulva and on the inner surface of the thighs."

Friedberger and Frohner (1895) say that in a few cases when they are generalised the vesicles are found on the head and on the internal face of the thighs.

In the aforesaid works the symptoms of generalised Variola described by the various authors are almost identical with what obtained during this outbreak. References have only been made of sporadic cases, but no regular outbreak of the generalised form of the disease has so far been recorded in India hitherto and this opportunity is taken to do so.

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Anatomical Section.

SOME PECULIAR ANATOMICAL FINDINGS.

No. 18. PRESENCE OF URACHUS IN A TWO YEAR OLD BULL-CALF.

BY

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This was met with in a two year old bull-calf opened for demonstration on 12-11-1931. This was found extending from the vertex of the bladder to the umbilicus. Total length of this urachus was eleven inches. It was wide at its vesical extremity and was narrow at its umbilical extremity. The lumen of $7\frac{1}{2}$ inches of this tube from the umbilical extremity was obliterated and this length of the urachus was in the form of a flattened narrow fibrous band widening

posteriorly. The remaining $3\frac{1}{2}$ inches of this structure still showed the lumen communicating with the cavity of the bladder.

In the course of my observation, this is the second case I have come across in which the urachus still persisted though the animal was two years old and which in fact was acting as one of the ligaments of the bladder as it were attaching the bladder to the position of the umbilicus.

I have already described my findings in a six months old Heifer-calf in which the urachus was still persistent (*vide* my article No. 14 with Plate XIV). The urachus in this first subject was—rather very large though short and the lumen existed throughout the length of that conical tube.

Clinical Articles.

VARAGU (PASPALUM SEROBICULATUM) POISONING IN WILD ELEPHANTS.

BY

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Touring Veterinary Assistant Surgeon, Periyakulam, Madras.

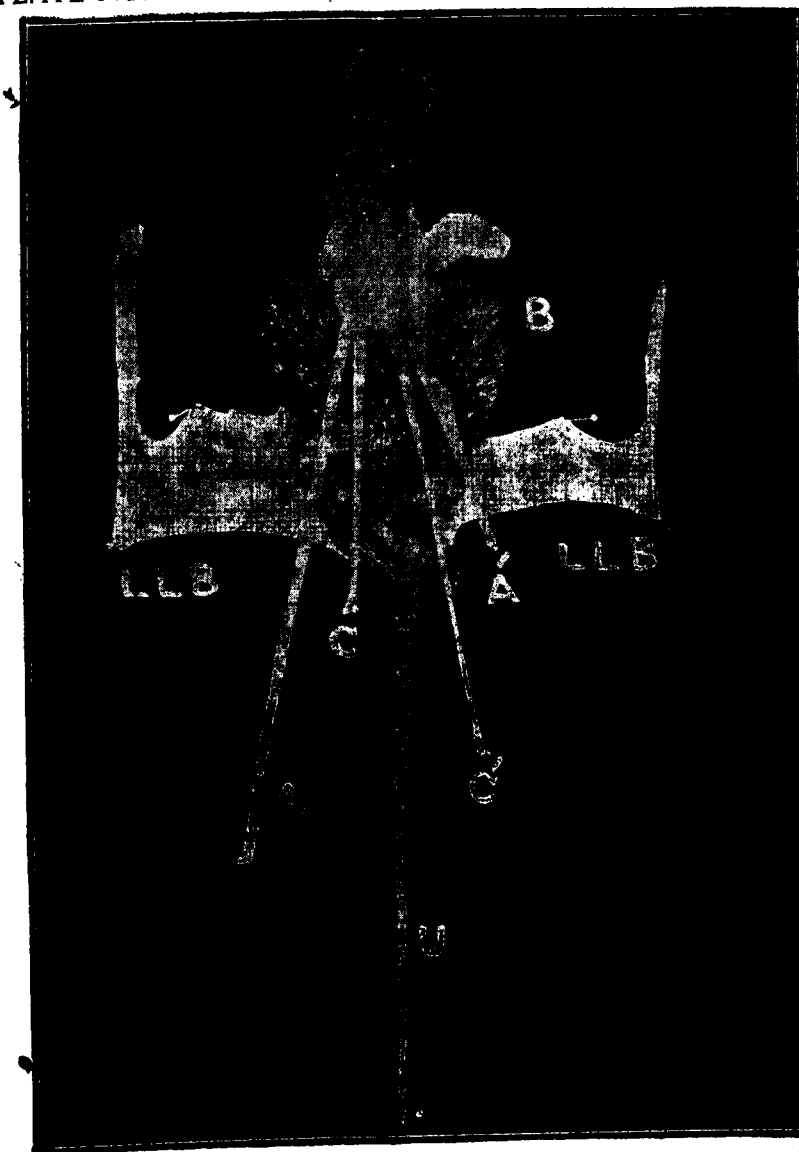
On the 18th December 1933, when I was camping at Batlagunda (Madura District), I received a wire from the Forest Range Officer, Cumbam, stating that seven elephants of a wild herd were found dead. I reached Vannathiparai at noon on the following day. I was informed by the Forest Range Officer that out of a herd of 15 elephants, 12 had died, one was ailing and two had escaped into the forest.

The ailing animal (a cow elephant) was found to be in extremis. She was constantly beating her trunk, limbs and tail on the ground. Large quantities of urine were passed frequently and she was lying practically in a pool of her own urine. There were no signs of her having passed faeces. It was not possible to do anything to her by way of treatment, she being a wild one.

Out of the twelve dead, I could hold a post-mortem only on one of them, since the other carcasses were decomposed.

Post-mortem notes:—The carcase was bloated. Rigor Mortis was absent. Vagina and rectum oedematous. On opening the abdomen, the peritoneum was seen to be highly inflamed and three or four gallons of brownish peritoneal fluid flowed out. On opening the

PLATE NO. XVIII.



U:—Urachus; B: Bladder; L. L. B: Lateral ligaments of the bladder; A & A': Ureters; C & C': Vasa deferentia.

stomach the contents were found to contain a very large quantity of Varagu (*Paspalum Serobiculatum*) with other undigested fodder. The mucous membrane of the stomach was highly inflamed. The contents of the small intestine were blood streaked and contained shreds of mucous membrane. The large intestines were packed with dung balls, but the rectum was completely empty.

The liver was highly congested and friable. The kidneys were congested and enlarged. The bladder was empty.

Thorax:—The thorax was found to contain a gallon of serous fluid. The lungs were congested. Pericardium was highly inflamed and dark in colour and the pericardial sac contained about eight ounces of fluid. On opening the heart the right side was found to be empty and the left half filled with partially clotted blood.

The brain was congested. The viscera and contents were removed and preserved for chemical analysis.

The ailing animal died on the 20th noon and I conducted post-mortem on this animal on 21-12-'33 forenoon. Excepting the fresh appearance of the carcass no appreciable difference could be noted from the two post-mortems. The viscera and contents of this animal also were preserved for chemical analysis with the suspected grains.

Cause of Death:—Suspected to be due to fodder poisoning by straying into fields and helping themselves freely with Varagu crop.

Varagu is cultivated intensively in the Cumbam Valley and the grain is used as food for men and animals. The common talk among the villagers is that if men and animals eat the fresh grain, they succumb to a kind of poison it contains. So people usually use this grain only after preserving it for some time, when the poison is believed to disappear.

A sample of this plant was sent to the Director of Agriculture and an extract from his report is given below:—

“The grain is the only poisonous part of the plant and the husk seems to contain more of the poison. The poisonous principle does not appear to have been isolated, so far, by chemical analysis. It is also mentioned that on no account cattle should be allowed to stray into the fields of this crop when it is ripening.”

COCCIDIOSIS IN FOWLS.

By

MOHAMED RAHIMUDDIN, G.M.V.C., P.G., (Edin.),

Live-stock Research Station, Hosur Cattle Farm, Madras.

Soon after I took charge of the hospital attached to the station, the Deputy Director of Live-stock, mentioned to me that about a couple of years ago there was a heavy mortality in chicks. Since then I was waiting for an opportunity to detect either Coccidiosis or Bacillary White Diarrhoea, due to *Salmonella Pullorum*, as the cause of such mortality. In August last it was reported that some chicks were dying. I conducted post-mortem examination on them and in the caecal contents numerous coccidia were found under the microscope and my finding was also confirmed by the Principal, Madras Veterinary College. Previous to this event, cases of diarrhoea in adult fowls were sent for treatment. Their droppings in some cases showed a few Coccidia.

Clinical Symptoms :—The affected birds were very dull, off-feed, wings drooped, separated themselves from other chicks, passed reddish white diarrhoea, and died in about 12 hours.

Post-Mortem findings :—The caeca contained clay coloured faeces mixed up with a small quantity of blood. The mucus membrane of the caeca was found inflamed in patches.

It was concluded that the oocysts of coccidia may be widely distributed in the poultry runs, the following suggestions were offered to the Superintendent of the Farm, so that the disease could be kept under control.

1. A piece of ground should be fenced in as a run for chickens only till they are twelve weeks old and if there are no young birds the place should not be used for older birds.
2. Precautions should be taken to prevent the attendants carrying manure from the pens of adult birds to the chick-runs.
3. The droppings of suspects should be carefully collected and burnt, and not used as manure.
4. Litter and bedding should be similarly treated.
5. The runs should be dressed with powdered quick lime at the rate of 2 tons per acre and the land ploughed up.
6. The bodies of dead birds should be burnt as soon as possible.
7. The interior of the poultry houses and brooders should be scalded well with hot water containing 10 per cent. Caustic Soda to remove grease and dirt and then sprayed with Cresol lotion.

8. The birds should be given sour-milk (butter-milk) in feed or drinking water, since it is said to possess curative and preventive properties. (Pottasium Permanganate in drinking water is also recommended).

SALINE INJECTIONS IN CORNEAL OPACITY.

BY

B. S. PURUSHOTHAM RAO, G.M.V.C.,

Civil Veterinary Dispensary, Patharghatty, Hyderabad (Daccan).

It has been my routine practice to inject sub-conjunctivally Normal Saline solution in all cases of Corneal Opacity, whether recent or old and experience has shown that better results accrue with this line of treatment than with others. The following are some of the cases, treated at this dispensary.

CASE NO. 1.

Subject :—Patient No. 915. A cocker spanial, one year and six months old.

History :—It was admitted into this dispensary on 28-2-34 with the history that it was having opacity of the cornea of the left eye for over two or three months.

Diagnosis :—Leucoma.

Treatment :—The animal was first treated with astringent lotions, etc., without any benefit.

On 7-3-34, 5 c. c. of saline solution freshly prepared was injected subconjunctivally and the dog was sent away with an application of Ung. Hydr. Oxidi Flava to the eye.

The animal was asked to be brought to the dispensary on the third day. On her return, to my surprise I found a defused opacity in place of the concentrated and dense one. Another injection was given on the 5th day after the first, with the result that the opacity disappeared and the animal was discharged on 14th instant.

CASE NO. 2.

Subject :—Patient No. 1105. An young bull-calf, aged 15 days was brought to this dispensary on 20-3-34 with the history that it was blind ever since it was born.

Diagnosis :—On examination it was found that both eyes were opaque.

Treatment :—This case was also treated with two saline injections of 10 c. c. each with an interval of 5 days and discharged as cured.

CASE NOS. 3 AND 4.

Subjects :—Patient Nos. 1168 and 1169. Two caprines.

Diagnosis :—These goats developed opacity consequent on the application of some irritants to the eye.

Treatment :—The two goats were treated and were cured after three injections of 5 c. c. at an interval of six days in each case.

CASE No. 5.

Subject :—Patients No. 1990. A tonga pony.

Diagnosis :—Opacity of cornea, traumatic in origin.

Treatment :—The horse was discharged cured with three injections of 5 c. c. with an interval of four days. Calomel was also used in the eyes between the injections.

CASE No. 6.

Subject :—Patient No. 2—93. A tonga pony.

Diagnosis :—Opacity of cornea in both the eyes. This was also successfully treated with saline injections as in the other case.

CASE NOS. 7 AND 8.

Subject :—Patients Nos. 2719 and 285. Two buffaloes of Delhi breed.

Diagnosis :—The first was suffering from corneal opacity of the left eye while the latter was having opacity in both the eyes. The opacities of the latter were long standing and dense.

The former yielded after two injections of 20 c.c. and was discharged as cured. The latter was given 20 c.c. and 30 c.c. on alternate days when after the third injection, the opacity appeared to show signs of clearing. After the sixth injection I was told by the owner that it was able to see its way while walking into or out of its shed. The owner discontinued bringing the animal to the dispensary and it could not be treated further.

Material Used for the Injections :—Two tabloids of Boroughs Welcome Company's 'Soloid' Sodium Chloride 40 gr. in a pint of sterile water. This has given satisfactory results.

AN UNUSUAL OUTBREAK OF H. S. (HAEMORRHAGIC SEPTICAEMIA).

BY

C. ALEXANADER, G.M.V.C.,

Touring Veterinary Assistant Surgeon, Periyakulam, Madras.

During the months of November and December 1933, a typical outbreak of Haemorrhagic Septicaemia occurred in Ariyallur village of Nilakotta Taluk, Madura District.

The symptoms observed by the owners of animals were as follows :—Appearance of irregular cutaneous swellings on any part of the body, but chiefly in the groins, and fatal termination. Constitutional disturbances were very slight or absent and in cases that recovered the swellings appeared and disappeared as quickly. In fatal cases these swellings grew bigger, involving the sheath, scrotum and perineum with constitutional disturbance, such as high fever, off-feed, etc. During the outbreak there were over 30 attacks and only 12 deaths.

The village quack treated such cases with an external application of a paste made with honey and quick lime over the swellings and internally a bolus made of various leaves and herbs was given.

The symptoms observed by me were the same as described above. Smears of the exudate from the swelling were found to be negative for Haemorrhagic Septicaemia. In one particular case, there were swellings at various parts of the body and the smears from this were positive for Haemorrhagic Septicaemia.

Preventive inoculation with serum was undertaken in the village and the disease subsided.

I treated five animals with subcutaneous injection of Tr. Iodine two drachms and oral administration of three drachms of alum in a pint of milk. These animals recovered, but I doubt if recovery is due to this treatment.

"PAT FUTA" OR SKIN HAEMORRHAGE IN CATTLE AND ITS TREATMENT.

BY

B. M. LAHIRI,

Touring Veterinary Asst. Surgeon, Nawada, Gaya, Bihar and Orissa.

'Pat futa' as this is called in this part of the province, or skin hæmorrhage in cattle, is very much prevalent in this district. It affects all kinds of cattle specially the plough and cart bullocks. It is also met with in the buffaloes though in a very limited number. It appears to occur in all seasons, but more so during the summer and the rains. Cases have been met with where both this disease and Nasal Granuloma have affected the same animal.

Since the causative agent is known to be a parasite, it is not described here.

Treatment:—I have treated more than 200 cases of this nature in my jurisdiction both at the dispensary and at the field veterinary dispensary which is opened once weekly. At first I tried 2 per cent. solution of Trypan Blue intravenously. The hæmorrhage was arrested temporarily but reappeared. Later on, I tried Tartar Emetic, with encouraging results. My mode of treatment is as follows:—

1st week	... 8 c.c. of 5% Tartar Emetic sol.
2nd "	... 12 c.c. " "
3rd "	... 16 c.c. " "
4th "	... 20 c.c. " "

Generally 4 injections are necessary to complete a cure. In rare cases when it reoccurs 5 or 6 injections may be given. The bleeding usually stops after the second injection.

THEORY VERSUS PRACTICE.

BY

M. L. GHOSAL, G.B.V.C.,

Veterinary Surgeon, Bikaner State.

Theory:—In the case of dogs bitten by rabid animals, or those suspected to be rabid, the bitten animal is liable to develop rabies at any time up to six months, the period of greatest liability being the first three months after infection by the bite.

Practice:—A Retriever dog was bitten by a stray dog on 15-8-32 on the neck and it was treated for the wound from 21-8-32 to 27-8-32 and antirabic injections were given from 28-8-32.

The animal showed symptoms of illness on 14-4-33, and was kept under observation. It developed symptoms of rabies (Furious) from 15-4-33 and died on 16-4-33.

Examination of the brain proved to be a case of rabies.

Conclusion:—The peculiarity noticed in this case is that the dog developed rabies after full eight months though the longest period of incubation in dogs is said to be six months only and the period of greatest liability being the first three months.

(Cases as late as one year and six months after the suspected bite are on record. *Ed.*)

Hotchpotch for Veterinarians.

W. B. Rawlings, V. M. D., has found from his own experiments and reports of other investigators that single injections of 10 c.c. doses of tetanus-alum-toxoid produce in horses an *active* immunity in one month, giving rise to considerably more anti-toxin per c.c. than does a 1,500 unit dose of tetanus anti-toxin, which confers only a passive immunity of short duration. A second injection of alum-toxoid one month after the first injection further increases the active immunity to tetanus.

N. A. V., September, 1934.

In cattle in Louisiana a type of Nasal Granuloma has been observed. The work of G. Dikmans, Bureau of Animal Industry, Washington, shows that he has found in the lesions a parasite which resembles *Rhinosporidium* in its general development.

N. A. V., September, 1934.

Starr writing about Brucellosis says that while treating cattle and swine during the act of abortion or normal parturition veterinarians may be exposed to the organism in its most virulent state. An allergic reaction characterised by a smooth or papulo vesicular erythema on that part of the arm which has been contaminated is common lesion. The reaction may recur at irregular intervals for months or years until the sensitization of the individual disappears. Operation on horses suffering with poll evil or fistulous withers are as likely to cause infection as is contact with the aborting cow, as many such horses have been found to be infected with *Brucella*.

abortus, or the more dangerous suis variety. The control and eradication of undulant fever in man is dependent entirely on the control and eradication of the disease in domesticated animals.

