

Serum Simultaneous Method of Inoculation against Rinderpest.

BY

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When your honourary Secretary wrote and asked me if I would read a paper on some subject of general agricultural interest, I readily agreed to do so, having in mind the question of protecting cattle against one of their most deadly diseases in this Presidency. Prevention of contagious diseases being a matter of such vital importance to the stock-breeder and cattle-owner, I hope that a paper on the "Serum Simultaneous" method of inoculation against Rinderpest will be of some interest. Some idea of the ravages which this disease has caused in this Presidency may be had from the following figures of mortality for five years:—

1917-1918	30,733	1920-1921	17,273
1918-1919	44,164	1921-1922	10,121
1919-1920	31,237		

The total number of deaths annually from all the other contagious diseases put together such as Anthrax, Blackquarter, Hæmorrhagic Septicæmia etc, is less than that from Rinderpest. It is obvious therefore that rinderpest is the most deadly form of contagious disease of cattle with which we have to deal, and the question of its prevention is one of immense economic value. This disease is not peculiar to this country. It has existed in almost all the countries at one time or other, but in the more advanced countries the disease has been eradicated by various methods of protective inoculations and stringent legislative measures and its re-introduction is guarded against by quarantine regulations. Preventive inoculation has been in vogue in our own Presidency for over twenty years now and thousands of cattle have been inoculated by what is known as "Serum alone method". This is essentially

a protective measure adopted to tide over an outbreak of the disease and the immunity by it is of short duration—2 to 3 weeks. These inoculations have to be repeated periodically as long as the disease lasts.

Writing about Rinderpest in the Administration Report of the Civil Veterinary Department for 1917-1918, Mr. Ware says that "after an extended trial in this Presidency it must be admitted that "Serum alone method of inoculation" will not stamp out Rinderpest in this country while the conditions under which it has to be done in the villages remain as they are. Nothing less than compulsory inoculation will give the serum a fair chance, for in a typical village rarely as many as two-thirds of the cattle are produced for inoculation and although the staff has been instructed repeatedly to return to the village for re-inoculating those animals which had been already done, the ryots get tired of producing these once a month and when the animal eventually contracts the disease from some un-inoculated ones and perhaps dies the serum is blamed." The kind of protective inoculation which confers lasting or life-long immunity against the disease is known as the "Serum Simultaneous" method of inoculation. The advantages of this method of inoculation and its possibilities towards the eventual eradication of the disease are such that it merits all possible support and wider adoption. This is acknowledged by all those who are in a position to pronounce an opinion on the comparative merits of the various methods of protective inoculations.

In the Army this method has largely replaced the Serum alone method and large numbers of dairy cattle have been immunised. A brief description of the technique of this method of inoculation may not be out of place here. The basic principle, as in all other similar inoculations, is that one attack of the disease confers lasting immunity. The procedure adopted is as follows:—

$\frac{1}{2}$ to 1 c. c. of virulent rinderpest blood obtained from a known source and previously ascertained to be free from Pitoplasms,

Trypanosomes etc, is injected on one side and a sufficient quantity of anti-rinderpest serum is injected on the other side. Hence the name "Serum Simultaneous method". The dose of serum for the different breeds of animals varies according to the susceptibility of the animal to the disease.

The highly susceptible, pure bred, English and Australian cattle receive 50 c. c. of serum per 100 lb. body weight and the country-bred cattle which are not so highly susceptible receive 8 to 10 c. c. per 100 lb. body weight. The reaction which is manifested by a rise of temperature in the inoculated animal begins about the third or fourth day, continues for about a week and then subsides. With a large dose of serum the reaction is mild or practically nil and with a smaller dose the reactions are more pronounced. Experience has shown that the quality of the immunity conferred does not depend upon the severity of the reaction produced and that there is no need to balance the dose of virus and serum. In fact it has been found that the bigger the dose of serum the better is it for the animal, because it is spared the needless suffering resulting from a severe reaction.

If it is desired to test or confirm the immunity conferred in those cases that show no reaction 5 to 10 c. c. of virulent blood alone is injected into the animal on the 8th or 10th day. The absence of reaction shows that the animal is immune to rinderpest. This test has been applied to animals 3 or 4 years after they were first immunised without producing any reaction or any sign of ill health.

This method of inoculation has been undertaken and successfully carried out during the last three or four years in this Presidency by the Civil Veterinary Department at the Central Farm, Coimbatore, the cattle breeding farm Chintaldevi, and in the Nilgiris, Nellore and Godavery districts.

The experience gained in immunising the different breeds of cattle during these inoculations leaves no room for doubt as to the suitability of this method for extended application.

Mr. Richards—Vet. Assistant—read the paper in the unavoidable absence of the writer on other work.

Discussion :—

Mr. Unnikrishna Menon—said that from personal experience he could testify to the effectiveness of this method for preventing Rinderpest and stated that, though he had requested the neighbouring ryots to send their cattle to the Central Farm for serum-simultaneous inoculation along with Farm animals, very few had sent their cattle. He was of opinion that the treatment required greater advertisement.

The Plighted Word. The heaviest fetter that ever weighed down the limbs of a captive is as the web of the gossamer compared with the pledge of people of honour. The wall of stone and the bar of iron may be broken, but the plighted word, never.

The greatest curse is to be satisfied with one's own low ideals. There is no reason for being discouraged because we are discouraged, but the man should be discouraged who is not.

Robert E. Speer.

When you admonish your friend, let it be without bitterness; when you chide him, let it be without reproach; when you praise him, let it be with worthy purposes and for just causes and in friendly measures; too much of that is flattery; too little is envy.

Jeremy Taylor. [From "Great Thoughts." Jan. 23.]
