

Koch Therapy in British Columbia

One of the reasons for including a note on the results of the Koch Therapy Investigation that was conducted by this Department during the past five years is the publication in *The Cancer Bulletin*, published by the British Columbia Division of the Canadian Cancer Society, in Volume 3, No. 1, this year of an article transcribed from the *Journal of American Medical Association*.

Another reason for mentioning the Koch Treatment is that on September 20th, 1949, the Fraser Valley Koch Therapy Association was incorporated, and it is felt that members of that organization may find it advantageous to refresh their minds of what has been done by the Department of Agriculture and by the men who cooperated with our Committee.

This Department makes it perfectly clear that the Koch Treatment was used in veterinary cases and that we are satisfied with the results of that Treatment that has been used in connection with mastitis and other diseases of dairy cattle.

It was June 1943, when the distribution of Glyoxylide for the treatment of dairy cows affected with mastitis and other diseases began in British Columbia. By the spring of 1944, sufficient reliable information of the highly successful results of its use in the Chilliwack district had reached the Department to warrant making the suggestion to Dr. MacDonald that the use of this Treatment be investigated. The Minister was favourable to the idea of getting the fullest possible information and requested that Dr. D. H. Arnott be communicated with. Dr. Arnott supplied copies of the books published by Dr. Koch and the five pamphlets, which he himself had written on the use of the Koch Treatment on farm animals.

After careful study of the literature the Minister decided that an entirely new approach to the study and treatment of disease had been disclosed. He considered it advisable to have a personal interview with Dr. Arnott, who in response to an invitation came to British Columbia in September 1944, for this purpose. Arrangements were made by the Minister of Agriculture for representatives of the British Columbia Veterinary Association, the University of British Columbia, and the Department of Agriculture to meet in the Courthouse, Vancouver, on September 25th, when Dr. Arnott visited British Columbia and outlined to those present the Koch method of treating dairy cattle for acute infectious mastitis and related diseases of cattle. Most of the veterinarians present appeared to be of cattle in which 5 c.c. of Glyoxylide solution is administered subcutaneously by hypodermic injection. However, since none who had seen it used, the Minister stated that he wished to have a further meeting of veterinarians and the owners of dairy cattle, afternoon, in the Vancouver Courthouse.

At this second meeting, attended by the officials, the Minister of Agriculture, and Dr. Arnott, there were many dairymen present who made astounding claims for the Koch Treatment. In practically all cases the dairymen claimed that their cows responded almost immediately to the single injection of Glyoxylide. These cattle-owners were emphatic in their request that no action be taken which would prevent their obtaining Koch Treatments when required. In addition, to

the dairymen present, a number of letters had been received from cattle-owners prior to the meeting. The Minister stated that it was his desire to form an opinion based upon accurate investigations and he named a committee to undertake this investigation. On the committee the British Columbia Veterinary Association, the University of British Columbia, the Provincial Department of Agriculture, and representatives of the several breed associations were included, together with Dr. D. H. Arnott, who represents the Dr. Wm. F. Koch Laboratories.

This Committee held its first meeting on the evening of October 4th and outlined suggestions to be laid before the Minister with respect to undertaking the work. Acting upon these suggestions, the Minister appointed J. E. Bennett, B.V.Sc., Secretary of the British Columbia Veterinary Association, as Provincial Inspector to work with G. F. R. Barton, B.V.Sc., of Chilliwack, who was named to represent Dr. Arnott.

The work undertaken was limited to an investigation as to the merits or demerits of Koch's Glyoxylide in the treatment of mastitis and infertility. Seventy-one cows affected with mastitis and twenty-nine, which were infertile, were given the Glyoxylide. The Minister directed that record was to be made of all clinical results of importance which might be observed during the progress of the demonstration. Two milk specimens were taken from each quarter of the affected animals by the veterinarians at the time the cows were injected; these were sent to separate laboratories, where bacteriological examinations were made and noted. Samples were taken a week later, examined, and compared bacteriologically with the first. A second physical examination was made at this time and compared with the first, and any improvement or otherwise was accurately recorded.

The reduction in the number of bacteria between the first test and the second one, made seven days later, was so remarkable that the setting-up of the Committee was justified in that brief interval.

The seventy-one cows treated for mastitis presented 263 quarters affected with the disease out of a total of 284 quarters, showing the stern test to which Koch's Glyoxylide was submitted during the investigation. No saleable milk was being obtained from these 263 quarters affected with mastitis when the first injections of Glyoxylide were administered; ten months later it was revealed that production of market milk had been restored to 256 quarters.

Reckoning as one item the many different types of bacteria regarded as inciting mastitis in the seventy-one cows affected with this disease, the Committee made note of fourteen pathological states, which gave place to normal conditions during the work. Here they are:

- (1) Remarkable reduction of bacterial count in milk produced in many cows in one week.
- (2) A consistent result was a definite softening of the udder.
- (3) The disappearance of fibroid tissue was noted in a considerable number of cases. No member of the Committee ever had seen one instance by the use of any other treatment.
- (4) Beneficial effect on digestion.
- (5) Beneficial effect on the skin.
- (6) Beneficial effect on the coat.
- (7) One quarter that was affected for a long period and badly atrophied (shrunken) made a complete recovery.