N. A. V., September, 1934.

Rabies:—The disease affects all animals and is therefore of general interest to veterinarians. But since the dog is the chief reservoir for the perpetuation of rabies, the dog is the animal which deserves first consideration, in attempts at suppressing the disease With canine infections at a minimum, very few people are bitten by dogs, and human rabies seldom occurs. General co-operation in this matter would reduce the human death, and lower the public expense.

"In man the incubation period varies from 14 to 90 days according to the location and extent of the wounds. If the face and head are badly lacerated, symptoms may appear in as short a time as ten days; if the wound is on an extremity and slight, symptoms may be delayed for weeks or months. Several cases of an incubation period of more than a year have been reported. Women show a shorter incubation period than men."

N. A. V., September, 1934.

An adequate intake of water, sodium chloride and dextrose should be taken care of as a routine procedure before rather than after a high degree of deficiency has occurred in all very sick patients.

Where oral administration is impossible dextrose phleboclysis, the composition of which should be determined by the individual indications present may be practised.

For combating hypohydration and for the relief of thirst, 5 per cent dextrose solution in distilled water seems preferable.

Whenever salt starvation is threatened or present, dextrose-saline phleboclysis should be practised.

N. A. V., September, 1934.

"Apparently, hydrochloric acid used intravenously, possibly through a disturbance of acid-base balance, promotes some sort of allergic reaction, thereby influencing cellular reactions, and according to reports causing a leucocytosis and accentuation of phagocytosis. The treatment has been reported favourably in mastitis, various slow healing localised infections and skin diseases. The dilution ordinarily used 1—1500 of Hcl U. S. P. In as much as the latter is

is an aqueous solution containing not more than 33 per cent. of Hcl, the actual dilution of Hcl is about 1—4500. The intravenous dosage for large animals is about 100 c. c.; for dogs 3 c. c. to 10 c. c. for weights of 10 to 40 pounds. Treatment is repeated at intervals of two, three or more days up to one week."

Iowa Vet., July-August, 1934.

Stanton, from his own experience, feels that any animal poisoned on any of the sorgums, including Kaffir corn, atlas sorgo, Sudan grass, etc., will recover, if given from 40 to 80 c. c. of a 20 per cent. solution of sodium hyposulphite intravenously any time before breathing ceases.

V. M., October, 1934.

The popularity of the use of the germ-free extract from foetal organs as a vaccine for various diseases of the skin is fast gaining ground amongst American Veterinarians as numerous case records may show. It is being used to combat both parasitic and non-parasitic skin diseases and evidently with good results. The preparation, commercially produced and under a commercial name, is said to possess a specific action on the diseased skin which through an alternative action causes the latter to respond in a favourable way, bringing about an improvement or complete cure.

The vaccine is, as a rule, well tolerated although some of the patients may show a mild reaction in the form of drowsiness, sleepiness or a tendency to vomit, especially if vaccinated on a full stomach.

Special indications for this vaccine seem to be ascariasis, eczematoses and alopecia or baldness. The vaccination has in its favour the discontinuance of all kinds of topical applications that frequently soil everything the dog comes in contact with.

Jen-Sal Journal, May-June, 1934.

Alpha-Dinitrophenol, a chemical substance is being very highly written of by the research workers at Stanford University, School of Medicine as a promising metabolic stimulant and useful in the treatment of certain types of obesity Dieting is unnecessary and small doses cause 50 per cent. increase in metabolism. It is recommended that the product be used under the direction of a qualified man as indiscriminate use of it had led to serious accidents and even death.....

Jen-Sal Journal, May-June, 1934.

The use of sodium morrhuate solution has been limited to the treatment of varicose veins as a sclerosing agent: but lately it has been extended to the obliteration of bursae in small animals. The injection of the solution is now being suggested for open joints,.....

Jen-Sal Journal, May-June, 1934.

Injections of a sterile concentrated amniotic fluid in 15-30 c.c. doses into the abdominal cavity after the operations such as spaying, cecectomy, caesarian section, etc., through the incision before the last stitch is made is reported to inhibit any infective process and stimulate healing and prevent adhesions.

Jen-Sal Journal, May-June, 1934.

"European clinicians report that the administration of human serum to children under 14 years of age is sometimes followed by severe or even serious serum disease in approximately 3 per cent. of the cases. The term "Auto-anaphylaxis" has been suggested as the descriptive title for this type of serum shock."

Jen-Sal Journal, September-October, 1934.

Tutt writing in the Veterinary Journal August 1934, on the treatment of mastitis says that Seelegman's method of infusing a solution of entozoon into the affected quarter or quarters, provided that the quarter has not become markedly indurated and the condition is purely of a streptococcal nature (virulent streptococcus pyogenes excepted) gives very encouraging results.... In cases of marked induration, with the secretion bloody and offensive indicating the presence of putrefactive bacilli (as B. necrosis, etc.) better results are said to follow the injection into the *actual* udder tissue of parenchymatol-silver-albumen.... Concluding on the use of vaccines, the author suggests auto-genous vaccine not only to those affected but to the rest in the herd to calve,...

Writing on the possible role of manganese deficiency in cases of bovine sterility, Tutt records cases failing to respond in other treatment before the final intramuscular injections (weekly) of colossal manganese (10 c. c. doses). Mention is made of a case that never responded for manganese or wheat germ oil too.

Veterinary Journal, August, 1934.

The world's biggest egg measuring 13 inches in length and 9 inches in breadth, was sold in London auction rooms last month. This egg was laid 10,000 years ago in East Madagascar by a bird of

the species, called 'Aepyornis Maximus'. These birds which had long been extinct were wingless and stood 13 feet high. The egg was in perfect condition and was naturally expected to fetch a high price in view of the extreme rarity of good specimens. The eggs of Moa, the huge New Zealand bird, also extinct, were also sold. One of these was from a collection found by Professor Alfred Newton in a box at the Royal College of Surgeons where they had been stored for more than 40 years. These eggs are known to have come from Labrador and are in wonderful condition. Stuffed specimens of Great Auks were also sold. One of them was bought by Mr. George Rowley in 1869 from a firm in Amsterdam, who obtained it from the collection of Count Westerhold Gligenberg.

"Hindu," dated 2-11-34.

Fly Poison Formula:—The following formula is suggested as an effective Fly Poison to be sprinkled on clean, dry floors or placed in shallow containers: Fowler's Solution, 1 pint, and Syrup, 1 pint. A suitable Fowler's Solution may be prepared by diluting 2 ounces of Concentrated Fowler's Solution (Arsenic Trioxide Compound) in a pint of water, or by dissolving 4 Fowler's Solution Tablets in a pint of water.

Jen-Sal Journal, September-October, 1934.

Single Dose of Santonin 90 per cent effective:—In an article appearing in the September 1, 1934, Journal of the A. M. A., on the Treatment of Intestinal Parasitic Worms in the United States, by Harold W. Brown, M.D., Nashville, Tenn., the dosage of Santonin (in combination with Calomel) for an adult is given as 3 to 5 gr.—for children, $\frac{1}{2}$ gr. for each year of age. Dr. Brown recommends a light evening meal for the patient and that the required dosage of Santonin be given at 10 o'clock the same evening, followed early next morning by Magnesium Sulphate purge. It is not necessary to repeat the treatment unless Ascaris eggs are found in the stool two weeks later.

The author comments that while Dr. M. C. Hall and others believe the efficacy of Santonin is increased if given in small doses over a number of days, the single dose method of treatment has been found highly effective an average of 90 per cent. of the ascarids has been removed by the single dose.

Comment:—A very practical application of the technic outlined pertains to veterinary practice. For canine and swine, it would be well to consider the advisability of administering the Santonin tab-

lets or capsules in the evening, allowing no food until morning, and following with a saline purge. This method certainly is less cumbersome than the multiple dosage plan.

Jen-Sal Journal, September-October, 1934.

* * *

30 per cent. Calcium Gluconate prevents second call:—A Wis, practitioner in dairy section reports that he has used only the 30 per cent. Calcium Gluconate Solution the past two years and that he injects the entire 250 c.c. dose intravenously with very gratifying results. Most of the animals are on their feet in five to ten minutes and no further treatment is required. Re-treatment has been necessary in only three cases, while with the same dose of 20 per cent. solution re-treatment was often necessary. The doctor reports that after using the smaller dosage he always felt uneasy regarding the possible necessity for a second injection. Since adopting the routine use of 250 c.c. of 30 per cent. solution in all cases he has discarded his udder inflation equipment entirely.

Jen-Sal. Journal, September-October, 1934.

* * *

Test of Rabies Immunity after vaccination:—The owner of large kennels for breeding hounds at Marshall, Tex., is thoroughly convinced of the effectiveness of prophylactic Rabies vaccination after a test he insisted on making, reports Dr. Burks Wilmore, Tex. A. & M. '28.

Seven bitches, one unvaccinated, the other six vaccinated with Jen-Sal Rabies Vaccine about five months previously, were confined in the same pen. The unvaccinated dog developed Rabies and bad lacerations on the others were ample evidence of their exposure to the disease. Dr. Wilmore urged the owner to authorise immediate revaccination of the exposed dogs as an additional precaution. The owner declined, saying he wished to prove for himself the efficiency of the previous prophylactic treatment, which he had understood would be effective for a year.

None of the six animals developed Rabies, and not only was the owner convinced, but also the editor of the paper in Marshall who formerly had been a septic and had refused to print articles explaining the advantages of Rabies prophylactic vaccination.

Dr. Wilmore says that the incident was cited repeatedly in the campaign that led to the passing of a compulsory dog vaccination ordinance in Marshall a short time later.

Jen-Sal. Journal, September-October, 1934.

Notes.

We invite the attention of the Authorities concerned and Readers to the letter and the leaderette in the Hindu dated 14th November 1934, extracted elsewhere in this issue regarding the filling up of the vacancy caused by the sad demise of Professor V. Krishnamoorthy Iyer, at the Madras Veterinary College. We hope that the question will receive reconsideration and justice done to men in service.

* * *

We understand that the post of the personal Assistant to the Director, Veterinary Services, Madras, is likely to fall vacant in the near future. We appeal to the Director to consider the advisability of recruiting a professional man to that post, as is the case in other scientific departments.

* * *

Recently we had the pleasure of perusing "The Log Book of a Rural Uplift Van" (with the courtesy of a friend) published by the Publicity and Reforms Department, United Provinces. Our readers might remember that as part of the Rural Reconstruction work, the U. P. Government sent out a touring caravan, to take to the villager near his home, what he does not or cannot come to see himself, elsewhere. The van itself was presented by the Rajah Sahib of Jaunpur, M. L. C. The van contained "exhibits dealing with improved agriculture, local, village and cottage industries; public health, Hygiene, Rural sanitation, Mother craft and Child Welfare; Rural, vocational and general education, Co-operation and products of co-operative movement and the like". The van further carried in it some educative and useful attraction such as (1) two baby cinema projectors with humorous and instructive films; (2) a loud speaking set, comprising microphone amplifier, loud speaker and its accessory batteries; (3) a Radio receiving set with its batteries of high and low tensions; (4) one Epidiascope which served as magic lantern for slides and episcopes for opaque objects; (5) a small portable electric generating set to provide electric current for the illuminant in the Epidiascope and (6) probable lights and fans. The Log Book gives a detailed account of the tour places visited and the work done in the course of its three months tour in the whole Province and contained 30 illustrations.

Numerous departments of Government and semi-official and non-official organisations have taken prominent part both in the activities of the Van and the local exhibitions in connection with the visit of this Van in several places in the province. Mere exhibition shows and lectures were held in about sixty places in the area. Agriculture, public Health, Education and Co-operative Departments have played important part in all these functions but we find mention of Veterinary activities only in about half a dozen places out of nearly sixty. We would have liked to see the Veterinary profession and department playing an important part in all the places and in the Van itself. We are aware that the Veterinary Department in U. P., as in other provinces, is *short* manned and the existing staff over worked in connection with numerous outbreaks of Epizootics in the country and as such Veterinarians in any province do not find it possible to participate in such useful organisation. Since propaganda is a very important item in the activities of any department of modern life, Veterinary Department in each province should detail a few officers for this purpose.

* * *

We find in the first para of this Log Book the following statement "Enterprising Railways have run demonstration cars and registered gratifying success measured by the interest aroused in the rural areas they serve. Government Departments in other Provinces have equipped a motor lorry with agricultural exhibits or with cinema projectors and films and sent them to operate in a few selected districts and directions at a time." The Log Book records similar satisfactory results of the tour of this rural uplift van. We would strongly commend this sort of useful enterprise to the Veterinary Department in each province and big Indian States in this country for adoption.

Association News.

THE EIGHTH ALL-INDIA VETERINARY CONFERENCE, BOMBAY, 1934.

Proceedings.

(First Day).

29th December, 1934, (Saturday), 3 P.M.

The Eighth Session of the All-India Veterinary Conference assembled punctually at 3 p.m., in the spacious and tastefully decorated hall of the Bombay Veterinary College, Parel, Bombay. The Chairman of the Reception Committee, Dr. D. S. Laud received at the entrance the President, the Delegates and visitors and conducted them to their respective seats. Dr. D. S. Laud, G.B.V.C., F.R.H.S., F.Z.S., Superintendent, Victoria Gardens, Byculla, Bombay, and Chairman of the Reception Committee, welcomed the Delegates and others to the Conference and delivered his address (*Vide* Appendix A.)

Then Dr. S. D. Achar duly proposing Khan Saheb N. D. Dhakmarwala, G.B.V.C., B.V.S., (Retd.) Professor, Bombay Veterinary College, to be the President of the Conference said that it gave him immense pleasure to propose his old revered and able Professor to the Presidentship of this Conference, wherein members of the profession have gathered in large numbers from all parts of the country. He expressed no better choice could be made for this purpose. The Professor joined the Bombay Veterinary College first as a student in the year 1886 when it was founded by the late illustrious Principal Steel. Even as a student, the Khan Saheb distinguished himself for his keen intelligence, industry and diligence. He passed out in due course in first class and was directly drafted to the Professorial staff of the college. He was a worthy disciple of the worthy Principal Steel and later on his colleague. There is this difference between him and others like me who have passed out of this College. While we have much to be grateful for this Alma Mater of ours, this institution has much to be grateful to him for the distinguished and creditable services he has rendered for the good name and fame of this College. The Khan Saheb made soon his mark even as a Professor and a capable Veterinary surgeon and Physician in the very early days of his career. Through him, the Veterinary profession, the College, and the Hospital maintained by the Bombay S. P. C. A., became very popular in this City of Bombay and the

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success of these institutions are in no small measure due to his great abilities. All the eminent Veterinary Surgeons in India who were the pioneers of Veterinary education and profession were students of the Khan Saheb. Even in his younger days he was held in high esteem by such eminent Veterinary surgeons as Colls, Pease, Walker, Farmer, Evans, Brodie Mills, and others who knew the Professor intimately. When the question of settling the over-loading of carts assumed a serious turn between the S. P. C. A., and the merchants, it was the evidence of the Khan Saheb that was sought for by the authorities to settle this vexed question. He has rendered over 37 years of valuable service to the cause of Veterinary Education in this country and in recognition of his great services, the Government conferred the title of 'Khan Saheb' upon him. To-day the Indian Veterinary profession feels proud to confer on the Khan Saheb the highest honour at its disposal by electing him to preside over the deliberations of this Conference, as in doing so the Conference is honouring itself.

Prof. Karam Ellahie, G. P. V. C., The Punjab Veterinary College seconded the proposal and said it was a great privilege for him to do so.

He felt this honour was long overdue to the Khan Saheb in view of his eminence as a Veterinary Surgeon and educationist.

Dr. A. Ramalinga Mudaliar, G. M. V. C., Veterinary Surgeon (Retd.), President, the All-India Veterinary Association, Madras Branch, in Supporting the election said :—

GENTLEMEN,

It is with no small pleasure I rise to support the election of Khan Saheb Professor N. D. Dhakmarwala to the Presidential Chair so ably moved and duly seconded. I heartily endorse what all they have said about him. In all parts of the world, people look to New Years Day, Deepavali, Pongal and the like to join the rest of the family in their home. Similarly, we, the members of the Veterinary Profession have assembled here to enjoy the company of the members of this family. To be the elderly member and parent of this family, we request the Professor and we cannot have a better choice to guide us in our deliberations. I, therefore, request you all to accord your approval.

Dr. G. G. Oka, G. B. V. C., I. D. D., Veterinary Surgeon, Jubbulpore, further supported the election of the President. This was carried unanimously and amidst great acclamation. The Khan

Saheb Professor N. D. Dhakmarwala was duly installed to the Presidential Chair, with the rejoicing tunes of the band in attendance.

The President then delivered his Presidential address (Appendix B.)

The President then called upon the Visitors who may desire to speak on Veterinary matters.

Mr. J. N. Mankar, Secretary, Bombay Humanitarian League, spoke to the following effect in Hindi. Co-operation of the Veterinary Department with the animal saving Society is quite essential and has been producing very useful results. Grants for the expansion of the Veterinary aid are essential and resolutions should be passed requesting the Government for funds. The service of a Veterinary Surgeon for every Panjrapole is necessary and one without a Veterinary Surgeon should be considered as ineffective and permission to start Goshalas should be given providing one Veterinary surgeon for every 300 head of animals. Co-operation both officially and un-officially to advise the cultivators to give better treatment to animals will be very useful in producing good results both for Veterinary Surgeons and Humanitarian Societies. He observed that the Superintendent, Civil Veterinary Department, Bombay Presidency noted a decade and a half ago the insufficiency of meat and milk supply and deterioration of milch cattle in the presidency. Strenuous efforts should be made to improve the milk yield of cattle. Slaughter of cows when they become dry and the death of young calves contributed towards the decrease of cattle population, which is detrimental both to the urban and rural areas. Improvement of stamina of cattle to enable them to withstand the attacks of disease is necessary. The increase in the Veterinary staff is urgently needed to ward off cattle diseases in rural areas, and saving the farmer from economic loss. He urged the necessity for short term Veterinary classes to give first aid instructions in Veterinary Medicine to the farmers and others. He pleaded for the encouragement of indigenous medicines and research into Indian herbs should be undertaken with a view to provide cheap and effective Veterinary treatment to the cattle of poor people, both in the villages and towns. He urged the formation of milk testing classes as is being done now at Sholapur. He took objection to the indiscriminate castration of all bulls in the village without providing breeding bulls to the area. He advised castration of scrub bulls should follow the supply of breeding bulls. He appealed to the Veterinary profession to help in the formation of the S. P. C. A's in the places where they work and take greater interest and work in co-operation in the management of S. P. C. A's, in the country.

Mr. Joshi, Editor, 'Gogras' Bombay, spoke urging the improvement of pastures, provision of water supply, and better care and

treatment of animals. He appealed for the closer co-operation of the Veterinary Surgeons in all the humanitarian and kindness to animal work as they are better fitted to render such help. Dr. P. G. Date, G. B. V. C., Secretary of the Reception Committee read out the names of following persons who telegraphed or wrote regretting their inability to attend but wishing the Conference every success:—

- | | |
|--|---|
| Mr. E. S. Farbrother,
M.R.C.V.S., I.V.S.,
Director of Veterinary
Services,
Bombay, Poona. | Dr. Jivaraj Mehta, Dean,
King Edward VII
Memorial Hospital. |
| Mr. P. T. Saunders,
O.B.E., M.R.C.V.S., I.V.S.,
Director of Veterinary Services,
Madras. | The Principal,
National Medical College.
Mr. P. P. Kapadia,
President, The Society of
the Hony. Presidency
Magistrates, Bombay. |
| The President,
Bandra Municipality.
Lieut. Col. S. S. Vazifdar,
I.M.S., Supdt.,
Jamsetjee Jejeebhoy Hospital,
Bombay. | Mr. K. Krishniengar, G.B.V.C.,
Superintendent,
Civil Veterinary Department,
Mysore.
Prof. G. N. Roy Chaudhri,
G.B.V.C.,
Bihar and Orissa
Veterinary College. |
| Khan Bahadur
Abdul Latif Haji Hajratkhan,
President, District Local Board,
Sholapur. | Mr. M. Anant Narayan Rao,
G.M.V.C.,
Madras Veterinary College. |
| R. T. Davis, M.R.C.V.S., I.V.S.,
Principal Bihar and Orissa
Veterinary College,
Patna. | Dr. P. Srinivasa Rao, G.M.V.C.,
Editor,
The Indian Veterinary Journal. |
| Mr. Hoosenally M. Rahimtoola,
Mayor, Corporation of Bombay. | V. L. Wazir, M.R.C.V.S., Supdt.
Civil Veterinary Department,
Kashmir State. |
| Capt. B. P. Koran,
Principal, Agricultural College,
Poona. | Sir Purushothadas Thakurdas,
Bombay. |
| Mr. I. H. Taunton,
Commissioner,
Bombay Municipality. | Dr. S. K. Sahoo, G.B.V.C.,
Veterinary Surgeon,
Seraikala State. |
| Mr. J. B. Petit,
President, B. S. P. C. A. | Dr. S. Tsering, G.B.V.C.,
Veterinary Inspector,
Sikkim State. |
| Sir Dinshaw Petit, Bart. | Veterinary Officer,
Alwar State. |
| Sir Cowasjee Jehangir, Bart. | |

- | | |
|---|---|
| Secretary,
Baroda Veterinary
Surgeons Association. | Veterinary Surgeon,
Jhalawar State.
Dr. P. V. Nagarsheth, G.B.V.C.,
Broach. |
| General Secretary,
U. P. Veterinary Association. | S. M. Raza Hussain
Sahib Bahadur, G.P.V.C.,
Superintendent,
Civil Veterinary Department,
Lucknow. |
| Secretary,
Bihar and Orissa
Veterinary Association,
Muzaffarpur. | Chief Veterinary Surgeon,
Bhavanagar. |
| The President,
District Local Board,
Ahmednagar. | Dr. T. Vinayaka Mudaliar,
G.M.V.C.,
Veterinary Surgeon, Bellary. |
| Sir H. P. Dastur,
Chief Presidency Magistrate,
Bombay. | |

and many others.

The next item of the programme being the election of Members to the Subjects Committee, Dr. M. S. Sastry, G.B.V.C., General Secretary, The All-India Veterinary Association, proposed the following :

- | | |
|---|--|
| 1. The President. | |
| 2. Drs. Y. N. Marathe, | |
| 3. " K. R. S. Aiyar, | |
| 4. " D. S. Laud, | |
| 5. " P. G. Date, | |
| 6. " R. N. Naik, | |
| 7. " R. R. Joshi, | |
| 8. " B. K. Badami, | |
| 9. " A. Ramalinga Mudaliar, | |
| 10. " S. D. Achar, | |
| 11. " K. R. Ranganatha Rao, | |
| 12. " Prof. Karam Ellahie, | |
| 13. " Chaudhury Mushtaq Ahmed, | |
| 14. " G. G. Oka, Central Provinces. | |
| 15. " S. Chinnaya Thakkadaya, Pudukottah. | |
| 16. " C. S. G. Haji, Sind. | |
| 17. " Rao Raja Sardar Samasher Bahadur, Captain M. S.
Apte, Gwalior. | |
| 18. " H. N. Ghatge, Kolhapur. | |
| 19. " B. B. Joshi, Poona Agricultural College. | |
| 20. " W. V. Soman, Baroda State. | |
| 21. " K. S. Jadeja, Morvi State, | |
| 22. " " | |

- 23 Drs. Joshi, Indore.
- 24 „ M. A. Habib, Bhopal.
- 25 „ J. N. Guha, Bengal.
- 26 „ C. J. Fernandez, Junagadh.
- 27 „ M. R. Chengeri, C. & M. Station, Bangalore.
- 28 „ R. P. Vedak, Bombay Municipality.
- 29 „ Yakub Ali Khan, Bhopal State.
- 30 „ Khan Sahib N. K. Vacha, Baluchistan,
- 31 „ M. S. Sastry, General Secretary, A. I. V. A., With powers to co-opt.

This being duly seconded by Dr. B. K. Badami was carried unanimously.

The Members of the Subject Committee were requested to meet after 6 P.M., soon after the Garden Party, to discuss the resolutions and decide other matters for to-morrow.

Dr. T. N. Kulkarni, Lecturer, Bombay Veterinary College, proposed hearty vote of thanks to the distinguished visitors both Ladies and Gentlemen who had kindly responded to the invitation of the Reception Committee in the midst of their multifarious works and in spite of much inconvenience to themselves in the hot part of the day.

Adjourning the Conference to the next day, the President said :—

Ladies and Gentlemen,

When I was asked to open and preside over the deliberations of this All-India Veterinary Conference I need hardly say that I accepted the offer with great pleasure because I knew that such occasions do not occur often. I may state that the suggestion that I should open the Conference and preside over it, came from my old pupil and friend Mr. M. S. Sastry, the energetic General Secretary of the All-India Veterinary Association. He has been now the life and soul of the Association. He and Mr. P. Srinivasa Rao, the Editor of the *Indian Veterinary Journal*, are doing their best to ventilate the grievances of the profession and placing them before the public in very strong but moderate language. We all wish that their efforts may be crowned with success as in the past. I hope all of you will be able to attend the Golden Jubilee of the Bombay Veterinary College, which will be celebrated in August 1936. I thank you for the help in conducting the proceedings and wish you all the compliments of the season and a Happy New Year.

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The whole Conference moved to the new College grounds where all the ladies and gentlemen and the Delegates were treated to a very enjoyable *Garden Party* by the *Bombay Veterinary Medical Association*.

The (Universal) Band was in attendance throughout. The catering was on a lavish scale.

After the Garden Party, the Subjects Committee met, discussed and decided the Resolutions to be placed before the open conference (*Vide Appendix C.*)

In the night at 8-30 P.M., the students of the Bombay Veterinary College kindly staged an English Drama "Love's the best Doctor" and the Maharathi Drama "Baby" by G. N. Bende under the direction of Dr. M. K. Garudachar, G.B.V.C., Lecturer, Bombay Veterinary College, and Messrs. N. V. Chatupale and C. R. Narayana Rao, students of the College. Both the serious side and the comic side in the performance were well enjoyed by the guests. In appreciation of the histrionic talents of the actors and to encourage them Srimantha Sardar Lakshmana Rao Narasinga Rao, Heblkar of Dharwar and Mr. A. V. Ranade, the famous Contractor of Poona District, presented a silver cup one to each of the College Amateur Societies.

Dr. B. K. Garudachar who spared no pains to make the drama a grand success and who acted comic parts at intervals was lustily cheered each time he appeared on the stage. He thanked the audience for having attended the drama and encouraged them. He also thanked the Wadia Movitone, Bombay for their having kindly lent the costumes and other necessary materials for the occasion. He also thanked the S. P. C. A. authorities for having allowed the use of the hall for the occasion.

On behalf of the Delegates, Dr. S. D. Achar, congratulated the directors and the students on the splendid performance and thanked them for the trouble they took to give this entertainment to the Delegates from all parts of India. With this, the first day's function came to an end.

Second Day—Sunday, (30-12-34.)

*Morning :—*The President and all the Delegates assembled at 8-30 A.M., in the spacious lecture hall of the Seth G.S. Medical College, Parel, where Dr. S. D. Achar, G.B.V.C., P.G. (Punjab.) Superintendent, Mysore Serum Institute, Bangalore, described the Mysore Serum Institute and the work in it, profusely illustrating his lecture with photos which were projected in the Epidiascope. He

traced the origin of the Institute, how it developed and what work it is doing at present. He gave a graphic description of the different processes adopted there for the manufacture of the various Sera and Vaccines and manufacture of Rinderpest Virus. The lecture was not only very interesting, but also very instructive. In reply to the several questions he explained in detail the various methods adopted there. Both the photos and the narration tempted many Delegates to pay a visit to the institution at an early date. Before the closing of the lecture, the pictures of Major R. W. Simpson, M.C., G.B.V.C., Retired Superintendent of Mysore Civil Veterinary Department, of Dr. L. C. Coleman, C.I.E., M.A., Ph. D., Retired Director of Agriculture, Mysore, of H. H. The Maharajah of Mysore and of Sir Md. Mirza Ismail Sahib Bahadur Kt, C.I.E., Dewan of Mysore, were also shown on the screen. As each of the pictures appeared on the screen, the lecturer explained the important part played by each of these worthies in building up the Civil Veterinary Department in Mysore to its present size and bringing this Serum Institute in existence and of raising it to its present state both of which have been of great importance in saving the country from the great economic loss of live-stock. The audience appreciated the great services rendered by all these eminent worthies and greeted their appearance on the screen with loud cheers.

Dr. M. S. Sastry, the General Secretary, thanked the lecturer for the very interesting and instructive lecture with the illustrations. He also thanked the Government of Mysore and the Superintendent of C. V. D., in Mysore for having kindly deputed Dr. S. D. Achar to attend the Conference and deliver this lecture. He expressed his hope that every Veterinary Surgeon would make it a point to make a pilgrimage to the places of Veterinary interest in the country even as orthodox religious people go on pilgrimages to places of religious interest and importance such as Phandaripur, Benares, Prayag, etc. Since many of them would visit Mysore and Bangalore at one time or other in their life time during Dasara and other occasions, they should then visit this Mysore Serum Institute, which they have seen now on the screen. He was sure that the present lecture with the show has stimulated this desire among the audience present.

He also thanked the Dean of the Seth G. S. Medical College and the Assistant Dean Captain R. E. Dadachanji, present on the occasion for having so kindly and readily placed the lecture hall and the Epidiascope at the disposal of the All-India Veterinary Conference for the purpose of this lecture.

The Delegates then were taken round the Museum of the Medical College and shown round many interesting specimens of

Pathology, etc. by the Assistant Dean who took a good deal of interest in explaining all the important things to the Delegates. The delegates heartily thanked the Assistant Dean and left the College for the Haffkine Institute.

At the Haffkine Institute, the President and the delegates were received and taken round by Dr. Manesis who was kind enough to show many interesting items there. The delegates were taken to the Museum in the Darbar Hall of that Institute and shown the varieties of cobras and vipers kept there. He next demonstrated the different stages of cobra milking and extracting venom from the vipers and explained in detail the preservation and use of these venoms. The excursion to this Institute was very interesting and an educative one. Before dispersing from the Institute Dr. M. S. Sastry thanked Lieut. Colonel Sahib Singh Sokhey, M. A. (Edin.), B. Sc., (P. B.) M.D., Ch.B. (Edin.), D.T.M. & H.J.P., I.M.S., the Director of the Haffkine Institute, Major Naidu and Dr. Manesis for having given an opportunity to the delegates to visit this Institute even on a holiday and particularly to Dr. Manesis who with a good deal of interest and trouble demonstrated and explained the cobra milking processes and other items.

12 Noon.

The Conference assembled at 12-noon in the College Hall to read and discuss the professional papers. There was an Exhibition of all the Veterinary Instruments and improved pattern of plough invented by Dr. Choudhary Mushtaq Ahmed Sahib Bahadur, G.P.V.C., Hospital Surgeon and Radiologist of the Punjab Veterinary College, Lahore. The Mysore Serum Institute exhibited among other articles the following Biological products manufactured there, viz:— (1) Normal Serum (Desiccated), (2) Rinderpest Serum, (3) Rinderpest Bovine Virus, (4) Rinderpest Goat-virus, (5) Rinderpest Spleen Vaccine, (6) Anthrax Serum, (7) B.Q. Bacterin, (8) B.Q. Serum, (9) B.Q. Filtrate, (10) H.S. Serum, (11) H.S. Vaccine and (12) Sheep-pox Vaccine.

Many pathological specimens sent from many parts of the country were also exhibited. All these exhibits which were shown to the Delegates were of great interest and of instructive value.

The President immediately after taking the Chair called upon Dr. Choudhury Mushtaq Ahmed Sahib Bahadur, G. P. V. C., Hospital Surgeon and Radiologist, the Punjab Veterinary College, to demonstrate his following inventions which he did to the great benefit of the audience.

1. Prolapsus Recti Tube.
2. Prolapsus Uteri Apparatus.
3. Veterinary Surgeons Emergency set.
4. An Improved Universal Portable Yoke.

The demonstration was very graphic, interesting and instructive, and the whole audience expressed their appreciation at every stage of the demonstration. The President congratulated the Doctor, thanked him for the trouble he took in bringing his instruments and appliances to the Conference for demonstration purpose. He appealed to the audience to follow the good example of Dr. Chaudhuri Mushtaq Ahmed in inventing useful articles to the Veterinary profession. He further wished every success to the lecturer.

It was decided in appreciation of the invention of useful Veterinary instruments and other things, to present a Gold Medal to Dr. Chaudhuri Mushtaq Ahmed by the All-India Veterinary Association.

At the request of the President, Dr. P. A. Parthasarathy Naidu, G.M.V.C., Assistant Lecturer, Madras Veterinary College, and Secretary, the All-India Veterinary Association, Madras Branch, explained how he came to use for the first time the Antimonium Tartaratum in treating cases of Nasal Schistosomiasis in 1920-21, while in charge of Parlakimedi Veterinary Hospital, subsequently how his friends adopted this treatment with successful results and how it has come to stay as a specific for a disease which has baffled the all lines of treatments previously.

At this stage it was agreed that the services of such Indian Veterinary Surgeons, as have found out successful specific treatment for troublesome diseases and have done important piece of research work should be suitably recognised and they should be encouraged with the presentation of Medals, etc.

The General Secretary was given the necessary directions to take steps in this matter.

The following professional papers were then taken up and discussed. The discussions were lively and instructive.

I. Rinderpest.

- (1) Preventive measures against Rinderpest in Mysore.—Dr. G. N. Srikantiah, G.M.V.C., Veterinary Inspector, Mysore Serum Institute, Bangalore.

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- (2) A brief report on Goat-virus inoculations against Rinderpest performed at Balishah, District Dadu, Sind.—C. S. G. Haji, G.B.V.C., Veterinary Inspector, C.V.D., Sind.
- (3) A synopsis on Rinderpest as it stands to-day.—Dr. V. N. Kulkarni, G.B.V.C. Acting Deputy Superintendent, Bombay.
- (4) Goat-virus inoculation in Hyderabad.—Dr. R. R. Joshy, G.B.V.C., Deputy Superintendent, C.V.D., Hyderabad.

Drs. B. K. Badami, R. N. Naik, Y. N. Marathe, V. R. Phadke and M. S. Sastry took part in the discussion.

II. Rural Development Schemes.

- (i) Trivellore Rural Development Scheme.—Dr. M. S. Sastry, G.B.V.C., General Secretary, The All India Veterinary Association.
- (ii) Rural Development Scheme in Mysore State.—Dr. N. Krishna Murthy, G.B.V.C., Veterinary Inspector, Dodballapur.

Drs. Y. N. Marathe and B. K. Badami took part in the discussion.

III. A few points on Elephants and their ailments.

Dr. S. R. Bapu, G.B.V.C., Veterinary Officer, Forest Department, Mysore, Bangalore.

Drs. M.K. Garudachar and D.S. Laud took part in the discussion.