- (8) Infertile cow exhibiting continuous estrum had normal time-cycle reappeared over considerable and were mated successfully restored and mated successfully, to same sire.
- (9) Four infertile cows where no estrum had periods of time had normal estrum restored to same sire.
- (10) Infertility with cysts of the ovaries. Normal conditions restored. Successfully mated to same sire.
- (11) Infertility with ovarian cysts and vaginitis. Normal conditions restored. Successfully mated to same sire.
- (12) Infertility with retained corpus luteum and vaginitis. Normal conditions restored. Successfully mated to same sire.
- (13) Infertility with fibrous ovaries. Normal conditions restored. Successfully mated to same sire.
- (14) Dr. W. R. Gunn Live Stock Commissioner, reported horses suffering from fistulous withers, and with blood test positive to the injection of Brucella abortus, had cleared up after the injection of Glyoxylide. This report was received and accepted by the Committee.

The consistent and highly meritorious results obtained from the use of Koch Glyoxylide by the Committee warranted the Department in extending its interest in the Therapy during 1946 and 1947 by treating Johne's disease.

Could any clinical problem offer more convincing excuse for being classed as incurable than that presented by Johne's disease? It is induced by infection with mycobacterium paratuberculosis, which produces enteritis characterized by severe chronic diarrhea, which directly and persistently depletes the vitality of the stricken animal. Early diagnosis followed by the slaughter of all affected animals has been the method for control of the disease ordered by veterinary authorities. During the season of 1946 a fair-sized herd on Vancouver Island was losing young heifers at the time of first calving. The trouble was diagnosed as Johne's disease, and a concentration of infection was found in this isolated herd that had sustained many losses. This trouble was brought to the attention of Dr. W. R. Gunn, Live Stock Commissioner, who, at the request of the owner, inoculated all animals in the herd and one week later re-inoculated the four animals which showed clinical symptoms of Johne's disease, using the Koch Treatment: The suffering of the animals with the scouring was stopped immediately, and the herd has continued to make steady improvement ever since.

When first treated with Glyoxylide, out of a herd of between twenty-five to thirty milking cows, there were four clinical cases, with one in the very advanced stages of the disease. Checks made periodically since that date have shown that all clinical cases recovered. The general over all production of the herd has shown, by cow-testing records, to be up to a very high standard. The cattle are all in very satisfactory condition and, from the standpoint of disease for which they were treated, not a single additional case of Johne's disease has appeared, and the owner is highly satisfied. Since reporting the above late in 1947, Dr. Gunn has discovered that two additional cows, which have been added to the herd, are showing clinical symptoms of Johne's disease. At the owner's request he has administered the necessary injections of Glyoxylide. These cases also are being closely followed up because it is evident that contamination remains on the premises.

No isolation! No slaughter! Complete control obtained by the administration of Koch's Glyoxylide!

At the meeting of the Committee held on May 12th, 1945, it was clearly established that mastitis which had been incited by the *Streptococcus Hemolyticus* not only was cured by the administration of Glyoxylide, but that there was a strong tendency for this greatly feared germ to disappear from the milk of the cow in a month after it had been treated with Glyoxylide. This point should be of interest to the public, and also to those responsible for the health of the public.

The hostile reception with which the proposal to discuss the merits of the Koch Therapy met from most of the veterinarians present at the meeting held on September 25th, 1944, gave way, after six months work of the Committee, to the following approval of the action of the Minister expressed on May 12th, 1945, as recorded in the minutes of that meeting

"Dr. F. W. B. Smith, speaking for the Veterinary Association, stated 'that they were happy that Dr. MacDonald was instrumental in bringing this investigation about and he assured him that they appreciated his efforts.'"

At the regular meeting of the British Columbia Veterinary Association held January 15th, 1946, the following resolution was passed:

"This Association is of the opinion that the official results of the Koch Treatment (Glyoxylide) in veterinary practice appear reasonable grounds to warrant continuing its use."

The last public appearance of Honourable K. C. MacDonald as Minister of Agriculture was at the meeting of the Committee held in Vancouver, September 28th, 1945, at which time it was gratifying to the Committee to be able to return a favourable report based upon the Minister's request for a studied candid opinion of this rather new type of veterinary therapy.

The Minister explained that the purpose of carrying out this investigation was to seek some means of benefiting the dairy herds of British Columbia, which were affected by mastitis though all precautions were taken that were known of at the time. The Minister thought the evidence as presented by the veterinarians indicated that nothing could be added, and he wished to assure the members of the Committee that his sole interest was the welfare of the dairy population of the Province. He had reached the years when he realized that there was no finality to any question when the matter of possible treatment arose and that the least that could be done was to investigate the Koch Treatment.