IV. Clinical Cases.

- (i) Alopecia—not true in Parrot.—Dr. K. R. S. Aiyar, G.B.V.C. Canine Surgeon, Bombay Veterinary College, Parel.

Drs. D. S. Laud and R. N. Naik took part in the discussion.

- (ii) Tonophosphan in the treatment of paraplegia, weakness of loins and Paralysis in dogs.—Dr. K. R. S. Aiyar, G.B.V.C., Canine Surgeon, Bombay Veterinary College, Parel.

- (iii) Collosol Manganese (Vety.) (Crooks) in the treatment of Eczema in dogs.—Dr. K. R. S. Aiyar, G.B.V.C., Bombay Veterinary College, Parel.

- (iv) A Case of Tetanus in a dog.—By Dr. K.R.S. Aiyar, G.B.V.C., Canine Surgeon, Bombay Veterinary College, Parel.

For want of time the following papers among others were taken as read :—

Johne's Disease.—Some observations on it.—Dr. A. A. Dave, G.B.V.C., P.G. (Edin.), Bulsar, Bombay.

Complication of Haemorrhagic Septicæmia and Black-quarter in one and the same animal simultaneously.—Dr. H. B. Kulkarni, G.B.V.C., Veterinary Inspector, Chittaldrug, Mysore.

Chronic Eczema on mane and tail.—Dr. H. B. Kulkarni, G.B.V.C., Veterinary Inspector, Chittaldrug, Mysore.

Poisoning in a filly.—Dr. K. S. Jadeja, G. B. V. C., Veterinary Surgeon, Morvi State.

Paralysm of hind quarters in a dog.—Dr. H. B. Kulkarni, G. B. V. C., Veterinary Inspector, Chittaldrug, Mysore.

A case of Acute Naval ill in a calf.—Dr. L. Gurunathan, G. M. V. C., Veterinary Inspector, Sorab, Mysore.

A case of Dystokia.—Dr. K. S. Krishnappa, G. M. V. C., Veterinary Inspector, Magadi, Mysore.

A brief note on epithelial tumour of malignant type occurring at the base of horns of Amrit Mahal Bullocks.—Dr. G. S. Balekudri, G. B. V. C., Veterinary Assistant Surgeon, Hubli.

A Preliminary Note on a disease of sheep and goats locally known as "Phet" or "Pito."—Dr. C. S. G. Hagi, G. B. V. C., Veterinary Inspector, C. V. D., Sind.

The contributors of papers and the persons who took part in discussions were duly thanked by the President.

The Conference was adjourned to the College grounds for a Group Photo, after which, it re-assembled in the Hall.

The General Secretary then presented the statement of account of Receipts and Expenditure of the All-India Veterinary Association, and explained the work that was done since the last Conference.

Statement of Receipts and Expenditure of the A. I. V. A. from 30-12-1930 to 30-12-1934.

RECEIPTS.		EXPENDITURE.	
	Rs. A. P.		Rs. A. P.
Bombay ...	50 0 0	To Stationery and Printing ...	17 0 0
Punjab ...	50 0 0	„ Railway fare, etc. ...	55 8 0
S. V. Ramana Rao ...	3 0 0	„ Postage and Telegram ...	40 0 0
B. Doraswamy Iyengar ...	3 0 0	„ Railway parcel, goods, etc. ...	18 4 0
Madras ...	100 0 0		
Badges from Mysore State ...	50 0 0	Total ...	130 12 0
		To balance ...	125 4 0
Total ...	256 0 0		
Grand Total ...	256 0 0	Grand Total ...	256 0 0

Balance on hand Rs. 125-4-0 (including the cost of Badges).

Checked.

A. RAMALINGA MUDALIAR,
PRESIDENT, A. I. V. A.
Madras Branch.

M. S. SASTRY,
General Secretary.
20-12-34.

Passed unanimously.

N. D. DHAKMARVALA,
President.
20.12.34.

He also gave a programme for the ensuing year for the Association, which included the following items among others :—

1. Continuing the publication of the *Indian Veterinary Journal*.
2. Forming a constitution for the working of the *Indian Veterinary Journal*.
3. Publishing a register of Veterinary Surgeons in India.
4. Reviving and forming Provincial Associations.
5. Approaching the Provincial Governments and the Indian States with a request to give effect to the several recommendations in the resolutions of this conference.

Dr. R. N. Naik, G.B.V.C., Veterinary Investigation Officer, Bombay Presidency, proposing the adoption of the statement of accounts and the report, said :—

"The objects of this association for the advancement of Veterinary Science can be carried out by adopting the following methods and I suggest that they may be duly considered for forming part of the programme of work.

1. "Studying the statistics of various diseases of economic importance prevalent in India with a view to protect the cattle wealth of India from the ravages of contagious and infectious diseases.

2. Protecting and improving the existing breeds of cattle and other species of animals and introducing new breeds to certain tracts if necessary.

3. Promoting the interests of animal owners in breeding and maintenance of animals.

4. Regulating movement of cattle and minimising the importation of diseases.

5. Making every district self-supporting in the supply of milch cows and buffaloes and draught animals.

6. Prevention of cruelty to animals.

7. Supply of pure milk and good meat to the public.

8. Dealing with the diseases of animals transmissible to man.

These objects to be attained through co-operation, representation and leading deputations to Government, public bodies and animal owners".

With these suggestions, he said he had great pleasure to propose adoption of the report.

Dr. V. R. Phadke, G.B.V.C., J.P., Principal, Bombay Veterinary College, seconded it.

Dr. D. S. Laud, G.B.V.C., F.R.H.S., F.Z.S., Superintendent, Victoria Gardens, Bombay, supported it.

Dr. B. K. Badami, G.B.V.C., Director, C. V. D., Hyderabad, further supported it.

This was unanimously adopted.

The President then called upon Dr. V. Janakirama Aiyar, G.M.V.C., Assistant Lecturer, Madras Veterinary College, who represented the Editor of the *Indian Veterinary Journal* who could not be present, owing to unavoidable professional obligations, to read the report of the Editor, and present the statement of accounts of Receipts and Expenditure of the *Journal*, since the last Conference. Dr. V. Janakirama Aiyar, in doing so said that he was a poor representative of Dr. P. Srinivasa Rao, the Editor, but he was doing this pleasant duty at the Editor's command.

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A MESSAGE FROM THE EDITOR, "INDIAN VETERINARY JOURNAL"

to

THE EIGHTH ALL-INDIA VETERINARY CONFERENCE, AT BOMBAY, 1934.

GENTLEMEN,

I tender my apology for my unavoidable absence, which is due to pressing professional obligations and not to any lack of interest in the Conference. Through this communication I wish to place before you a few of the salient features of the *Journal* entrusted to my care. Ever since its inception in 1924, the *Journal* has been maintaining a steady progress until to-day when we find its circulation to be 951. I cannot but repeat my strong conviction that it is the hand of Providence that has been helping the career of the *Journal*. Its outspokenness has come in for a good deal of criticism in certain quarters. Nay, it had led to people wishing it an early demise. But so long it follows the path of rectitude, to the best of its lights, its future is assured to the great discomfiture of its critics. I can assure you only this much, that the policy of the *Journal* will continue to be, "to care for the greatest good of the greatest number of the profession."

I cannot but lodge my complaint before you, that the rest of India excepting Madras is not rendering me that amount of help that I am entitled to in the discharge of my onerous duties. News about what is happening in other Presidencies and Provinces, Professional Articles etc., are very rare indeed. What is it that I have done or left undone to deserve this unfair treatment at your hands.

I request you severally and collectively to make some arrangement to remove this great handicap, I labour under, and thus make the *Journal* more useful and representative and worthy of the great name it bears. I have been making this appeal year after year and I repeat it now so that unkindly critics at a later date may not allow their 'ambition to mock at my useful toil.' I wish you all, the best of luck with the dawn of 1935.

A statement of Receipts and Expenditure is appended herewith.

Madras, }
25th Dec. 1935. }

P. SRINIVASA RAO,
Editor,
"The Indian Veterinary Journal,"

THE INDIAN VETERINARY JOURNAL.

Volume VII:—July 1930 to June 1931.

Account of Receipts and Expenditure.

RECEIPTS.				EXPENDITURE.			
	Rs.	A.	P.		Rs.	A.	P.
To Balance from the				By Journal Printing	1,194	12	0
VI Volume ...	198	14	6	„ Establishment ...	960	0	0
„ Subscriptions ...	3,478	1	6	„ Honorarium ...	600	0	0
„ Advertisements ...	580	10	6	„ Postage ...	561	13	3
„ Interest ...	17	10	2	„ Blocks ...	163	4	0
				„ T. A. for Mr. M. S.			
				Sastry, Rs. 20;			
				Editor Rs. 25; and			
				Typist Rs. 10-12-6			
				to VII A.I.V. Con.	55	12	6
				„ Furniture ...	53	8	0
				„ Books purchased.	54	1	8
				„ Stationery ...	27	1	3
				„ Binding of Ex-			
				change Journals.	17	8	0
				„ Typewriter re-			
				pair ...	6	0	0
				„ Bank commis-			
				sion for collect-			
				ing cheques ...	1	8	0
				„ Railway freight.	1	5	0
				Total ...	3696	9	8
				By Balance ...	578	11	0
Grand Total ...	4,275	4	8	Grand Total ...	4,275	4	8

To Balance on 1—7—31. Rs. 578—11—0.

Checked.

M. S. SASTRY,
Gen. Secretary.
A. I. V. A.

30—12—34.

P. SRINIVASA RAO, G.M.V.C.,
Editor.

20—12—34.

THE INDIAN VETERINARY JOURNAL,

Vol. VIII:—July 1931 to June 1932.

Account of Receipts and Expenditure.

RECEIPTS.				EXPENDITURE.			
	Rs.	A.	P.		Rs.	A.	P.
To Balance from the				By Journal Printing	1,404	4	0
VII the Volume	578	11	0	„ Cost of blocks ...	132	2	6
„ Subscriptions ...	3,677	8	2	„ Establishment ...	960	0	0
„ Advertisements ...	667	0	3	„ Honorarium ...	900	0	0
„ Interest ...	22	6	1	„ Books purchased	141	15	9
„ Amount realised				„ Excess amount			
by sale of old				paid for Under-			
Remington				wood No. 5, in			
Typewriter No. 7	10	0	0	exchange for			
				Remington			
				No. 10 ...	60	0	0
				„ Cost of Trioh			
				Machine ...	13	0	0
				„ Binding of Ex-			
				change Journals	12	8	0
				„ Railway freight			
				for blocks ...	7	3	0
				„ Bank commission			
				for collecting			
				cheques ...	4	9	0
				„ Travelling allow-			
				ance for Editor	18	0	0
				„ Bearing postage	0	0	6
				„ Postage ...	586	1	0
				„ Furniture ...	35	0	0
				„ Stationery ...	38	15	9
				Total ...	4,313	11	6
				By Balance ...	641	14	0
Grand Total ...	4,955	9	6	Grand Total ...	4,955	9	6

To Balance on 1—7—32. Rs. 641—14—0.

Checked

M. S. SASTRY,
Gen. Secretary.

30—12—'34.

P. SRINIVASA RAO, G.M.V.C.,

Editor.

20—12—'34.

THE INDIAN VETERINARY JOURNAL,

Volume IX:—July 1932 to June 1933.

Account of Receipts and Expenditure.

RECEIPTS.			EXPENDITURE.		
Rs.	A.	P.	Rs.	A.	P.
To Balance from the			By Journal Printing	1,330	0 0
VIII Volume ...	641	14 0	„ Cost of blocks ...	247	11 0
„ Subscriptions ...	3,850	13 6	„ Honorarium ...	1,200	0 0
„ Advertisements ...	450	3 0	„ Establishment ..	960	0 0
			„ Postage ...	803	0 6
			„ Books purchased	46	7 0
			„ T. A. to Editor		
			Rs. 15; Mr. M. S.		
			Sastry Rs. 20;		
			Typist, As. 3 ...	35	3 0
			„ Stationery ...	21	4 3
			„ Binding of Ex-		
			change Journals	17	8 0
			„ Embosing Machi-		
			ne ...	15	14 0
			„ Donation to Im-		
			perial Horse		
			Show ...	10	0 0
			„ Draft returned		
			unpaid from		
			U. S. A. ...	6	15 6
			„ Bank charges for		
			collecting che-		
			ques ...	5	8 0
			Total...4,699	7	3
			By Balance ...	243	7 3
Grand Total...4,942	14	6	Grand Total...4,942	14	6

To Balance on 1-7-33. ... Rs. 243-7-3.

Checked

A. RAMALINGA MUDALIAR,
President, A. I. V. A.,
MADRAS BRANCH.
25-12-1934.

P. SRINIVASA RAO, G.M.V.C.,

Editor.
20-12-'34.

THE INDIAN VETERINARY JOURNAL.

Volume X:—July 1933 to June 1934.

Account of Receipts and Expenditure.

RECEIPTS.			EXPENDITURE.		
Rs.	A.	P.	Rs.	A.	P.
To Balance from the			By Journal Printing	1,429	12 0
IX Volume ...	243	7 3	„ Cost of blocks ...	271	2 0
„ Subscriptions ...	4,237	1 5	„ Honorarium ...	1,200	0 0
„ Advertisements ...	676	6 7	„ Establishment, rent		
„ Interest received			and salary ...	960	0 0
for 1932 & 1933.	40	0 0	„ Postage ...	774	3 0
			„ Books purchased.	43	9 3
			„ Stationery ...	39	15 3
			„ Binding of Ex-		
			change journals.	19	0 0
			„ Furniture ...	12	8 0
			„ Bank charges for		
			collecting cheques.	4	14 3
			Total ...4,754	15	9
			By Balance ...	441	15 6
Grand Total ...5196	15	3	Grand Total ...5196	15	3

To Balance on 1-8-34 ... Rs. 441-15-6.

Checked.

A. RAMALINGA MUDALIAR,
President, A. I. V. A.
MADRAS BRANCH,
25-12-'34.

P. SRINIVASA RAO, G.M.V.C.,
Editor,
20-12-'34.

Adopted unanimously.

M. S. SASTRY,
Gen. Secretary,
30-12-'34.

N. D. DHAKMARVALA,
President,
30-12-1934.

Dr. B. K. Badami moved the adoption of the report and statement of accounts, complimenting the Editor and the manner in which he has been improving the *Journal* from success to success, for which, the profession owed a debt of gratitude to him. He also suggested to the General Secretary to publish the report on the working of the *Journal* together with statement of accounts each year without waiting for the Conferences. He was also of opinion that the Editor should be paid a decent honorarium since the work of the *Journal* takes lot of his valuable time in addition to his other incidental troubles and other things, which the Editor has to feel in the due discharge of his noble duty to the profession.

Prof. Karam Ellahie, G.P.V.C., Punjab, seconded it.

Dr. D. S. Laud, supported it.

The President put the proposition to the Conference which adopted it unanimously with acclamation.

Next item of the programme being election of office bearers, the following are unanimously elected :—

President:—Khan Saheb Prof N. D. Dhakmarvala, G. P. V. C., B. V. S., (Retd.), "King's Building" Soparibagh Road, Parel, Bombay, No. 12.

Proposer.—Dr. Y. N. Marathe, G.B.V.C.

Seconder.—Prof. C. H. Mushtaq Ahmed Choudhary.

General Secretary.—Dr. M. S. Sastry, G. B. V. C., Veterinary Surgeon, P.O. Anantapur, Madras Presidency.

Proposer.—Prof. Karam Ellahie, G.P.V.C., Punjab.

Seconder.—Dr. B. K. Badami, G.B.V.C., Hyderabad.

Supporter.—Dr. D. K. Laud, Bombay,

Treasurer.—Dr. A. Ramalinga Mudaliar, G.M.V.C., Veterinary Surgeon (Retd.), Idaikal, P. O., Tinnevely District, (S. I.)

Proposer.—Dr. B. K. Badami, Hyderabad.

Seconder.—Prof. C. H. Mushtaq Ahmed Choudhary.

Supporter.—Dr. Y. N. Marathe, Bombay.

The newly elected President and Treasurer and the re-elected General Secretary duly thanked all the Members present for the confidence they reposed in them and for having elected them to their respective honorary offices.

Then the resolutions were taken up and passed unanimously :— (vide Appendix D).

Then Dr. M. S. Sastry, the General Secretary, proposed a hearty vote of thanks to the revered President Khan Saheb Prof.

N. D. Dhakmarvala for having kindly consented to preside over and conduct the deliberations of this Conference at a time when most of the retired officers would like to enjoy rest without worrying themselves with the public activities. When the speaker suggested the name of Khan Saheb for the Presidential Chair he was quite confident of the support of the entire profession in the country in this proposal.

The whole Conference was grateful to the Khan Saheb for his having come out of his retired life and conducting the proceedings of this Conference ably and tactfully to the satisfaction of the entire Conference. He would pray for the long and happy life of the Professor so that he would be able to render the valuable services still further to the Indian Veterinary Profession in the building of which his part is no mean one. He wished this pleasant duty had fallen upon some shoulders to thank the President, because he felt embarrassed to say much in praise of his own Guru and Teacher in his presence. It is always painful to part company, but since the proceedings of the Conference have almost come to a close they all should part soon, but he appealed to all Members present and through them to those who could not be present to revive and form the Provincial Associations, to work them up vigorously for the benefit of the country and evince greater interest in the common welfare of the profession.

He once again said that this was his pleasant duty to thank the President on behalf of all the Delegates assembled and on his own behalf.

Dr. Y. N. Marathe, G.B.V.C., seconded the proposal to vote a hearty vote of thanks to the President. This was lustily responded to and carried amidst great acclamation.

Then the President in closing the Conference said :—

GENTLEMEN,

I thank you heartily for the vote of thanks proposed by my friend Mr. Sastry and carried by you all unanimously. I need hardly say that it has given me very great pleasure to preside over the deliberations of the All-India Veterinary Conference and listen to the discussions. I can only say without contradiction that the Conference had been a great success. Nearly 80 delegates have attended the Conference from all parts of the country. I trust that most of the delegates who have come from distant places have had a pleasant time. The Bombay Veterinary Medical Association have tried their best to extend the grand hospitality to the delegates, and we trust that if there were any short-comings you will overlook them.

We are very thankful to all these delegates who read interesting papers and case reports. Also we are thankful to all the Members of the Reception Committee, especially to Messrs. P. G. Date, K. R. S. Aiyar, and M. K. Garudachar; our thanks are also due to the President and the Secretary of the Bombay S.P.C.A., for having placed the Cattleward at our disposal for the drama. I trust that our energetic Secretary of the All-India Veterinary Association Dr. M. S. Sastry will continue to agitate in the matter of holding meetings of the All-India Veterinary Conference in each Province by turns.

With these remarks I thank you again and wish you all a Happy New Year and a pleasant journey back to your house."

With three cheers which were lustily given to the President of the Conference, the proceedings terminated.

M. S. SASTRY,
General Secretary.

(S.) N. D. DHAKMARVALA,
President.

THE ALL-INDIA VETERINARY CONFERENCE. EIGHTH SESSION, 1934, BOMBAY.

APPENDIX-A,

WELCOME ADDRESS.

BY

D. S. LAUD, G. B. V. C., F. R. H. S., F. Z. S. (LOND.),
Chairman, Reception Committee.

GENTLEMEN,

As Chairman of the Reception Committee of the Bombay Veterinary Medical Association I consider it a great privilege and honour to offer you a most cordial welcome here. I am deeply conscious of the great honour conferred upon me by being elected Chairman of the Reception Committee, and I trust that with your co-operation and good-will our discussions, deliberations and decisions will prove as productive of progress as in the past.

In the first instance, I have to express my very sincere thanks to my "Guru" Khan Saheb Nowroji Dorabji Dhakmarvala for kindly accepting the invitation of presiding over and opening this Conference. Khan Saheb needs no introduction, and we congratulate ourselves for having secured his consent. He is the oldest member of the Veterinary profession in India and as our Professor and Vice-Principal about the time of most of the graduates of the Bombay Veterinary College, who are present here to-day, he has been an

excellent teacher, a first class operator and a foremost Veterinary Surgeon—a product of our "Alma Mater"—of whom everyone should be proud. As a student, he stood in first class with distinction when he graduated from this College in the year 1889. It was the late Dr. Steel the first Principal of the College knowing the abilities of his student, appointed straightaway Khan Saheb to the teaching post in the Bombay Veterinary College along with Mr. Vicaji Edulji Vakharia, another able Professor and also our "Guru" and a colleague of Khan Saheb. Both Khan Saheb Dhakmarvala and Mr. Vakharia along with the late Dr. Steel are the pioneers of Veterinary Education in India. As most of you, who are his students present here to-day, know Khan Saheb very well and his qualities of head and heart it is needless therefore for me to say more. Since his retirement, he has taken very keen interest in our work, and as President, he is the very soul of the Bombay Veterinary Medical Association. He is very enthusiastic, even at this age, and we congratulate ourselves that this Conference is to be presided over and opened by him.

In the second place, I have to thank all the members of the profession and other gentlemen, who have come as representatives of different Provincial Associations, Municipalities and other bodies. It is no small pleasure to meet and greet you all who have taken the trouble to come from long distances to attend this Conference. I trust that Bombay—"Urbs Prima in India" will do its utmost to make your stay a very pleasant and profitable one and when you return to your own Provinces you will carry with you the happy memories of Bombay and this Conference, of which we are so proud. I think that Bombay could claim that as far as Veterinary Associations are concerned, we have been pioneers, in as much as the Bombay Veterinary Graduates Association was started in the year 1886.

This is the second time that the All-India Veterinary Conference is held in this City, and it may be mentioned that such Conferences were held in previous year *viz*, in Lucknow, Lahore, Madras, Calcutta and Bangalore, and it is in the fitness of things that one like it should be held in this Presidency town.

It is needless for me to go into the question of the necessity or utility of holding such Conferences. The movement is now sufficiently advanced and I believe that the results which have followed are an answer to the doubts of its success and will compel a very favourable verdict for its continuance in future. It has been no small satisfaction to us to see its growth and expansion which is the outcome of the support and co-operation received from all, and it is

this that has encouraged us to try to make this Conference our Annual event.

As it is customary for the Chairman of the Reception Committee to introduce the proceedings with some remarks about the Professional progress, I do so with great pleasure.

You all know the object for which we have assembled here. We have to confer on various matters of interest for the uplift of our profession, to devise measures for the further progress of our activities, to compare notes, to settle our doubts and difficulties, to help one another in the solution of many and varied problems, which confront us. For the success of such a Conference, it is incumbent on all concerned to do their part and send as many representatives as possible. In the past there has been a tendency for each province to work on its own in a sort of water-tight compartment.

But it is now realised that the health of the stock of each province is interdependent on the freedom from disease of its neighbouring stock. Thus by Conference and discussions here, we will disperse much the wiser and will be in a better position to send representations to our respective Governments. There is no use meeting like this at a Conference every year and then sit quiet for the rest of the year. It is for us to chalk out a feasible programme for our future progress with high ideals in regard to different subjects. It is for us to induce Government to see matters from our own point of view. It is only by a judicious propaganda that the authorities could be induced to realise that an organised profession wishes to advance along with path of progress.

The Bombay Veterinary Medical Association has on its list 76 members. The Bombay Presidency including Sindh with its population of nearly 2½ crores of people possesses about one crore of Bovines. There are 123 Veterinary Dispensaries, (105 in Bombay Presidency and 18 in Sindh). There are 123 Veterinary Assistant Surgeons, 3 Veterinary Inspectors, 1 Deputy Director and 1 Director of Veterinary Services; and 1 Inspector and 1 Superintendent in Sindh on the establishment. Now one Investigating Veterinary Officer is appointed for research. It will therefore be found that numerically the present cadre of Veterinary service in this Presidency is totally inadequate to cope successfully with the problems in any one branch of the work, either in research, teaching or executive.

Veterinary Education and Veterinary Research are subjects of National importance. India is an enormous country, chiefly agricultural. But people do not understand the value of Veterinary service to the agriculturist, and the result is that Veterinary help has

been sparingly given, and fruitful field for investigation and research into animal diseases has been neglected. Veterinary service is still in its infancy and its growth and progress should not be retarded by an economic policy.

Although research into animal diseases is still in its infancy, there are many avenues of Veterinary service that have yet to be explored. Though horse traction in town is replaced by mechanical transport, there is no falling off in racing, polo and hunting, and cattle for agricultural work are on the increase. Canine practice, which was comparatively insignificant previously, is increasing to-day in every town. If all arable land were turned into pasture it means an increase in the cattle of the country. If the Milk Inspection Act be sanctioned, it will increase the consumption of pure milk, which means more Dairy cattle and possibly the appointment of more Veterinary Officers. Therefore if we see the mechanical transport on the increase every day, it is not to be inferred that the horse, cattle, the Veterinary Surgeon and the Veterinary Profession are going to be extinct. One must remember that the profession is made up of compensations *viz.*, that where there is a falling off in one direction, there is an increase in another. It is therefore necessary for us to take great interest in the live-stock problems. The yield of milk must be increased per cow, the weight of fleece in sheep must be increased, and the weight of poultry and other by-products also must receive attention. Anything good for agriculture is good for the Veterinary Profession. The progress of people in an agricultural country like ours is largely associated with the animal industry. We should therefore co-operate with those engaged in live-stock industry. We are part and parcel of agriculture as profession. Agriculture owes an enormous debt of gratitude to Veterinary profession. Live-stock is the most important of Indian farming and the Veterinary Profession protects the farmer from ravages of disease by curative and preventive measures and by research into the cause and control of epidemic diseases.

Veterinary Science is of enormous service to the human race, and it is therefore of vital importance that our profession should be allowed to associate with our sister profession—the Medical profession as a comparative section of medicine which will prove of utmost benefit to both branches of medicine. In fact our profession is now recognised and we now form a part and parcel of the Medical profession in the Indian Science Congress.

Our profession should also be fully represented at every Congress of Sanitary Institute. This Congress is attended by nearly every Health Committee in India in addition to the Medical Officers of

Health, Sanitary Inspectors, Sanitary Engineers, and other officials. It is therefore obvious that if a few Veterinary Officers were allowed to attend and read papers and take part in the deliberations, we as a profession will be considered necessary officers in the Sanitary Service, especially in matters of milk and meat inspection. Thus our profession can secure recognition which we are entitled to and keep in touch with people who have the power to make appointments in the Sanitary Service. The Veterinary Profession is indebted to the Medical Profession for raising its status. The status of the latter profession is to-day a very high one: and the Veterinary Profession now feels that it could stand on its legs and join the Medical profession in matters of public health: for there is room for both in the interest of humanity. Thus the Medical Officer of Health and the Veterinary Officer should work in complete harmony, for both are members of sister professions, that are interdependent on one another for the good of the humanity. Over half of the cases of Tuberculosis are due to milk and there is only one body who could protect the public from that dreadful scourge, and that body is the Veterinary Profession. If this dreadful disease could alone be eradicated, I say that the Veterinary Profession would have done an enormous amount of good work. Apart from this, there are several other diseases which are communicable to man from animals, and it is here that the co-operation of both the Medical and the Veterinary professions is essential.

We all know how ignorant still is the Indian farmer on Veterinary matters, especially with regard to the contagious disease, and it is for the Veterinary profession to enlighten him on these matters. It is for us to explain to the ignorant farmer the benefits of inoculation during the epidemics of contagious diseases, and when he once knows the benefit that accrues from such inoculations, our efforts will be appreciated and the owners of stock would make up their minds at once to get their animals inoculated. It is incumbent on us to have more influence on the farmers and we should exert ourselves in that direction and advise them on the ailments of their cattle on every conceivable occasion, by lectures on suitable subjects, and if it is possible, they may be made more attractive and educative by magic lantern slides.

It is also desirable that every humanitarian society like the S. P. C. A., Pinjrapoles, "Gow-shalas" should have on their Committees a Veterinary Surgeon, who would be very useful to advise them and take part in their deliberations on matters useful for the housing and protection of cattle, horses and other animals in their institutions. It is gratifying to note that the Bombay Pinjrapole,

which is a premier institution in this country, has secured the services of a Veterinary Surgeon in the person of Khan Saheb J. D. Buxy, as Adviser in Veterinary matters; and it will give great pleasure to all of us to note that his services were publicly recognised by the Trustees of the Bombay Pinjrapole during the Centenary celebrations of their Institution held on the 20th November 1934, in Bombay by presenting him with a souvenir cup at the hands of His Excellency Lord Brabourne the Governor of Bombay.

It lies with the Veterinary profession to try to eradicate Glanders and Rabies from India, as is done in England, with the aid and application of Veterinary Research, and thus confer benefits both upon men and the animal world; equally so with Tuberculosis and Anthrax. Those ultra-visible group of diseases like Rinderpest, Foot and Mouth disease and distemper which have baffled the brains of our best scientists require to be investigated; so also Cancer which is prevalent both in man and in animals and also certain diseases in sheep. Our profession lives in hopes and I trust that these desires will be realised before long. Collaboration and co-operation amongst those who work in the Laboratory and in the field are necessary to achieve this end. We hope that with the experiments that are at present being carried out by means of vaccination of calves to render them immune, we would be able to build up Tubercle-free herds. Rabies at one time caused very great anxiety, but thanks to the great Pasteur, the introduction of preventive vaccination against this disease has conferred a great boon on human-beings and animals and it is our hope that the day will not be distant when one single dose of vaccine instead of a course of 14 days, would be sufficient to give immunity. The fact is that our animals have only an economic value and the fees are comparatively small—these are therefore our chief drawbacks to more work being done in this line.

There is another important matter to which I wish to draw the attention of all members. It is that every member should contribute some material in the way of an article or clinical case for publication in the Veterinary Journals; because their existence depends upon our contribution and recording of cases in these journals for the benefit of others. We have our own Veterinary Journal, I mean the "*Indian Veterinary Journal*", which is being so ably conducted by my friend Dr. P. Srinivasa Rao of Madras and it is our duty to give our full support to this *Journal*. Besides, this *Journal* is our mouthpiece to ventilate our grievances to the Local Self-Governments, Ministers and officials of the Governments of the different Presidencies, besides keeping us in touch with our professional brothers in the different provinces. It is therefore essential for us

all to contribute our articles and clinical cases and co-operate with Dr. P. Srinivasa Rao—the able Editor of our *Journal*.

Before concluding I wish to make a few general remarks.

The Bombay Veterinary Medical Association of which I have the honour to represent to-day, feels that the City of Bombay, which is always in fore-front to assist science and literature, has also taken a leading part in the care of animals, and you see here to-day the magnificent buildings and wards built for the administration of treatment and relief to the dumb animals—the Bai Sakarbai Hospital, which is a standing monument of the great philanthropic work done by that great philanthropic family of Bombay, viz., the Petit—family. You will also be pleased to note that the Bombay Pinjrapole owes its origin to another great Parsi Philanthropist—the First Parsi Baronet—Sir Jamsetji Jeejibhoy, who was the first Chairman and Trustee and the present Chairman of the Trustees of this Institution is also Sir Jamsetji Jeejibhoy the Sixth Baronet of this illustrious family.

It would be impossible to thank in adequate terms all those who have helped to make this Conference a success; but I must mention the names especially of our energetic Secretary Mr. P. G. Date, and the Treasurer Mr. Marathe, and the members of the Reception Committee, who have worked so very hard. We trust we shall learn a good deal from the deliberations and discussions that will take place in Subjects Committee. I am sure that we shall be able to give an excellent meeting here and that it will benefit us not only from a scientific point of view, but also as a relaxation from work and an enjoyable holiday.

I have also to thank Mr. Farbrother, the Director of Veterinary Services, Bombay Presidency and the Principal of the Bombay Veterinary College for allowing us the use of this building for holding this Conference and for the use of the Hostel by the Delegates.

I wish the Conference a long and useful life, long might it live and long might it continue in the good work that it is doing.

In conclusion, I beg to request you all to give your help, full support and sympathy to the Chair, so that this VIII Session of the All-India Veterinary Conference will compare favourably with its predecessors in the business we put through and the wisdom of our discussions.

With these remarks, I now request Khan Saheb Dhakmarvala to kindly open the proceedings.

THE ALL-INDIA VETERINARY CONFERENCE. EIGHTH SESSION

29th and 30th December, 1934, Bombay.

(APPENDIX B.)

PRESIDENTIAL ADDRESS.

BY

KHAN SAHEB N. D. DHAKMARVALA, G.B.V.C.

GENTLEMEN,

I consider it a great honour to be asked to open and preside over the deliberations of the Eighth Session of the "*All-India Veterinary Conference*." This task is one which should have devolved upon some high official of our Department but since it has not been possible to do so and you have thought fit to elect me for the duty, I thank you sincerely for the same and can only say that I greatly appreciate it.

In this connection, I might state that when it was decided to hold the Conference last year at Lucknow, I was asked to open it, but owing to unforeseen circumstances it was not held there. However, the suggestion made by the Secretary, All-India Veterinary Association that it should be held this year a second time in Bombay, and that I should preside over it, and the ready acceptance of the same by the Bombay Veterinary Medical Association, is a testimony of the fact that the Bombay Veterinary Medical Association was carrying out its obligation towards the All-India Veterinary Conference and I am sure, it will extend a splendid hospitality to the delegates and visitors to the Conference.

I am aware that you have placed a heavy responsibility upon me but I trust that with your co-operation and help, our discussions and decisions will prove as productive of progress as in previous years.

You are aware of the utility and necessity of holding such Conferences annually in different Provinces. They serve a very useful purpose in bringing professional brethren together and stimulating interest in discussion of professional subjects and their difficulties, and meeting new members and friends. We were all bound together in the common task of promoting our profession and in so doing, of helping the people of India. But co-operation is necessary to maintain the status and improve the working conditions of the profession. We therefore congratulate us that we have in the All-India Veterinary Association an organisation which stands to uphold in every way the dignity and honour of our profession and to promote a sense of *esprit de corps* amongst all members and also to

enable members to take counsel together on matters affecting our profession. I trust that your counsels and deliberations will help to solve the problems engaging the attention of our profession.

I am sure that some interesting and instructive papers and clinical cases will be read and discussed during the course of the present session and it will give me great pleasure to preside over these meetings and listening to them.

In welcoming here to-day and meeting again many of my former pupils and friends, memories of the past are naturally stirred up in me. It is now nearly 45 years since I first joined the staff of the Bombay Veterinary College and retired in 1927, after serving for 37 years. During this period many changes have taken place in Veterinary work in India. These changes have affected all aspects of our work and in fact almost revolutionised it.

I do not wish to take up much of your time with a long opening address but I propose to take as the subject some important aspects, *e.g.* Horse-breeding in India, Milk Industry, &c.

OUR ANIMAL WEALTH.

India has in her animals vast undeveloped sources of wealth. But India is not getting the best out of her live-stock. Therefore Government and public opinion in co-operation should pay greater attention than hitherto, in the improvement and exploitation of the animal side of Indian husbandry *e.g.* (1) In every part of India efforts should be made to increase the average milk yield by nearly 70% between one lactation and the next by proper and less costly feeding; (2) The fleeces of a flock of sheep could be increased between one sheering and the next by adding certain ingredients in the food as sulphur; (3) The usual value of the poultry can be increased by having more and larger sized eggs and preparing the fowls for the table by proper feeding and management; (4) The establishment of a Central Nutrition Institute to co-ordinate animal nutrition investigation work in the Provinces.