This Committee meeting included members of the British Columbia Veterinary Association, the University of British Columbia, and the Provincial Department of Agriculture, also the presidents of all dairy breed associations. The personnel of the Committee are as follows: — Honourable K. C. MacDonald, Minister of Agriculture.

Dr. J. B. Munro, Deputy Minister of Agriculture.

Dr. D. H. Arnott, representing the Koch Treatment, London, Ont.

Dr. F. W. B. Smith, president, British Columbia Veterinary Association, Vancouver; British Columbia Division, Health of Animals, Federal Department of Agriculture, Ottawa.

Dr. W. R. Gunn, Live Stock Commissioner, Department of Agriculture, Victoria.

Dr. Jos. E. Bennett, secretary, British Columbia Veterinary Association, and Veterinary Inspector, Department of Agriculture, Victoria.

Dr. S. N. Wood, University of British Columbia, Vancouver.

Dr. M. Sparrow, vice—president, British Columbia Veterinary Association, Steveston.

Dr. J. G. Jervis, veterinary surgeon.

Dr. G. F. R. Barton, veterinary surgeon.

R. H. Irwin, representing the dairymen.

W. A. Gooder, representing the Koch Treatment in British Columbia.

In 1947 the Department felt that it had completed a very satisfactory investigation of the Koch Treatment of dairy animals and reported that in each succeeding year since 1944 the British Columbia Department of Agriculture reported on the progress of investigations of the Koch Treatment of farm animals. These investigations were carried on with a number of different types of diseases, and in every instance we have been able to confirm and corroborate the outstanding clinical results reported by Dr. Arnott in his publications touching on the successful treatment of these various pathological states.

The usefulness of the Koch therapeutic Reagents rests upon fundamental anti undisputed physiological and bio-chemical reactions, which we explained in our *Annual Report* of 1945, thus:—

“Life is promoted, sustained, and reproduced by the use of food. For good health the supply must be adequate in amount and variety. For the best normal results it is necessary that the food be well digested, and also that the potential energy contained therein be transferred into living energy throughout the body at a vigorous rate, burning the food properly in each individual cell where it unites with oxygen for this purpose. This living chemical reaction is spoken of by medical science as ‘internal respiration,’ and it must take place continuously because Nature has provided the body with no reservoir wherein oxygen may be stored to be drawn upon at will or in time of need. It is upon the degree approaching perfection with which food is thus turned into living energy consistently that conditions requisite for good health are best maintained, that disease is best resisted, that life is best reproduced.

“It is Dr. Koch’s belief that certain carbon compounds perform an important intermediary step in the living chemistry by which food is turned into life itself; and should the supply of these compounds fall below that requisite for the best conditions, life may continue, but vigorous good health may be lost.

“It is Dr. Koch’s belief that a normal supply of these essential carbon compounds often can be renewed by the hypodermic administration of the Reagents which he discovered.

“The Department of Agriculture, after making its investigation of different diseases, is inclined to agree with this claim. We have reached our favourable conclusions on the Koch Treatment through a carefully planned method of obtaining practical first-hand information in actual

fieldwork among dairy-herd owners. Our observations have established the fact that various pathological states sometimes were present in one animal, all of which cleared up promptly following the administration of the Koch Therapy. It seems only right that we should accept the explanation furnished by Dr. Koch that these and other serious diseases stem from the breakdown of the oxidative mechanism upon which effective natural immunization to disease primarily depends."

We have expressed our appreciation to Dr. D. H. Arnott, whom we have found to be most useful, cooperative, and able in carrying out this work. His action in making available the Koch Treatment without delay has been of material benefit to our livestock men. In fact, at a meeting of the Joint Dairy Breeds Association of British Columbia held in 1947 the following resolution has been passed:—

"The Joint Dairy Breeds Association of British Columbia wishes to express its appreciation of the effort made by the British Columbia Department of Agriculture to determine the merit of the Koch Treatment in controlling and curing diseases of dairy cattle, and request that the Department of Agriculture continue to make available the Koch Treatment to owners of dairy cattle."

The recent incorporation of a non-profit company under the name "Fraser Valley Koch Therapy Association" set up by owners of fine dairy cattle experienced in the use of Glyoxylide forecast the future safety of this form of therapy which has been endorsed in British Columbia by the Department of Agriculture and the other organized agencies which cooperated in carrying out the Koch Therapy Investigation set up in 1944 by Honourable K. C. MacDonald (deceased), Minister of Agriculture.

The fact should have been noted by the British Columbia *Cancer Bulletin* that in all of our Committee reports regarding the Koch Treatment, we have dealt with the use of this material from a veterinary standpoint only. All references to the use of the Koch Treatment for cancer have been carefully avoided, although many instances of the value of this Treatment have come within the purview of those engaged in veterinary matters.

If in any future issues of their *Bulletins* the Cancer Society wishes to quote from our report, it is hoped that they will give a correct impression of the value of the Koch Treatment and refrain from any inaccurate claims with which they are not competent to deal.