In this connection, I read an article from a London correspondent of a paper, under the caption of "War on Bacterial Bandits, an Empire C. I. D. campaign against animal diseases." The article describes how animal diseases of all kinds are the biggest single drain on the Empire's wealth. The live-stock yields annually far more than the mines and although we can put barbed wire fences round the mines to guard against theft, we cannot find a barrier which will keep the worst stock-thieves out of our flocks and herds *viz.*, the germs of diseases. But there is now at Surrey, a C. I. D., which has been set up to keep a watch on the activities of these germs and to study and co-ordinate the latest devices for thwarting their evil

doings. At Weybridge, about 20 miles from London, is the Imperial Bureau of Animal Health, supported partly by Indian funds. It collects the latest information about animal diseases from all over the world and passes it on quickly in a condensed form, to research workers all over the Empire. It is an organisation for helping the Indian and other Empire Veterinary Officers to keep abreast of the most up-to-date methods and results of research and it is supported entirely out of Imperial Funds. The Imperial Bureau of Animal Health is a clearing house of information for all animal diseases. Suppose a hitherto unknown disease of animal breaks out in India and there is some doubt about its diagnosis, a full description is sent to the Imperial Bureau which finds out whether a similar disease had been recorded from other parts of the World. The Bureau looks up the literature for 30 years back published in different languages and sends out if necessary circular letters to various authorities. It collects all the information and sends replies. In India the Expert Advisor on Animal Husbandry to the Imperial Council of Agricultural Research at Delhi is the official correspondent to the Bureau which he keeps informed about all the work which is going on in India. There is another link between India and Weybridge. The Deputy Director of the Bureau, Mr. W. A. Poole, worked for many years at the Imperial Institute of Veterinary Research at Muktesar before going to Weybridge. He has therefore a first hand knowledge of India's peculiar difficulties and of the efforts which are made to overcome them. Therefore India, South and East Africa gain much by the closer linking up research in these three territories and the Imperial Bureau at Weybridge is the direct connecting link between them.

We are aware that it is in the province of Veterinary Medicine to keep the animals fit and healthy. No agricultural power can accrue to animals unsound in health. We are all convinced that Veterinary Education in all Institutions should be on one level. The development of a strong body of independent Veterinary practitioners is essential to the welfare of animals and the steps which could insure development of an independent veterinary profession in India, are to keep open all branches of the Veterinary Service to Indians and to afford all facilities for Research Work. India's ancient *Materia Medica* deserves the close study by modern Veterinary men. It was a vast store house of information whose wealth is now being realised by modern Veterinary Research. By systematic Research and modern methods, Indians could replace very cheaply and at great advantage to themselves the large number of drugs and medicaments which are being imported to-day from foreign countries at high cost. Efforts should be made to provide more efficient Veterinary aid

especially to the rural areas. The purchase of drugs and Veterinary comforts from foreign countries make the administration very costly. As far as possible, indigenous drugs and home-made instruments and accessories should be used. But even here, great discrimination and discretion are necessary. We must not let our patriotism blind us to our limitations or allow our enthusiasm for the cult of "Swadeshi" to obscure the fact that for some time to come, we will have to depend on foreign countries for such articles as cannot be made or manufactured in India at present. There is a great need of men trained in simple and cheap methods of rendering Veterinary aid with skill and maximum amount of safety. What we required was a band of Veterinary workers to form a Society to fight diseases which wrought such terrible havoc in India and to save animals. We should all cultivate a spirit of co-operation which should overcome all obstacles now responsible for the obstruction of their progress and advancement.

HORSE-BREEDING.

In my last year's Report of the Bombay Veterinary Medical Association I referred to the future horse breeding in India and that as its success depended on Racing test, the Turf Club must provide more encouragement. The National Horse Breeding and Show Society are creating a demand for country-breds and the good work which was being done by them is recognised and there is a considerable amount of enthusiasm among Indian racing owners for Indian horses. Also the Western India Turf Club was instituting a new scheme of registration for Indian horses which is under consideration of the Society. There is every possibility of the institution of a five-year plan of racing for Indian horses by the Western India Turf Club to include foal and produce stakes. Hitherto racing owners had no assurance of the continuity of racing for Indian horses. But the Western India Turf Club has been most useful in providing more races for Indian horses at Poona and Bombay and with the introduction of a permanent programme extending over a number of years, the racing owners will be able to make their arrangements accordingly and to make further demands on breeders for supply of Indian horses for racing purposes. Besides this, the establishment of a five-year plan for Southern India has made a satisfactory progress. When these two schemes will be in working order, there would be a continuous cycle of racing for Indian horses throughout the year in Western and Southern India. This would mean that more Indian horses would be required and horse breeders in India should see that the demand is adequately met. The National Horse Breeding and Show Society of India have frequently pointed out the losses which India has been suffering annually through not being self-contained in

horses. The country is losing several lakhs of rupees every year by having to import horses to meet her requirements. It must be remembered that no industry can make good progress unless there be an efficient and searching test for its products. Similarly horses must be subjected to the test of performances before breeders can satisfy themselves as to the best animals for the stud to continue to breed. Therefore before anything further is done about horse breeding in India, we must remember that racing test is indispensable. But this test is at present inadequate in India. We also know that no industry can prosper without a ready and profitable market and no ready and profitable market could be established for the indigenous products of any country so long as that country is content to import its requirements from other foreign countries. That is what India has been doing for a number of years to her own economic disadvantage. India contains within herself a ready and profitable market for her home-made horses but she does not exploit or utilise it. That market is her race courses. But instead of supplying it with indigenous material, she allows nearly 90 per cent of imported products. It is not to be inferred from this that India should breed only race horses. She should aim at producing a definite type of thoroughbred horses suitable in all respects to the country, *viz.* comparatively small horses as regards height, but of the highest quality, thickset, compact and with specially good legs and feet. Such a horse could certainly be produced in India in case of a demand for it. At present there is only 10 per cent demand for Indian horses in racing because the average of the racing stakes in India per Indian horse is only Rs. 1,000 compared with Rs. 30,000 per imported horse. Besides this, there is only one racing class for Indian horses compared with seven classes for other horses. In other words, the door of the best market *viz.* the race course, is not fully open to Indian horses in their own country. It would be therefore useless to expect increased production of Indian horses as long as the inducement is so lacking. If 90 per cent. of the inducement were given to Indian horses and four classes were instituted for them, there would be an immediate response. The establishment of a definite type suitable to the country will have to be made, gradually, accompanied by the provision of a more equitable average of stake money, and the institution of races calculated to assist in the production of the definite type of horse required, *i.e.*, a considerable proportion of the long distance races to bring out stamina, soundness and courage. The result would be that horse-breeding operation in India would be started and conducted on right and scientific lines to produce the type required and there would be great increase in production. All the horses thus produced would be "Indian Thorough Bred." A comparative small percentage of these

would be suitable for carrying on the breed and reproducing themselves. These would be the breeding stock to produce India's stallion power. The remainder would be a valuable asset to India for her other requirements and thus a reserve would be gradually built up, which would make the country independent of outside help. It may not be possible to breed horses in India which would win the Classic Races in Europe but she would be producing a type eminently suitable to her requirements and would be able to supply the world's markets with high class polo ponies. The whole question hinges on the encouragement given to the industry by its market, *viz.*, the race course which is also the test for its breeding stock. The very basis of Indian horse-breeding is the grading up process, the evolution of an Indian thorough-bred horse suitable to all the requirements of the country.

Recently, the fight against interests which stand in the way of the development of horse-breeding in India has taken a new turn. There will come into existence shortly at New Delhi, a Northern, India Race Club, organised not merely to promote racing as a sport but definitely to encourage Indian horse-breeding, the development of which in course of time will be worth crores of rupees to the country. Its elaboration by the National Horse Breeding and Show Society is as much a protest against the attitude of other recognised race clubs. Lately the Western India Turf Club has made a definite move in this direction and if adequate support is forthcoming from horse breeders and the public, there should be material progress. Therefore individuals and organisations directly interested in the development of the horse breeding industry are grateful to the Western India Turf Club for what it has recently done. There can be no two opinions about the importance of horse-breeding to India, particularly when we bear in mind that the country is losing 70 lakhs every year by having to import horses from abroad. A prosperous horse breeding industry would lead to the greater contentment and welfare of the rural population. It cannot develop on a large scale without the test of stamina and speed which the race course alone can provide. When racing is mentioned there are people who think of the evils associated with betting, regardless of the fact that without some kind of betting no Turf Club can hope to live. The Northern India Race Club while providing certain facilities for betting, its programme will be devised for the encouragement of Indian-bred horses. The object of the National Horse Breeding and Show Society of India is to make India as far as possible independent in the matter of horse-flesh. It is for this reason that the Society should welcome and assist the proposal to start a new Racing Club in North of India. At any rate, it is obvious that those directly interested would be wise to take

steps to further the cause of India's horse-breeding. If progress is not made, the demand for import duty may become imperative, although the suggestion for this duty will be rigorously resisted.

MILK INDUSTRY.

Medical opinion agrees that the consumption of milk and dairy products in India is much lower than it ought to be, especially as the diet is largely vegetarian. Besides, there are constant complaints of milk shortage. The small milk yield of the average cow in India is well-known. This could be remedied by selective breeding and proper feeding and management.

The importance of pure milk in India, both for infants and adults, cannot be overestimated and it is a matter of general satisfaction to note that a scheme to encourage care in the handling of the milk at their West country farms, has recently been put into operation by the well-known manufacturers of Infant Food, Cow and Gate Co., Ltd., of Guilford, Surrey, whose operations cover wide radius in the west of England. Each supplier's milk is now graded by a system of marks and every month 10 per cent of the farmers gaining the highest number of marks are paid one penny extra per gallon for the month's supply. The 20 per cent of the farmers gaining the next highest marks are paid half penny per gallon extra. As an example of the benefit, a supplier sending 100 gallons of milk per day and obtaining one penny as bonus for quality will receive £. 12-10-0 above the standard prices of his month's supply. The marks are awarded for butter fat, other solids, bacterial count and absence of visible sediment. The idea is of course to encourage the farmers to bring their methods of milk production up to a very high standard. Although the special process of the Company render all milk absolutely safe and the milk is entirely uniform, it is obviously an advantage to have the highest quality available in the basic product before operations are commenced and this ideal is rapidly being achieved by this progressive Company.

The unique value of milk as a human food has been also demonstrated recently by extensive studies in Scotland. Supplementary feedings of milk were given to 10,000 school children, who were compared with an equal number not so favoured. The milk-fed children uniformly displayed greater gains in weight and height, had better health and made more scholastic progress. Similar studies by medical officers in India and Africa have shown that those who consume dairy products in abundance, are invariably stronger and healthier than those who subsist mainly on grains and vegetables. One of the most convenient forms of pure milk is dried or powdered milk. In many

places where fluid milk is unobtainable and is of questionable safety, powdered milk is sealed in tin containers. It has saved the lives of numerous babies deprived of mother's milk and has served as a reliable substitute for the highest quality of liquid milk. A standard powdered milk is made by spraying milk under high pressure into a large heated chamber. The resulting creamy powder is packed by a special vacuum process in clean tin containers, which will keep as such indefinitely in any climate. In this spray process, the fat of milk is broken up into fine particles, which form a soft curd in the human stomach. For this reason, powdered milk is much more easily digested than the other ordinary fluid milk. For this very reason, no cream line occurs when powdered milk is reliquified, although all the cream is present but dispersed throughout the mass. Other advantages of the powdered milk are its purity and safety with complete immunity from harmful bacteria, its convenience, its uniformity and its simplicity of use. No refrigeration or icing is necessary for the storage of powdered milk in the closed container and the product is always ready for use when desired. For infant or child feeding or as a most satisfactory substitute for the best grades of market milk, powdered milk is highly efficient and deserves its popularity in every nook and corner.

Besides this, what is known as electrocuted milk is another practical process of pasteurization of milk by electricity. This process was recently described by Dr. C. G. King of the University of Pittsburgh before the Electro-Chemical Society. Alternative current is passed through the milk and the entire mass of fluid is easily and evenly heated with a minimum of exposure to either air or metals. Water cooled carbon plate electrodes are used and the temperature is brought up in two stages:—First to 120°F. and then to 162°F. The pasteurized milk thus produced has been given repeated and thorough tests as to efficiency in destroying pathogenic organisms. The reports of these tests have been most satisfactory. There are now many plants already in operation utilising the electric heating method.

With a view to encourage the consumption of pure and cheap milk in the City of Bombay, the Bombay Municipal Corporation have advertised last month to consider the question of assisting financially individuals, companies, associations and co-operative societies who would undertake to supply from outside Bombay, not less than 10,000 lbs. of milk per day of a standard approved by the Municipality and sold under conditions to be approved by the Municipal Corporation. This scheme is a move in the right direction and should be welcomed by all who have the City's dairying potentialities at heart.

There are many parts in India which can be made into lands flowing with milk. To-day when rapid means of transport are available there is no reason why these areas should not supply all the milk needed. The "Drink more milk" campaign which the above scheme has planned should certainly be good for the health of the people. But it is not possible to expect great results unless steps are taken to reduce prices. At present much milk is produced from cows kept inside City limits. This is not the best possible method and encouragement should be given to bring milk from rural areas. The process could be hastened to a great degree if the railway companies provide refrigerator vans for milk coming from long distances.

At present, Gujerat is one of the most promising areas in the Bombay Presidency for the production of milk and dairy products and local dairy farmers and manufacturers have built up a large trade in butter, ghee and even milk and cream with Bombay and neighbouring towns. A good deal of the ghee and butter goes as far as Bengal. But at present, practically all dairy farming is done on the crudest scale with antique separators and churns. It would need a little expert guidance and propaganda to make this area the great dairy district of India. In this connection the standing Dairying Committee of the Imperial Council of Agricultural Research is doing its best to develop a high class Indian Dairy Industry by granting prizes, recommending protective duty on imported butter and exemption of dairy equipment from import duty. It is a fact that many milch cattle sent everyday by rail &c., from rural parts into big cities, never returned to their original place because after the cattle became dry they were sold to butchers. If this practice continued it would lead to the extinction of good Indian breeds. The only practicable and effective remedy was for big Municipalities to prohibit the keeping of milch cattle stables in the Municipal area and these animals should be gradually stabled in rural areas outside the Municipal limits.

The formation of an Association of butter manufacturers to protect their own trade and the interests of the public is a step in the right direction. In this connection it may be stated that those interested in butter trade in this country ought to appreciate the trouble taken by the "Times of India" in publishing the various aspects of India's butter problem and thereby carrying on a campaign for pure butter. This campaign was carried on to stop harmful trade practices such as adulteration and short weight, to bring hygienic conditions into butter manufacture and to promote interest in pure butter and thus help the Indian trade to regain its lost position. It is essential for

the health of a densely populated City like Bombay that its supply of food should be kept pure and free from least adulteration. The difficulty experienced by Municipal Health authorities in suppressing the trade in adulterated butter, ghee and milk is so great that it would not be surprising if the majority of the City population cannot distinguish the genuine from the substitute article to which they are probably accustomed. Dishonest vendors who used to palm off fish oil or vegetable products with only a small percentage of butter as the genuine article, were punished heavily by fines in Police Courts as a result of analysis of samples of butter put up for sale by the Municipal Health Department. Such prosecutions had a deterrent effect on the sale of the adulterated butter and ghee which had become a widespread practice with very serious disadvantage to the health of the City. The public are, therefore, thankful to the Bombay Municipal authorities for their legal action in this matter. Everyone will realise that the lost position of this trade can only be achieved by radical means which involve exposure of everything which is unhealthy and adulterated. The honest butter maker and the public ought to welcome such clean up. No doubt much has already been achieved towards protecting the public from exploitation by the supply of adulterated fat and vegetable oil or by short weight. In view of the great importance of butter and ghee in the economic life of this country, it was the aim of the articles published in the "Times of India" to make this branch of industry thoroughly healthy, thereby benefitting both, the trade and the public. The sale of adulterated ghee adversely affected the breeding of milch cattle on which also depends the breeding of agricultural cattle. Owing to the sale of adulterated milk products, it becomes impossible for milch cattle breeder to get a proper price from the merchants for butter, etc., offered for sale to them and it is impossible to meet the expenses of breeding cattle and the result is that the merchant gives up his trade. Therefore, Government and those interested in the question of breeding cattle should stop the trade of adulterated butter and ghee and thus they will greatly contribute to solve the problem of cattle breeding which is of very vital importance to India.

ANIMAL WELFARE.

Sometime ago there came the news of a meeting held in London to form an organisation in Great Britain to assist those Societies and persons working to promote the welfare of animals in India in co-operation with the Royal Society for the Prevention of Cruelty to Animals. The objects in forming the Committee are to ascertain the needs in India for much more work on behalf of the animals, to enlist sympathy and support and to appeal for funds so that the

organization may secure a regular animal income. The Royal Society for the Prevention of Cruelty to Animals is prevented by the terms of its charter from doing work abroad directly, but it can co-operate with other organisations doing such work and in this way, it is giving its active assistance. The new Society, therefore, starts under the best auspices in London and it is to be hoped that it will meet with full support in India also. Existing Societies for the protection of animals in India have no cause for jealousy or suspicion. They have nothing to lose but much to gain out of the help and advice which this new body can extend to them. As it is, the work done for the animal welfare in India is sporadic, and confined for the most part to new centres only. If the programme now before the new committee and organisation is fulfilled, there will be numbers of welfare of centres throughout the country where sick and wounded animals of the poor may be treated free. It is a fine ideal and the mere fact that it has been put forward, should be given an impetus to the work that is already being done. There has never been anything like a survey of the work that might and ought to be done for animals in this country. But the most refreshing part of the programme before the committee for the Animal Welfare in India, is that it knows no limits to the possibilities of its work except those imposed by finance. If the people of India will support this movement with money, they will help to remove these limits and thereby render a great service to their country. Already much support from influential Britishers and Indians has been promised and the Calcutta Society for Prevention of Cruelty to Animals has been addressed on the subject. The campaign received a great impetus in England in March last with the return of Mrs. Gordon White who came to India in 1929 when her husband, Lieut. Colonel Gordon White, commanded a brigade of artillery at Nowshera in the North-West-Frontier. Mr. White was so appalled by the sufferings of starving dogs and crippled beasts of burden that she formed a small centre there at Nowshera where a thousand animals were treated during the course of eighteen months. She is now residing in Sussex and has thrown all her energies into the campaign of alleviation of the sufferings of animals in India. Mrs. White has been appointed Honorary Organizing Secretary of the All-India Animal Welfare Association which in co-operation with the Royal Society for Prevention of Cruelty to Animals aims at establishing animal treatment centres in India similar to the one at Nowshera. One of Mrs. White's ideas is that Army Officers and their wives in India can do a great deal unofficially to make the lives of animals happier. It was stressed at the Commons meeting on July 18 last that there was no intention of interfering or dictating to the existing animal Societies in India,

The main objective of the new Committee is to co-ordinate existing endeavours. The Committee realise that some of the most important religions in India are greatly concerned in the lives of animals and a great many distinguished Indians have extended their generous support in connection therewith. One of the proposed schemes is the establishment of chains of centres where the sick and wounded animals of poor people may be treated free.

LEGISLATION IN CENTRAL PROVINCES FOR PREVENTION OF CATTLE DISEASE.

The object of this bill is to make compulsory inoculation against rinderpest of all imported cattle at fixed quarantine posts, to prescribe routes and season for import, to prohibit the purchase by or sale to itinerant cattle dealers of unimmunised cattle and to prohibit or disperse a fair or market in order to prevent the outbreak or spread of any infectious or dangerous cattle disease. This measure is mainly directed against the spread of rinderpest and a cheap and effective method to check the growth of this highly and dangerous epidemic has been discovered. The urgent need of legislation to regulate the importation and movements of these herds of cattle has long been thought to be urgently necessary by Veterinary Officers and also by the Royal Commission on Agriculture who have urged upon the Notice of the Local Governments the need for immediate legislation.

An Official Bill to provide for the improvement of Bombay Live-stock in the Presidency was also introduced in the last meeting of the Bombay Legislative Council. It is gratifying to note that Government have inaugurated schemes for the improvement of live-stock, a direction in which the Bombay Presidency has given a notable lead to the rest of the country. The betterment of India's live-stock, and their products are an important factor in the economic uplift of the rural masses. A good deal of attention has been devoted to this problem by the Imperial Council of Agricultural Research. The field is one in which little systematic development has hitherto occurred, yet, it is of enormous importance to the country. It is estimated that in British India alone, there are roughly 300 millions domesticated animals and that the cash value of India's animal products, of which cattle labour and dairy produce are the two most important, cannot be less than Rs. 1,500 crores annually. These are staggering figures and cannot be approached by any other country in the world for which statistics are available. It must be therefore obvious to every one that even a small improvement in live-stock and their products is bound to be of inestimable benefit to the millions of agriculturists in whose

economic life, they play so great a part. The Imperial Council of Agricultural Research have been seriously hampered in their work by lack of funds owing to the depression but they are now engaged in laying the foundation for a move forward and in considering schemes put up by Provincial and Indian State authorities. Recently the Bombay Government prepared three distinct plans for the improvement of live-stock, one for sheep-breeding, one for goats and one to raise the standard of poultry generally in Western India. Each proposal was set out on business like lines. In the case of sheep-breeding, the Government of Bombay offered all the land required and the services of an expert staff. Land was also offered for the goat breeding scheme as well as the help of the Department of Agricultural experts, while the Bombay Presidency's well known experimental poultry farm was placed at the services of the Royal Council. The Advisory Board of the Council approved of these three schemes on recommendation of the Special Committee of the Animal Husbandry Wing. There has, of course, been some give and take, particularly in the sheep-breeding scheme. The idea originally was to build up thorough cross breeding,—a type which would ensure better results both in wool and mutton, but it was altered to lay stress on the need of improving the indigenous strain rather than developing cross breeding with pure bred sheep of other countries. A great breeding scheme is already in operation in the United Provinces, but the Western India one will deal with a different type of goats. There remains so far as Bombay is concerned, the question of finances. Those who are to reap the benefit must find the land and buildings since the policy of the Imperial Council of Agricultural Research is to conserve their funds for experimental work. It is a project worth support even in these hard times.

COW TESTING SOCIETY SCHEME TO IMPROVE THE UNITED PROVINCES CATTLE.

An Inspector of the Co-operative Societies, Etawah, who has returned to India after an extensive tour in Europe, has submitted a scheme for the establishment of cow testing societies as a step towards the improvement of the cattle in the United Provinces. In the course of his memorandum he says, "Such Societies have been started in Denmark, England, Germany and other parts of Europe. The Society appoints a man to test the milk and keep the record, he also estimates the feed and figures, and the cost of up-keep of each cow. The primary purpose of the Association is to obtain yearly records of the production of milk and butter of each cow in the herd and thus develop a strain of cows which will produce a large quantity of milk, rich in butter fat."

The July number of Horse Breeding Journal has made reference to the question of research into Equine Diseases in an article entitled "Animals as a National Asset and Responsibility," which quotes certain remarks from a lecture by Prof. Sir Fredrick Hobday who emphasises the importance of this question from the point of view of public health and shows how other countries have recognised this and have supplied funds for research. India is behind hand in this important subject and considering the vast number of horses of various descriptions in India, their capital and annual recurring values to the country as an economic asset, as the enormous losses which are sustained through preventable diseases, it is high time that steps were taken to secure better conditions in this respect and to procure horse breeders for agriculturists, users of horses and the country generally and greater immunity from heavy losses and higher profits from a most important industry.

Lately you must have noticed a communique published to the effect that rules for admissions of Indians to commissioned ranks in the Indian Army Veterinary Corps have been sanctioned provisionally by the Secretary of State for India. It states that a competitive examination for candidates who fulfil the prescribed conditions, will be held at Lahore at the end of January 1935. Applications are to be addressed to the Quarter-Master-General in India, Army Headquarters, Simla. I trust that some of you will apply for the posts.

In conclusion, I trust that you will help the Chair by giving him support so that the Eighth Session of the All-India Veterinary Conference may be successful in its business as in the past.

With these few remarks, I now declare the Eighth Session of the All-India Veterinary Conference open.

THE EIGHTH ALL-INDIA VETERINARY CONFERENCE, BOMBAY, 1934.

(APPENDIX-C.)

Members of the Reception Committee.

Drs. D. S. Laud,	Drs. P. B. Cardmaster,
" Y. N. Marathe,	" A. H. Khan,
" P. G. Date,	" J. P. Damri,
" M. G. Kulkarni,	" R. G. Sathe,
" R. P. Vedak,	" M. K. Garudachar,
" K. Kandade,	" J. G. Gokhale,
" S. J. Khambete,	" A. G. Khair,
" K. R. S. Aiyar,	

LIST OF DELEGATES THAT ATTENDED THE EIGHTH ALL-INDIA VETERINARY CONFERENCE, BOMBAY, 1934.

Bombay.

1. Drs. Khan Saheb	31. Drs. J. P. Damri,
Prof. N. D. Dhakmarvala,	32. " V. N. Kulkarni,
2. " V. R. Phadke,	33. " P. G. Joshi,
3. " Y. N. Marathe,	34. " T. N. Kulkarni,
4. " D. S. Laud,	35. " R. N. Sane,
5. " P. G. Date,	36. " P. Miranda,
6. " M. G. Kulkarni,	37. " S. N. Ranina,
7. " R. N. Naik,	38. " H. Uttanwala,
8. " M. Mohey Deen,	39. " R. L. Jaigaonkar,
9. " A. H. Khan,	40. " J. H. Unerkar,
10. " D. B. Khole,	41. " P. N. Mane,
11. " P. B. Cardmaster,	42. " N. G. Kulkarni,
12. " K. R. S. Aiyar,	43. " S. V. Sakhadev,
13. " M. K. Garudachar,	44. " B. G. Behere,
14. " A. G. Khair,	45. " N. S. Kotte,
15. " T. R. Khaladkar,	46. " N. G. Katte,
16. " G. S. Patankar,	47. " E. R. Kulkarni,
17. " S. J. Khambete,	48. " K. R. Alur,
18. " G. T. Shah,	49. " M. N. Ronge,
19. " T. G. Desai,	50. " J. P. Gokhale,
20. " K. Kandade,	51. " N. S. Naick,
21. " V. K. Chatuphale,	52. " V. Sadagopala Rao,
22. " A. A. Dave,	53. " K. B. Nair,
23. " M. R. Tagare,	54. " S. B. Hanchilikar,
24. " P. C. Bapat,	55. " A. C. Dies,
25. " B. B. Joshi,	56. " S. N. V. Iyengar,
26. " A. C. Patel,	57. " R. P. Vedak,
27. " K. G. Vaze,	58. " E. R. Nagarajan,
28. " D. B. Sapre,	59. " J. M. Sethna,
29. " J. G. Gokhale,	60. " N. K. Barsiker.
30. " V. V. Nabur,	

Mysore State.

1. S. D. Achar,	7. K. Srikantaiah,
2. K. Ranganatha Rao,	8. M. Subba Rao,
3. G. N. Srikantaiah,	9. N. R. Srinivasa Iyengar,
4. T. Krishna Rao,	10. H. B. Kulkarni,
5. N. Krishnamurty,	11. S. R. Bapu,
6. K. S. Pilley,	12. M. R. Chengeri,

(Bangalore Cantt.)

Madras.

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| 1. M. S. Sastry, | 4. V. Janakirama Aiyar, |
| 2. A. Ramalinga Mudaliar, | 5. P. M. Thillainayakam, |
| 3. P. A. Parthasarathy, | 6. K. Govinda Sastry, |

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| 1. B. K. Badami, | } | Hyderabad State. |
| 2. R. R. Joshi. | | |

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| Rao Raja Sardar Samasher Bahadur,
Captain M. S. Apte. | } | Gwalior State. |
| J. N. Guha. | | |

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| H. N. Ghatge. | ... | Bengal. |
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| J. B. Joshi. | ... | Kolhapur State. |
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| Khan Sahib N. K. Vacha, | ... | Indore State. |
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| K. S. Jadeja. | ... | Baluchistan. |
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| 1. M. A. Habib. | ... | Morvi State. |
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| 2. Yakub Ali Khan. | } | Bhopal State. |
| S. Chinnayya Thakkadi. | | |

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| 1. C. J. Fernandez. | ... | Pudukottah State. |
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| 2. Mrs. C. J. Fernandez. | } | Junagadh State. |
| 1. Prof. C. H. Mushtaq Ahmed | | |

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| Chaudhury. | } | Punjab. |
| 2. Prof. Karam Ellahie. | | |

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| G. G. Oka. | ... | Central Provinces. |
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| W. V. Soman. | ... | Baroda State. |
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| C. S. G. Haji. | ... | Sind. |
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Visitors.

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|--------------------------------|---------------------------|
| Messrs. Sardar L. N. Heblikar, | Messrs. J. N. Jerjurikar, |
| " A. V. Ranade, | " J. J. Doshi. |
| " S. G. Nawathe, | " C. Olivera. |

APPENDIX-D.

THE EIGHTH ALL-INDIA VETERINARY CONFERENCE,
BOMBAY, 1934.

The following Resolutions were unanimously passed :—

1. Resolved to convey the thanks of this Conference to the Government of Bombay for having dropped the proposals of the Thomas Committee to close the Bombay Veterinary College.
2. This Conference recommends to the Provincial Governments of Bombay, Bengal, The Punjab, and Bihar and Orissa, that their Indian Veterinary Colleges be affiliated to their respective Provincial Universities as is already being done in Madras.
3. Resolved that the Golden Jubilee of the Bombay Veterinary College be celebrated and a Committee consisting of the following Members* with powers to co-opt, be formed for concerting necessary measures and to suggest ways and means therefor.

*Khan Sahib Prof. N. D. DHAKMARVALA G.B.V.C.,
B.V.S. (Retd), Bombay.

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|-----------------------------|-------------------------------------|
| Drs. V. R. Phadke, Bombay. | Drs. C. S. G. Haji, Sind. |
| " M. Mohideen, Bombay. | " C. J. Fernandez, Junagad. |
| " K. R. S. Aiyar, Bombay. | " Rao Raja Sardar Capt. M. S. Apte. |
| " A. H. Khan, Bombay. | " W. V. Soman, Baroda. |
| " D. S. Laud, Bombay. | " R. N. Naik, Bombay. |
| " Y. N. Marathe, Bombay. | " H. N. Ghatge, Kolhapur. |
| " P. G. Date, Bombay. | " G. G. Oka, C. P. |
| " R. P. Vedak, Bombay. | " M. R. Chengeri, Bangalore. |
| " V. G. Akula, Bombay. | " Khan Sahib N. K. Vacha, Balu- |
| " V. N. Kulkarni, Bombay. | chistan |
| " B. B. Joshi, Bombay. | " K. Kylasamier, Madras. |
| " B. K. Badami, Hyderabad. | " K. Krishna Iyengar, Bangalore. |
| " M. S. Sastry, Madras. | " S. D. Achar, Bangalore. |
| " P. Srinivasa Rao, Madras. | |

4. This Conference reiterates the Resolution urging upon the Provincial Governments to give early effect to the proposals of the Royal Commission on Agriculture to expand the Civil Veterinary Department in each Province and Indian States to meet adequately the Veterinary needs of the country.
5. Resolved to respectfully submit its appreciation and grateful thankfulness to such of the Indian States which have established Veterinary Departments in

their limits and requests such of the Indian States as have not got them already to soon establish the Veterinary services with a view to preventing the economic loss of livestock from Epizootic Diseases.

6. *That in view of the ever-increasing number of unemployed Veterinary Graduates, even though there is a large scope for their employment in various branches of service, such as Meat and Milk Inspection, Hackney Carriages, Control of Epizootics in large towns, Conservancy, Cattle Depots of the big Municipalities, etc., where the services of the Veterinary Graduates can be profitably employed, this Conference requests the Provincial Governments and Indian States to make it obligatory on Local Bodies to employ none but the qualified Veterinary Surgeons for such services.*
7. *Resolved to place on record the services of Dr. P. Srinivasa Rao, the Editor of the Indian Veterinary Journal, the Official Organ of the All-India Veterinary Association, and appeals to all Members of the Veterinary Profession to render every possible support for its success.*
8. *That a Register of Veterinary Surgeons in India, both with Indian and foreign qualifications be prepared by the Indian Veterinary Journal as early as possible and a Committee consisting of Drs. A. Ramalinga Mudaliar, T. Vinayaka Mudaliar, M. S. Sastry and P. Srinivasa Rao, be formed to take necessary measures.*
9. *That in view of the great advance made in the successful treatment of cases of Surra, this Conference recommends free medical treatment of such cases if the owners are too poor.*
10. *Resolved that a Committee consisting of Drs. Khan Saheb N. D. Dhakmarvala, D. S. Laud, A. Ramalinga Mudaliar, T. Vinayaka Mudaliar, Prof. Karam Ellahie, P. Srinivasa Rao and M. S. Sastry be formed to frame a constitution for the working of the Indian Veterinary Journal.*
11. *That in appreciation of his valuable and useful invention of Veterinary Instruments and appliances, Dr. Chaudhuri Mushtaq Ahmed Sahib Bahadur,*

G. P. V. C., of the Punjab Veterinary College, be presented with a Gold Medal.

The presentation of the medal to be made at the time of the celebration of the Golden Jubilee of the Bombay Veterinary College.

12. *Resolved to place on record its appreciation of and grateful thanks for the valuable services rendered to the All-India Veterinary Association ever since its inception by Drs. Syed Raza Hussain Sahib Bahadur, G. P. V. C., Superintendent, Civil Veterinary Department, Lucknow, and B. K. Badami, G. B. V. C., Director of Veterinary Services H. E. H. The Nizam's Government, Hyderabad, the retiring President and Treasurer respectively.*
13. *Resolved to thank the Governments of Indian States of Mysore, Hyderabad, Pudukottah, Morvi, Bhopal, Gwalior, Baroda, Kolhapur, Junagad, and others for having kindly deputed their Veterinary Officers to attend the Conference, and the Mysore and Hyderabad Governments for having sent the Photos of the Mysore Serum Institute and lantern slides respectively.*
14. *Resolved to convey the thanks to the Government of Bombay, the Director of Veterinary Services, Poona the Principal of the Bombay Veterinary College and the authorities of the Bombay S. P. C. A., for having placed the College Hall and Hostel, and the Hospital premises at the disposal of the Conference for use.*
15. *Vote of thanks to the President of the Conference, the Chairman and Members of the R. C. Committee, to the Bombay Veterinary Medical Association, to Dr. M. K. Garudachar, to the Volunteers and to the Bombay Veterinary College Amateur Dramatic Association was duly passed.*

M. S. SASTRY,
General Secretary,
30—12—34.

N. D. DHAKMARVALA,
President.
30—12—'34.

BOMBAY VETERINARY MEDICAL ASSOCIATION.**Report of the Annual General Body Meeting.**

The Annual General Body Meeting of the Bombay Veterinary Medical Association was held on the 30th December 1934, at the Bombay Veterinary College, Parel when Khan Saheb N. D. Dhakmarvala, G. B. V. C., B. V. S. (Retd.) presided.

The annual report for the years 1933 & 1934 with the balance sheet was unanimously adopted by the General body. The following office bearers were elected for the year 1935 :—

Khan Saheb N. D. Dhakmarvala	...	President.
Messrs. P. G. Date	}	...
„ J. G. Gokhale		
Mr. Y. N. Marathe	...	Hon. Jt. Secretaries.
Messrs. D. S. Laud, R. G. Sathe, K. R. S. Aiyar, R. N. Naik and Khasgivale.	...	Hon. Treasurer.

Members of the Managing Committee.
A vote of thanks to the Chair terminated the meeting.

Communications.

Bombay Veterinary College,
Parel, Bombay.
Dated 24th November 1934.

To

THE EDITOR,

The Indian Veterinary Journal, Madras.

Sir,

I forward herewith copies of the Resolutions passed by the staff and students of this college at a meeting held by them on the 17th instant in condolence of the sad and untimely demise of Mr. V. Krishnamurthi Aiyar, I.V.S., of Madras and Mr. K. S. Murthi, a Graduate of this college passed out in 1933, for publication in your journal.

Yours faithfully,
V. R. PHADKE,
Principal,
Bombay Veterinary College.

1. The Members of the staff and the students of the Bombay Veterinary College desire to place on record their deepest sorrow at the sad and untimely demise of Mr. V. Krishnamurthi Aiyar, I. V. S., Professor of Pathology, Madras Veterinary College which took place on the 18th of last month and offer their sincere and heart felt condolence to the members of his bereaved family and pray God Almighty to give his soul eternal rest.

Moved by :— Mr. K. B. Nair, G.B.V.C.

Carried out by standing.

2. The Members of the staff and the students of the Bombay Veterinary College are deeply grieved to hear the sad premature death of Mr. K. S. Murthi, G.B.V.C., at Tumkur on 10th November 1934, and offer their sincere and heart felt condolence to the members of his bereaved family and pray God to give peace to his soul.

Moved by :— Mr. Narayan Rao.

Carried out by standing.

Patna

Dated 29th October, 1934.

To

THE EDITOR,

The Indian Veterinary Journal.

Dear Sir,

Kindly convey to the members of the family of late Mr. Krishna Murti, I.V.S., heart felt sympathy and deep condolence of the teaching staff of the B. & O. Veterinary College, for the great sorrow they have sustained in his untimely death. In Mr. Krishna Murti we have lost a brother who always placed service to the profession before self.

We are,

Dear Sir, Yours sincerely,

J. M. LAHIRI,
S. I. H. AKBARI,
A. C. CHOUDHURI,
G. N. ROY CHOUDHURI,

We publish below the correspondence received from the General Secretary, The All-India Veterinary Association, Anantapur, for the information of the Members. [Ed, I. V. J.]

I

Camp :—Parel, Bombay.
31st December, 1934.

From

Dr. M. S. SASTRY, G.B.V.C.,
Veterinary Surgeon and General Secretary,
The All-India Veterinary Association,
Anantapur.

To

M. R. Ry. K. RAMANI IYER AVL.,
Son of late Prof. V. KRISHNAMURTI AIYAR, G.M.V.C., I.V.S.,
"Veda Vilas," Vellala Street,
Purasawalkam, Madras.

Sir,

I am desired to convey the undermentioned* Resolution passed unanimously last night at a meeting of the Indian Veterinary Surgeons assembled from all parts of India. Every body in the meeting keenly felt for the untimely and sad demise of your father. But it is hoped that the Almighty God will give you all sufficient strength of mind to bear this irreparable loss.

Yours sincerely,
M. S. SASTRY,
31-12-34.

* "This meeting of Indian Veterinary Surgeons from all over India assembled in the Bombay Veterinary College Hall, records its deep sense of sorrow at the sad and sudden demise of Prof. V. Krishnamurti Aiyar, G.M.V.C., I. V. S., of the Madras Veterinary College and conveys its heart felt condolences to the members of the bereaved family."

Passed unanimously in silence, members standing.

II

THE ALL-INDIA VETERINARY ASSOCIATION.

General Secretary:
M. S. SASTRY, G.B.V.C.,
Veterinary Surgeon.

Office : Anantapur,
P. O. Anantapur, (Madras).
2nd January, 1935.

My Dear Sir,

On return from the Bombay Conference this morning, I was shocked to read in the Madras Mail, the sudden, sad and untimely demise of Mrs. P. T. Saunders on the 29th ultimo.

Both on behalf of the All-India Veterinary Association and on my own behalf, I offer our heart felt and sincere condolences to you

**THE
ALL-INDIA VETERINARY
ASSOCIATION,**

Register of Veterinary Surgeons in India.

Date.....1935.

Serial No.....

Full name and name with initials.....

Date of Graduation.....

Institution from where Graduated.....

Present occupation and address.....

Remarks.....

To

Signature.

The Editor

THE INDIAN VETERINARY JOURNAL

26, Wallajah Road, Mount Road, P.O.
MADRAS.

An Appeal

251

in this great bereavement, pray for the peace of the departed soul and strength of mind to you to bear the heavy calamity.

Yours sincerely,
M. S. SASTRY,
General Secretary.
2-1-'35.

To

P. T. SAUNDERS, Esq., O.B.E., M.R.C.V.S., I.V.S.,
Director of Veterinary Services, Madras.

III.

Madras,
4-1-'35.

Dear Mr. Sastry,

I am most grateful for your kind letter expressing the sympathy of the All-India Veterinary Association, together with your own.

You will understand, I know, if I do no more now than say "thank you."

Very sincerely and gratefully,
P. T. SAUNDERS.

An Appeal

Office of the Indian Veterinary Journal,
26, Wallajah Road,
Mount Road, P.O., Madras.
1st January 1935.

Dear Sir,

In accordance with the Resolution passed unanimously on the 30th December 1934, at the Eighth All-India Veterinary Conference, held in the Bombay Veterinary College Hall under the distinguished presidency of Khan Saheb Prof. N. D. Dhakmarvala, G.B.V.C., B.V.S. (Retd.), to the effect that a Register of all the Veterinary Surgeons in India—both Indian and foreign qualified—be soon published by the *Editor of the Indian Veterinary Journal*, I have willingly undertaken this onerous but pleasant duty and request you for your prompt and hearty co-operation and sympathy to achieve this object. I request you to kindly fill up the sub-joined form giving the necessary information under its several heads regarding yourself and any of your Veterinary friends who are not subscribers to this *Journal*. After duly filling up the form, please tear it at the perforated place and despatch it to me as book-post with a postage stamp affixed to it to the value of three-fourths of an anna. With your speedy and willing co-operation, the Register may be soon published and made available to all.

Yours sincerely,
P. SRINIVASA RAO, G.M.V.C.,
Editor,
The Indian Veterinary Journal.

Notice

P.O. Anantapur, (Madras),
4th January, 1935.

I request the Secretaries of all the Provincial Veterinary Associations in the country to kindly elect two Members from each Association as Provincial Representatives on the Central Committee of the All-India Veterinary Association and to communicate to me their names with their full addresses as early as possible.

The Madras Branch of the All-India Veterinary Association will elect five members according to the rules.

M. S. SASTRY, G.B.V.C.,
General Secretary,
The All-India Veterinary Association.

Extracts.

MADRAS CIVIL VETERINARY DEPARTMENT.

Sir,—Your readers will remember that not very long ago the Civil Veterinary Department came in for a good deal of criticism at the hands of the Public Services Commission for the vagaries with regard to certain appointments and promotions which you yourself characterised as 'a great public scandal'. I regret to have to say that another such occasion has now arisen, for it is stated that the Head of the Department has recommended to Government, that to fill the vacancy in the teaching staff of the Madras Veterinary College caused by the premature and sad death of Mr. V. Krishnamurti Aiyar, a candidate should be recruited in England on contract basis on a high salary of rupees thousand or so. If the Government were to acquiesce in this proposal then it would be the height of injustice not only to the existing men in the service among whom there are but also to the cause of Indianisation of services (including training in foreign countries), about now-a-days. It may not be out of place to mention here that recruitment provincialised with a view to give ample scope to local talent and at the same time to reduce the cost of such services. This proposed recruitment in principle of Indianisation, and it cannot be justified on any score. In the Imperial Institute of Veterinary Research at Muktesar, where newly recruited Pathology (for which a candidate is now proposed to be recruited in England for the Madras Veterinary College) is in charge of an Indian, with an Indian graduate as his Assistant Research Officer. These Officers not only carry out research work but also teach the subject to the post-graduate students with credit to themselves and to the Institute. The post of Pathology at the Madras Veteri-

nary College when it became temporarily vacant in the past even for fairly long periods, was filled without any loss of efficiency from the existing staff. If at this juncture this is made an excuse for recruiting a candidate abroad, it cannot be on the score of efficiency or that no suitable candidate is available locally or in India. The implications of the proposed recruitment on a contract basis are far-reaching and are bound to affect adversely the interests of the men in service, both in the Provincial and Subordinate ranks, and it behoves the Government to see that such an injustice is not perpetrated.

P. Srinivasa Rao, Veterinary Surgeon.
"Hindu" 14-11-34.

"In a communication, which we publish elsewhere, a Veterinary Surgeon suggests that attempts are being made to import from abroad a Veterinary graduate to fill the place of Professor of Pathology in the Madras Veterinary College which has become vacant in consequence of the demise of the Indian officer who held the post. It is obvious there can be no justification for this course unless it is established that none of the Indian officers in the Veterinary Service is fit to do justice to the teaching appointment under reference. The Veterinary Service is one to which concessions to idiosyncracies of race which are demanded in respect of certain other services like the Medical Service cannot apply. There should, therefore be, no difficulty in enforcing the policy of Indianisation in regard to it, especially as there are Indians who have distinguished themselves in the field."—*Leadarett Hindu*, 14-11-34.

Reviews.

Veterinary Helminthology and Entomology.—H. O. Monnig. Pp. XVI + 404. Fig. 264. Size 6½ x 9½. Price 30s. Published by Messrs. Bailliere, Tindal and Cox, 7-8, Henrietta Street, London, W. C. 2.

The book is divided into four Sections dealing with the general aspects of parasiticism, technique, helminth parasites and entomology. Unlike most other books on the subject, it treats, fairly fully, the pathogenicity, symptomatology, diagnosis and treatment of parasitic infections, which should go a long way in helping the Veterinary student and the teacher alike. The Section dealing with helminths appears to be more fully treated than that on Entomology. The geographical distribution of most of the helminths and some of the anthropods has been omitted. No mention has been made on helminth parasites of the Elephant and the Camel, which animals are domesticated in parts of Asia and Africa. Notwithstanding these omissions, which we consider to be of minor importance, it is a text book which is concise and contains a very large number of exceedingly good illustrations which are mostly original. We have no hesitation in saying that the book will be found to be of very great use to the Veterinary profession.

Horse Breeding.—January 1935. (The Journal of the National Horse Breeding and Show Society of India.

The January number of "Horse Breeding," which begins this periodical's eleventh volume, is full of interesting matter connected with the industry. In the leading article the consideration of "The Suitable Type" for India is continued by a discussion of the question of what Von Oettingen calls the "fundament,"—the feet and legs of horses; and it is shown how essential it is for breeding stock in India to be sound in this respect. It would appear that breakdowns among Indian thorough bred racing in India are comparatively few and it would be interesting to ascertain the cause of this immunity. On the other hand the legs of Indian half-breds in their early years are sometimes found to be rather soft, and here again it would be interesting to investigate the reason. Some speculative suggestions are advanced in this connection.

The Council of State debate initiated by the Hon'ble Sir Phiroze Sethna, in which he advocated a customs duty on horses imported into India other than those for breeding or Army purposes, is reproduced in full, with comments on

certain statements made in the course of the debate. For instance, it was stated by a Government spokesman that fifty per cent of the horses imported into India were intended for breeding purposes, whereas it would be a liberal estimate to say that two per cent were imported with this object. Another Hon'ble Member stated that the horses imported for racing and polo were ultimately used for breeding. This statement is very wide of the mark; partly because, sixty per cent of such animals are geldings and partly because, under the present conditions of racing, there is practically no market for Indian horses and therefore, no incentive to breeders to acquire high class breeding stock. Again, it was stated that there are two ways of encouraging home-breeding;—one by subsidies and one by imposing an import tax. The speaker apparently had paid no consideration to the natural law of supply and demand, nor the feasibility of creating a profitable market for the industry by a demand from the race course. This is the third and most natural method. Its adoption would eventually eliminate the necessity for both subsidisation and protection, though the latter would certainly assist in speeding up the process. Subsidies are costly and merely expedients.

In this connection Sir Phiroze Sethna received a very interesting letter from the Secretary of the Breeders', Owners' and Trainers' Association of Western Australia with reference to racing and breeding in India, asking the following pregnant question:—"Is racing controlled by the Race Clubs, or is there a Board of Control over racing with the set purpose to advance the Breeding Industry and make racing arrangements that blend in with the breeding; the race course being considered the testing ground for the breeders' progeny?"

This number includes a very interesting article by that well-known writer on horses, Colonel Sidney G. Goldschmidt, entitled "Design by Breeding," which "Horse Breeding" considers should be very helpful to India in her endeavour to establish a type suitable to the country. It is believed that "A Suitable Type" of Indian thorough bred can be established by careful selection, attention to design, and with the assistance of the racecourse test, *but without two-year-old racing*. The Indian thorough bred, now being produced by thorough bred sires from Indian thorough bred mares, of the second and even the third generation bred in India, are superior in many respects to the direct progeny of imported parents, and show quality, increased substance, wonderful bone measurement and good temperament, without being too tall;—all characteristics required in the high class heavy weight polo pony, which is the suitable type for India. People who think and speak to the contrary, in the mistaken belief that good horses cannot be bred in India, would change their views if they would take the trouble to study the stock now being produced. The performances of such Indian horses as Cartoon, Honey dew and others are indications of the possibilities awaiting India if the industry of horse breeding receives real encouragement.

A thoughtful article on "Judging Pigstickers in the Show Ring" by Major A. K. Digby. "Riding for Children" by Kathleen Ellis, Racing Notes, Stud Notes showing the recent foalings of thorough bred mares, an account of the Ootacamund Point to Point Races by Colonel J. G. Dennistoun, reports of Horse Shows, and Stable Notes combine to make up an unusually large and interesting number, which is well illustrated.

ERRATA.

The Secretary Mysore Veterinary Medical Association regrets that the name of Mr. T. V. Manikya Raj has been unfortunately omitted from the list of members of the Managing Committee, published in No. 2 of Vol. XI page 135.

In page 106, Vol. XI, No. 2, Table I, under Reaction 4th line for "Thermal 100·8°F, read "Thermal 106·8°F."



Mr. V. KRISHNAMURTI AYYAR,
G.M.V.C., I.V.S.

Professor of Pathology and Bacteriology,
Madras Veterinary College,
whose death took place on 18-10-34.

Obituary.

THE LATE

MR. V. KRISHNAMURTI AYYAR, G.M.V.C., I.V.S.

The late Mr. V. Krishnamurti Ayyar, was born in November 1885, in a village near Tanjore. He joined the Madras Veterinary College early in 1906, after his High School studies in Kumbakonam. In December 1908, he graduated and was appointed as a Veterinary Assistant in the Madras Civil Veterinary Department early in 1909. Within a few years or so he was transferred to the Madras Veterinary College Hospital as House Surgeon. Very soon afterwards he was admitted as a member of the teaching staff of the Veterinary College where he found opportunities of improving the Anatomy Department, which attracted the notice of his superior officers and in 1916, he was promoted to the Madras Provincial Service as Senior Lecturer. In June 1922, he was appointed as Professor of Pathology and Bacteriology on probation, during which time he was deputed for training at the Imperial Institute of Veterinary Research. He completed his training about the end of June 1925, and he rejoined duty at the College early in July in the same year. He acted as Principal of the College for varying periods in 1929, 1931 and 1933 and in 1930 he was posted as a District Veterinary Officer, V Circle, Madanapalli. In July 1931, he came back to his permanent appointment at the College.

He was the only Indian Veterinary Graduate who rose from the ranks to the Imperial Veterinary Service. The number of papers published by him are records which prove his capabilities as a worker and in his demise we have lost one of the distinguished members of the Department. We offer our heartfelt sympathy to his bereaved family.

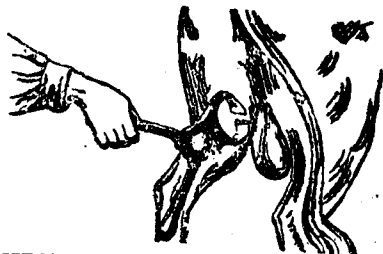
We regret to announce the sad and sudden death of Mrs. P. T. Saunders, wife of Mr. P. T. Saunders, the Director of Veterinary Services, Madras, on the 29th December 1934. She was a great lover of animals and took keen interest in the S. P. C. A. activities. We venture to say that Mr. Saunders is not all alone in his grief but that the profession, particularly in Madras, shares the sorrow with him. We offer our heart felt condolences to Mr. P. T. Saunders and other members of the family.

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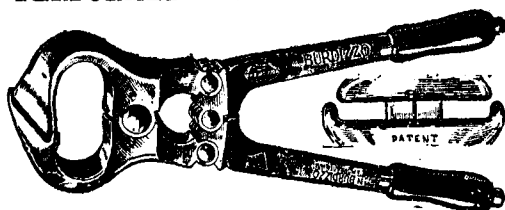
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